

FILE NAME: Pfizer (PFIZ)

DATE: 2014 Dec 21

DOC#: PFIZ004

DOCUMENT DESCRIPTION: Legal Testimony of Castleman with Attachments

12/21/2014

HONORABLE ROBERT J. BRYAN

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT TACOMA

SHARLEEN SPRAGUE, Personal
Representative of the Estate of JAMES
OLSON; MARTHA P. LANGDON,
Individually and as Personal Representative of
the Estate of WAYNE V. LANGDON,

Plaintiffs,

v.

PFIZER, INC.,

Defendant.

NO. 3:14-cv-05084-RJB

DECLARATION OF BARRY I.
CASTLEMAN

I, BARRY I. CASTLEMAN, declare and state as follows:

1. I am over the age of 18 and make this statement based upon personal knowledge.

I am qualified to offer the opinions contained herein for each and all of the below stated reasons.

2. In 1968, I received a Bachelor's Degree in Chemical Engineering from Johns Hopkins University. I also have a master's Degree in Environmental Engineering, which was mainly in areas related to air pollution control from Johns Hopkins University, 1972. I was awarded a Doctor of Science Degree in Health Policy from Johns Hopkins School of Hygiene and Public health in 1985. The Doctoral degree was awarded for two years of course work,

1 various examinations, and the writing of a doctoral dissertation. The course work was mainly in
2 the areas of toxicology, epidemiology, biostatistics, physiology, and public health policy.

3 3. My doctoral thesis was, Asbestos: An Historical Case Study of Corporate
4 Response to an Industrial Health Hazard, and is largely identical to a book published in 1984 by
5 Prentice Hall Law and Business called Asbestos: Medical and Legal Aspects (now in its 5th
6 Edition, 2005). The doctoral thesis is a historical review of the asbestos problem as a public
7 health problem in society worldwide, but mainly in the United States. It encompasses a
8 comprehensive review of medical literature of all kinds, as well as other literature available in
9 libraries and published sources such as government publications, safety magazines, engineering
10 journals, trade magazines, insurance publications, encyclopedias, magazines, and newspapers.

11 4. In addition to published information of all kinds, I examined files, unpublished
12 information available from the U.S. government archives, the archives of scientists and the
13 archives of institutions that had worked for and with asbestos companies. I also looked at
14 unpublished information which was obtained in legal discovery. This included trade association
15 minutes, corporate documents, and testimony of corporate officials who were associated with
16 asbestos hazards over the years -doctors, plant managers, executives, and other people who were
17 aware of events that transpired.

18 5. In sum, my professional experience goes back over forty years in the area of
19 asbestos and other occupational and environmental health problems. My field is occupational
20 and environmental policy, which is a branch of Public Health, mainly oriented towards the
21 recognition of risk factors and the prevention of disease from industrial activities.

22 6. In addition to published information and corporate knowledge that came out of
23 mainly legal discovery, I have also interviewed historically important practitioners in the field of

1 industrial medicine and hygiene. These included physicians who were active in the field of
2 occupational medicine, such as Harold Stewart, who first published on asbestosis in 1931 and
3 Alfred Angrist who first published on asbestos and lung cancer in 1942. They are both
4 pathologists; Dr. Wilhelm Hueper, a leading United States authority in the field of occupational
5 cancer and first director of the environmental cancer section of the National Cancer Institute; Dr.
6 Harriet Hardy, Dr. Thomas Mancuso, Dr. Gerrit Schepers, and others who were involved in the
7 area of asbestos and health over the past decades.

8 7. The relationship between asbestos and lung disease was well-documented in the
9 medical literature from the 1920s onward and the occupational hazards of asbestos exposure was
10 known within industry from the early-1930s. However, until the mid-1960s there were few
11 references to asbestos hazards in the popular press available to consumers.

12 8. In 1964, Dr. Irving Selikoff and his coworkers published a mortality study in
13 JAMA showing that there was a substantial excess of occupational cancer and deaths from
14 asbestosis among people involved in the insulating trades. Later in 1964, at an international
15 conference held in New York City and published in 1965 entitled "Biological Effects of
16 Asbestos", Selikoff and his coworkers reported that around 80% of the people who were in the
17 insulating trade had developed asbestosis by the time they had been in the trade for 30 years or
18 more. The Selikoff report was widely reported in the popular press and led to increased
19 awareness among the consuming public that asbestos was hazardous to human health. Exhibits 1
20 and 2 are articles from the New York Times discussing Dr. Selikoff's report.

21 9. In the years following the Selikoff report, local newspapers around the country
22 devoted increased attention to asbestos hazards. Exhibits 3, 4, 5, and 6, are copies of articles
23 from the Seattle Times in the 1968-1974 time-period discussing asbestos hazards which are

generally representative of articles published nationwide. In addition to newspaper reports, popular magazines increased their reporting of asbestos hazards in the late-1960s and early-1970s. Exhibit 7 is a widely publicized article that appeared in the New Yorker on 10/12/1968.

10. I have reviewed marketing materials for Insulag refractory lagging in this case attached as Exhibit 8. Those marketing materials represent that Insulag is "non-injurious" and contain the Pfizer and Quigley logos side-by-side over the phrase "Manufacturers of Refractories- Insulations". While not an expert on branding, I have been asked to assume that, as a pharmaceutical company, Pfizer's brand identity was associated with health and safety while Quigley's brand was historically associated with refractory and insulation.

11. Any representation that an asbestos-containing product was "non-injurious" ran contrary to the prevailing medical, scientific and regulatory opinion that existed in the 1968-1974 time period. Moreover, as I have described above, the extent of public concern regarding asbestos hazards was increasing in the 1968-1974 time-period during which asbestos-containing Insulag was being manufactured and sold with the Pfizer logo. Assuming that Pfizer's brand identity encompassed health and safety, associating that brand with a representation that Insulag was "non-injurious" would have added credibility to this representation and countered popular concern over asbestos hazards associated with the product.

I DECLARE UNDER PENALTY OF PERJURY OF THE LAWS OF THE UNITED STATES THAT THE FOREGOING IS TRUE AND CORRECT

Dated at Greenbelt Park, Maryland this 21 day of December 2014.


BARRY J. CASTLEMAN

DECLARATION OF BARRY CASTLEMAN,

- 4

BERGMAN DRAPER LADENBURG HART
614 FIRST AVENUE, FOURTH FLOOR
SEATTLE, WA 98104
TELEPHONE: 206.957.9510

Exhibit 1

A RARE CARCINOMA BELIEVED ON RISE

Study of Asbestos Workers
Shows a High Incidence

By HAROLD M. SCHYCK Jr.

Occupational exposure to asbestos may be making an extremely rare form of cancer much more common, according to a report yesterday to the annual meeting of the American Public Health Association.

The cancer is called mesothelioma. It affects the inner lining of the abdomen or of the chest and, in either case, it is fatal. In the general population it is extremely rare, but studies in Africa, where asbestos is mined, and more recent studies of construction workers exposed to asbestos dust in the New York City area show it to be far more common among those exposed occupationally.

The specialists who gave the report expressed worry that the danger might not be entirely restricted to a limited occupation group, but that it might be more general and possibly of considerable importance. There is no direct evidence to substantiate this, they said, but some of the available findings hint that this may be the case.

The report was given by Dr. Irving J. Selikoff and Dr. Jacob Churg of Mount Sinai Hospital and Dr. E. Cuyler Hammond,



Dr. E. Cuyler Hammond

director of statistical research for the American Cancer Society.

Mesothelioma is so rare in the general population that it is not separately coded among causes of death. Yet a study four years ago in an African asbestos mining region found 55 cases, the report said.

Heavy exposure to asbestos dust has in the past been linked with some increased risk of lung cancer, Dr. Selikoff and Dr. Hammond said at a news conference before their talk, but the mesothelioma is another matter.

The group pursued the question by studies in the United States. One of these was a study of deaths among members of two New York area locals of a construction trade union whose members dealt with asbestos insulation. Of a total of 307 deaths occurring in this fairly restricted group over 20 years—1913 to 1981—19 were found to be caused by mesothelioma.

The report called this "an extraordinarily high incidence for a tumor generally so rare." In contrast, they cited a huge study by the American Cancer Society on the effects of environmental factors on health showed that among 31,652 deaths in the general population only three were due to mesothelioma.

A further study of many cases of mesothelioma collected over a long period by the Armed Forces Institute of Pathology showed that one-fourth of those specimens that could be tested had evidence of the presence of asbestos.

The worrisome feature, Dr. Hammond and Dr. Selikoff said, is the evidence that asbestos, once taken into the body, stays there. Thus even a single heavy exposure could conceivably produce a cancer after a latent period of 20 years or more, they said.

This idea, for which they said there is some experimental as well as epidemiological evidence, could expand the risk from simply those occupationally exposed to virtually anyone who might only occasionally encounter asbestos dust.

The severity of exposure necessary to produce such a serious effect is not known, the two physicians said.

Exhibit 2

Asbestos Dust Called a Hazard To at Least One-Fourth of U.S.

By JANE E. BRODY

Asbestos dust, which has already been connected with the development of fatal cancer in one-half of asbestos workers, may be a potential health hazard for one-quarter of the population or more, it was reported yesterday.

This preliminary finding was described by Dr. Irving J. Selikoff in announcing the establishment of an environmental health laboratory at Mount Sinai Hospital. The laboratory will further investigate the dangers to man of asbestos and other environmental contaminants.

Dr. Selikoff said the link between cancer and asbestos had led him to suspect that other mineral dusts that contaminate both urban and rural air might create medical hazards for the public.

The new laboratory will be headed by Dr. Selikoff, who, with Dr. Jacob Churg, found that asbestos workers eventually showed six to seven times the normal death rate from lung cancer and three times the normal death rate from cancer of the stomach, colon and rectum.

Other Workers Affected

Dr. Selikoff noted that the dangers of exposure to asbestos dust were not limited to those who work directly with this ubiquitous insulator and filler material. The dangers, he said, extend to workers in "contiguous trades," such as other con-

struction workers and their families.

According to the findings of three recent limited studies, the dangers might extend to the general population. The studies, which involved autopsies on 1,100 persons in three cities, showed that 25 per cent of the people had asbestos lodged in their lungs.

Dr. Selikoff explained that the studies had used a "crude technique" that disclosed only those asbestos fibers that had become coated by an iron-rich material while lodged in the lungs. A more refined technique now shows that many persons harbor noncoated asbestos fibers as well, he said.

New Study Started

Dr. Selikoff and his colleagues at the new laboratory have started a three-year study in which they will:

¶Examine, with the deceased's family's approval, the lung tissue of the 3,000 to 4,000 persons expected to die in the next two years at Mount Sinai, Elmhurst Hospital and Veterans Hospital in the Bronx. The doctors will look for uncoated as well as coated asbestos fibers in the tissues.

¶Look for correlations between the causes of death and the presence of asbestos fibers in lung tissue.

¶Determine the occupational history of the deceased and their relatives and other pertinent background information.

Asbestos is a fibrous mineral highly valued for its noncorrosive and long-wearing properties. In addition to its common use as a fireproof material, Dr. Selikoff said, asbestos makes up about 50 per cent of asphalt tile and is used in dental cement, brake linings, plastics, beer filters, gas masks and paper. Until last year, some schools used asbestos dust instead of sand for children to play in.

Exhibit 3

Exhibit 4

V. A. Administrator Defends Hospitals

WASHINGTON — (UPI) — The Veterans Administration says recent charges that some of its 166 hospitals suffer from poor care, fifth and rat infestations "are not true, and... provide an utterly distorted picture of V. A. care."

Donald E. Johnson, V. A. administrator, and other top V. A. officials appeared at a news conference to answer recent charges, in particular those made by Life magazine. A Life article purported to show veterans at the Bronx V. A. hospital suffering from inadequate care in sometimes-squalid surroundings.

"We know from the mounting number of letters, and

telephone calls we receive that more and more sincere Americans are becoming increasingly alarmed about these purported conditions," Johnson said. "And well they should be if these outlandish charges were true. I want to emphasize as strongly as possible that such charges are not true, and that they provide an utterly distorted picture of V. A. care."

Johnson said, an accreditation commission sponsored by medical groups has urged that the Bronx hospital's staff and administration should be "commended for the evidence shown of continued high-quality care given to the patients."

Medical News

HOUSTON — (UPI) — Government regulations are "essential" to controlling the only type of air pollution definitely linked with lung cancer, a New York environmental medicine specialist believes.

Dr. Irving J. Selikoff said airborne asbestos fibers, coming from many materials used in the construction industry, pose a "distressing" and often fatal hazard to men who work regularly around them.

Because asbestos is used so extensively in insulation and building materials, he said, its fibers can be found to a lesser degree in the lungs of almost every city dweller.

Selikoff told the 11th International Cancer Congress that by themselves, asbestos fibers cause both lung cancer and gastro-intestinal cancer in cigarette smokers,

he said, they apparently team with smoking byproducts in cause extra deadly results.

"WHERE ASBESTOS can become airborne it should either be controlled or the product should be abandoned," he said. "I believe that governmental regulation is essential to help the asbestos industry."

Other cancer specialists at the congress said yesterday cigarettes by themselves are an almost certain cause of fatal lung cancer if a smoker goes past the "point of no return."

"We may not have found the specific chemical that does it, but there isn't any question but that cigarette smoke does cause cancer — both in the human and in animals," Dr. Oscar Auwerbach of the Veterans Administration Hospital in East Orange, N. J., said.

Asbestos Branded Cancer Cause

DR. AUWERBACH said up to a certain point, which varies among individuals, a smoker can kick his habit and prevent cancerous cells in his lungs will die after many years of smoking. It does not seem to quit because cancer will develop anyway, he said.

Dr. John W. Turner of Springfield, Mass., defined the point of no return more precisely. He said cigarette smokers who have consumed 200,000 cigarettes, about 20 years of smoking, almost certainly will die from lung cancer or tobacco-related diseases.

Scientist Aids Doubts About Transplant Scope

KENOSHA, Wis. — (AP) — Society is a while, rather than medical scientists by themselves, is going to have to decide soon how far to go with preservation of life

through organ transplants, a Nobel laureate said Monday. George W. Beadle said it won't be long before chemists can provide genes to improve the quality of life, but that "the gap between what is technically possible and what is feasible in terms of bearable costs in human effort is being widened at a frightening rate."

Noise of Waterfalls Helps Stutterers

LOS ANGELES — (AP) — The hissing of a waterfall is music to a stutterer's ears, the sound that may help him correct his speech defect, researchers say.

Dr. Marvin E. Klein, a psychiatrist from Detroit, says that for some, unexplained reason, a person will stop stuttering 65 out of 100 times if the sound of his own voice is lost from his ears.

Doctor Who Ranked F. D. A. Officials Is Demoted

WASHINGTON — (AP) — The Food and Drug Administration has quietly demoted the man who accused some agency bureaucrats of altering laboratory conclusions which cost doubt on established F. D. A. regulatory policy.

F. D. A. Commissioner Charles C. Edwards reorganized a pathology unit last week making Dr. Howard L. Richardson, the acting No. 2 man in a new pathology division. Dr. Richardson had been the F. D. A.'s chief pathologist since 1963.

Edwards installed Dr. Bert J. Vos as acting head of the pathology division, according to an F. D. A. memorandum dated May 15. Dr. Vos, a long-time agency official, is a medical doctor but not a pathologist.

Dr. Richardson was brought in to revitalize F. D. A. pathology in part because

of a reputation he gained in the Veterans Administration as a hard-nosed scraper committed to scientific integrity, knowledgeable F. D. A. officials say.

F. D. A. memoranda show that Dr. Richardson has rubbed long-time agency officials during the past year and a half with insistent demands for upgrading pathology in the agency. Pathology is the branch of medicine dealing with the causes of tissue injury and death.

A memorandum written by Dr. Richardson Oct. 28, 1969, charged that bureaucrats with limited scientific training engaged conclusions and recommendations from reports of certain animal experiments. The experiments in question appeared to contradict official agency positions on the safety of some food additives.

AT 20 STORES Penneys ALWAYS FIRST QUALITY

THESE PENNEY STORES ARE OPEN SUNDAY AFTERNOONS 12 to 5 P.M.

• AURORA VILLAGE
• BELLINGHAM
• NORTHGATE
• SOUTHCENTER
• TACOMA MALL
• VILLA PLAZA



DON'T MISS OUT ON THESE GREAT VALUES FOR GIRLS!

GIRLS SHELL Girls sleeveless shells made of Antron® nylon with crew at U necks. Assorted colors.

Sizes 7-16 **1.99**

GIRLS FLARE LEG JEAN Cut for comfort, made to fit!

Sizes 7-14 **2.22**

SUNSUIT Machine washable cotton tie-shoulder suit with elasticized legs, neck and waist.

SIZES 7-14 **1.19**

SIZES 3-6X **99¢**

SWEATSHIRT Machine washable Crelen® acrylic, cotton short sleeve sweatshirt with knit cuffs and neck.

SIZES 7-14 **1.89**

SIZES 2-4 **1.49**

PEANUTS SWEATSHIRT Machine washable cotton long sleeve "Peanuts" sweatshirt with knit cuffs and neck.

Sizes 2-4 **1.49**

GIRLS JAMAICAS Machine washable cotton jamaicas in popular solid top colors. Bond waist with elastic back.

SIZES 7-14 **1.19**

SIZES 3-6X **99¢**

TUFF 'N TIDY JEAN Machine washable cotton denim jeans with fly front and four pockets. Double needle seams.

SIZES 7-14 **2.77**

SIZES 3-6X **2.47**

KNEE KNOCKER Machine washable cotton denim knee knickers with fly front and four pockets.

SIZES 7-14 **2.47**

SIZES 3-6X **1.77**



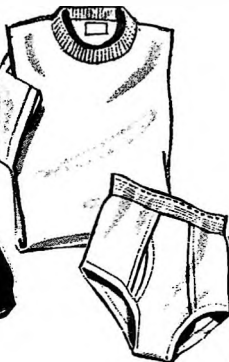
Memorial Day Values

DON'T MISS OUT ON THESE GREAT VALUES FOR BOYS!

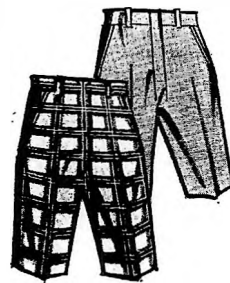
SPECIAL BUY! Boys' 100% nylon taffeta (jackets) features zip front closure, stand-up collar and zip pocket. Dyeing at neck and bottom, elasticized cuffs. In your choice of colors. Sizes S-M-L-XL **2.99**



SPECIAL BUY! Now's the time to stock up on boys' cotton knit underwear. Choose flat knit cotton T-shirts, and/or 1x1 rib knit cotton briefs. Both outstanding values at this special buy price. Sizes XS(S), S(6-8), M(10-12) and L(14-16) **2 for 99¢**



SPECIAL BUY! Boys' mock turtleneck and crew neck knits of 100% combed cotton. In your choice of a wide variety of stripes. Solid color necks, hemmed sleeve and bottom. Machine washable. Boys' sizes 6 to 18. An excellent value at this low price **.99¢**



BOYS' WALK SHORTS of Penn-Pre® cotton blends that never need ironing. Just machine wash and tumble dry. In your choice of solids or plaid. University Grad style, with belt loops. Two self-in rear pockets. Stock up now and save! **2 for \$5**

VALUE PRICED sweatshirts for boys. Made of 95% cotton/5% acrylic fleece. They feature region style short sleeves, and a crew neck. Machine washable in lukewarm water. Assorted colors as well as gunmetal grey to choose from. Sizes 6 to 20 **1.22**



AUBURN • AURORA VILLAGE • BALLARD • BELLEVUE • BELLINGHAM • BREMENTON • DOWNTOWN SEATTLE • EVERETT • KENT • KIRKLAND
MT. VERNON • NORTHGATE • OLYMPIA • RENTON • PUYALLUP • SOUTHCENTER • TACOMA MALL • UNIVERSITY • VILLA PLAZA • WEST SEATTLE

Exhibit 5

Professor at U.W. Meeting Notes Danger of Spraying Asbestos for Insulation

By AL DIEFFENBACH
Times Medical Editor

Careless spraying of asbestos insulating material is an air-pollution problem that has become a serious health hazard, a Mount Sinai School of Medicine professor said here Friday.

Regulations should be stringent, rapidly prepared and quickly enforced, Dr. Irving J. Selikoff, New York, a professor of medicine and

environmental medicine, said.

Here to speak at the eighth annual symposium on Respiratory Diseases, Dr. Selikoff said one out of every four or five asbestos workers dies of lung cancer. The very fine mineral fibers are found almost invariably in the lungs of persons exposed in New York City, he said.

ONCE THE FIBERS get into the lungs, there is no way to remove them and they cannot be dissolved, he said.

Dust counts taken during asbestos-spraying jobs show "on the order of 20 times the normal amount" of dust in the air, he said.

Dr. Selikoff said entire buildings sometimes are "contaminated for life" be-

cause asbestos fibers are left loose after pipes and beams are sprayed with the insulating material in the areas between floors and ceilings.

These areas of "dead space" often are used as return air ducts for a building's circulation system, he said. "When asbestos fibers are being sucked from these areas into the circulation system of a building, I think

I would have to call this one of the most reprehensible habits we have found," he said.

He said he has become increasingly concerned about the introduction of new materials and techniques before their effects have been accurately measured.

The present controversy about possible harmful effects of birth-control pills is

one instance, Dr. Selikoff said. Another is the use of enzymes in detergents, he added.

He said there have been a "very significant" number of asthma cases — some with serious illness and others with permanent ill-effects — among workers in detergent-packaging factories.

THE ENZYMES form

about 1 per cent of a detergent mixture. About 10,000,000 pounds of the enzyme was used in 1969, Dr. Selikoff said, but about 10 times that much will be used this year.

Workers now are protected from the hazards of inhaling the detergent dust and its "very active, biologically" enzyme cargo, he said, but

asked:

"What happens to them, 60,000,000 women exposed to a low level, intermittent dose of possible enzyme inhalation?"

He said there is little knowledge on the subject, except that the ill effects could be either allergic reaction to inhaling the substance or a direct effect on the linings of the bronchial tubes.

Utilities Name Director For Nuclear Work



JAMES V. NEELY

James V. Neely, who has worked on the development of nuclear power plants in New Jersey and Pennsylvania, has been named director of nuclear projects for Seattle City Light and the Snohomish County Public Utility District.

The utilities are partners in the development of a nuclear generating station on Kilet Island, near Deception Pass, and may work jointly on a similar project at Samish Island, north of Mount Vernon.

Neely will be responsible for the utilities' joint nuclear-power activities.

A graduate of the University of New Mexico, Neely worked on the Three Mile Island Nuclear Plant No. 2 in southeastern Pennsylvania and on Oyster Creek Nuclear Plant No. 2 in New Jersey. He was an employee of General Public Utilities.

Seminar Set For Aviation Mechanics

A general-aviation maintenance seminar for mechanics will be Tuesday and Wednesday in the Woodrup Hotel of Tacoma.

Hours both days will be from 8 a. m. to 4:30 p. m. The event is sponsored by the Washington State Aeronautics Commission in cooperation with the Federal Aviation Administration, Seattle-area office and the F. A. A. Academy in Oklahoma City.

Reservations may be made with the Washington State Aeronautics Commission.

Topics will include airman's authority and responsibility, alteration airworthiness requirements, aircraft electrical installation and introduction to general aviation for executive jets.

Similar seminars have been given throughout the United States, but this will be the first in the Northwest.

Appeals Court's Clerk to Move

The clerk's office of the state Court of Appeals will move into new quarters on the 10th floor of the Pacific Building, Third Avenue and Columbia Street, tomorrow morning.

The office for the Seattle division had been located temporarily in the I. B. M. Building.

Judges will continue to use rooms in the United States Courthouse for hearings until facilities are ready in the Pacific Building.

St. Nicholas Exams March 14

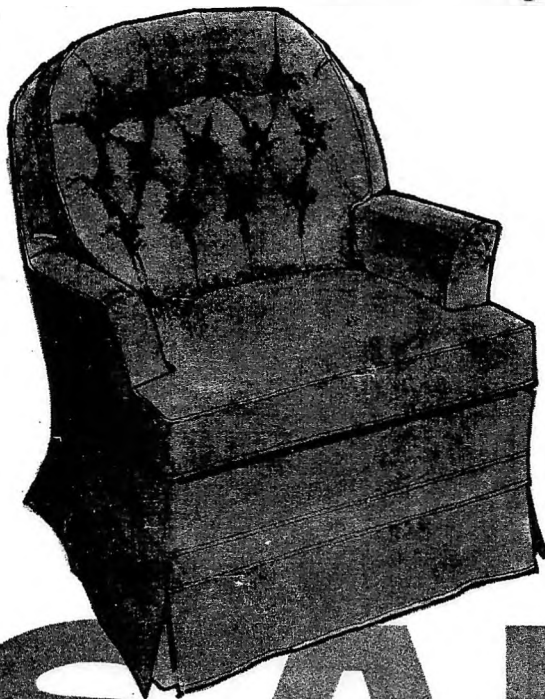
Entrance examinations for the fall semester at St. Nicholas School, 1501 10th Ave. E., will be from 8:45 to noon March 14.

The school is a nonsectarian, college preparatory girls' school. Parents should make reservations at the school office.

Heart Specialist Elected

Dr. Robin R. Johnston, Bellevue, a member of the Moscon Clinic staff, has been elected a fellow of the American College of Cardiology, a 4,100-member organization of heart specialists.

THE BON MARCHE



our most versatile
occasional chair

now **118.00**

It's a swivel chair, a rocking chair and our most-asked-for occasional chair. And it can grace your living room this very week for only 118.00. A classic in design, often chosen by the pair. Select from 3 different patterns in 10 decorator colors. Designed to be equally at-home in a traditional setting as it is in a contemporary one. See it tomorrow. Home Furnishings, Fifth Floor, Seattle; Northgate, Everett, Southcenter and Tacoma Mall. Convenient major purchase revolving credit terms available.

SALE

deep, dense wool

oriental rugs

save \$54.00 to \$71.00

Indian 3x5 **29.95**

SAVE \$4.00 on Ramostan Oriental design rugs from Belgium. Finest worsted wool with patented lock-in weave, thick fringe. 9x12' Kerman, reg. 229.00; 175.90; 9'10"x13'8", reg. 349.00, 275.00.

SAVE 71.00 on 9x12' heavy brocade patterned Indian rugs. Hand woven from scoured 2-ply wool yarn. Soft greens, gold, ivories. 9x12', reg. 259.95, 188.95; 6'x9', reg. 129.95, now 99.95; 4x6', reg. 59.95, 44.95; 3x5', reg. 39.95, sale priced, 29.95.

imported braid rugs

package of 4

57.00

Imagine, all four of these nylon pile tubular braided rugs, an 83.00 value, at this low price. And they're all reversible for twice the wear. One 9x12' room size, one 3x5' and two 2x3' scatter rugs. Choose brown, gold, avocado, blue, red. Other sizes at special savings, too. Floor Coverings, Fifth Floor, Seattle; Northgate, Southcenter, Everett, Tacoma. Convenient credit available.

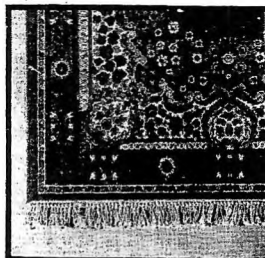


Exhibit 6

Kickback charges probed in union loans

By TIMOTHY S. ROBINSON
Washington Post

WASHINGTON — The Justice Department is probing the possibility of kickback charges that agents for a \$1 billion dollar Teamsters Union pension fund were paid kickbacks on loans obtained from that fund, according to United States District Court records.

The case is being presented to a federal grand jury here by Justice Department attorneys, and sources said it is one of two ongoing federal investigations into the administration of the union's Central States, Southeast and Southwest Areas Pension Fund, which is administered in Chicago.

The second investigation is being conducted by the Internal Revenue Service, which has been studying the

fund for at least one and a half years. One I. R. S. source said the pension fund inquiry the largest new being conducted by the agency.

Teamsters operation is so complicated that I. R. S. drew a chart outlining it that covered a 5 feet by 10 feet wall.

Francis Murtha, executive secretary of the Central States Fund in Chicago, said yesterday he was unaware of any investigation into that fund.

"I think we do have a loan out in that area," he said referring to the specific case being presented to the grand jury here, but he said that he did not know the amount of the loan or the purpose of it.

The normal procedure for a firm being lent money from the fund is for an application to be processed by

the Chicago office. Murtha said, I. R. S. sources said the fund has more than \$100 million out on loan.

The Justice Department has granted immunity from prosecution to two witnesses as this month who had otherwise refused to testify before the grand jury here on the ground that their answers could incriminate them.

A Justice Department spokesman yesterday refused any official comment on the case, saying the agency does not comment on whether investigations are being conducted.

According to documents

filed in Washington District Court, the first witness, Travis E. Traylor, was being questioned concerning "payments within the District of Columbia to obtain a loan from the Central States, Southeast and Southwest Areas Pension Fund and kickbacks to an agent of that fund to obtain such a loan."

The specific loan being investigated was one made to Telesis Corp., a cable-television firm, by the Central States Fund.

Traylor, of Evansville, Ind., founded Telesis in 1964 and that firm now operates cable-television franchises

in eight states from Miami to Alabama. Telesis at the Evansville office said Traylor was a former president, but that he was no longer connected with that firm.

Traylor could not be reached for comment yesterday.

The second person granted immunity was Samuel Block, who at first refused to testify before the grand jury yesterday. He subsequently was granted immunity and testified. He was not further identified by the department, but court sources said he was from Indiana.

ANNUAL CLEARANCE SALE — LAST 2 DAYS

It's a good time to stock up on BOOKS, GIFTS, CHURCH SUPPLIES

... a real savings at Cokesbury's Annual Mid-Winter Clearance

We need more time for our merchandise

COME EARLY FOR BEST SELECTION

IT'S ALWAYS A GOOD TIME TO SHOP AT

Cokesbury BOOKSTORE

1708 FOURTH AVENUE, SEATTLE, WASHINGTON 98101

HOURS: 9:30-5:30 MONDAY-SATURDAY

LAST 2 DAYS — FRI. & SAT. Feb. 23 & 24

Ellsberg, Russo acquittal asked

LOS ANGELES — (AP) — Attorneys for Daniel Ellsberg and Anthony Russo asked the Pentagon papers trial judge today to order them acquitted immediately, saying the government has not proved they committed any crimes.

The motion for judgment of acquittal, which followed virtual completion of the government case, also asked the judge to drop all charges against the two men.

Legal arguments on the motion were scheduled for later in the day.

Listing the 18 counts of the indictment against Ellsberg and Russo, the attorneys contended that in each count the government had presented "insufficient evi-

dence" to prove charges of espionage, conspiracy and theft. They attacked the government's classification system which they said wrongly placed the marking "top secret" on the Pentagon's study of the Vietnam war.

The motion said no proof had been presented in court that the defendants conspired to commit espionage — supposedly an act which could harm the United States' national defense.

"At most," the attorneys said, "the evidence shows an agreement of intent to copy a very limited number of documents over a very limited time span — hardly enough to show the intended objectives" of the espionage conspiracy charge.

known degree, he added.

"Unfortunately, it's almost entirely a man-made disease," Dr. Selikoff said. "That means it's also man-preventable."

About 200,000 will die of lung cancer, another 70,000 of adenocarcinoma or lung cancer, another 150,000 of other cancers and the rest of various other ailments, he said.

Selikoff and his associate, Dr. Arthur M. Langer, told the subcommittee of a wide range of consumer products contaminated with asbestos. Beer, wine, liquor, soft drinks and drugs often are filtered with asbestos, they said.

Dr. Selikoff said that asbestos is a "hidden time bomb" that results in cancer 20 to 40 years after exposure.

Asbestos toll to be heavy, says doctor

WASHINGTON — (AP) — A noted researcher told a Senate subcommittee today that by the end of this century asbestos will claim the lives of 1 million Americans who have worked or are now working with the fibrous mineral.

"All will die in the next 20 to 35 years," said Dr. Irving Selikoff of Mount Sinai School of Medicine in New York. Selikoff is a recognized authority on asbestos-related diseases.

"It's terrible enough for these 1 million people but they're a limited group," he told the Senate commerce environmental subcommittee.

But an unknown number of other persons who do not work directly with the material are exposed to asbestos every day to an un-

known degree, he added.

"Unfortunately, it's almost entirely a man-made disease," Dr. Selikoff said. "That means it's also man-preventable."

About 200,000 will die of lung cancer, another 70,000 of adenocarcinoma or lung cancer, another 150,000 of other cancers and the rest of various other ailments, he said.

Selikoff and his associate, Dr. Arthur M. Langer, told the subcommittee of a wide range of consumer products contaminated with asbestos. Beer, wine, liquor, soft drinks and drugs often are filtered with asbestos, they said.

Dr. Selikoff said that asbestos is a "hidden time bomb" that results in cancer 20 to 40 years after exposure.

Researcher blames virus, not genes, for cancer

SAN DIEGO — (UPI) — Viruses from outside rather than genes on the inside appear to be the cause of cancer, according to a Columbia University researcher.

Dr. Sol Spiegelman reported here yesterday on his research with identical twins indicated at least some forms of cancer were not part of a person's genetic heritage.

"We've raised the cause off the disease," said Dr. Spiegelman. "We don't have to fight our own genes in order to control cancer."

Dr. Spiegelman's research tends to disprove a theory that outside effects such as radiation, chemicals, nicotine and drugs can start a genetic sequence that causes cancer.

Dr. Spiegelman believes

viruses from outside the body are the cause and, if true, he said many forms of human cancer were open to normal means of correction once the human cancer viruses were found and identified.

For his research, Dr. Spiegelman used two sets of identical twins, one suffering from cancer, the other normal.

He said that when mixing the deoxyribonucleic acid (DNA) molecule present in every cell in the twins with cancer, the DNA molecules formed hybrids. But he said that when the malignant DNA was mixed with molecules from the healthy twins, they did not mix, indicating there was no inheritable cancer sequence of genes in the DNA molecule of the healthy twins.

Notice

Seattle City Light Customers

WATER HEATER LEAKING?

Call 283-7676

(Mark this number on your water heater for emergency service.)

To install or no cost to you, a 45 gal. electric water heater for a charge of \$125 plus tax, per month on normal installation, which includes all maintenance and service.

CALL BENLA TODAY

INSTALLED TODAY

An Authorized City Light Installer

VALU-MART

DISCOUNT SHOPPING CENTERS

FREE COFFEE AND DONUTS SATURDAY MORNING! 8 AM to 10 AM

Our garden center opens at 8 am for all of our Early Bird Shoppers!

GARDEN CENTER GRAND OPENING

VM Turf Green Plus Lawn Fertilizer 297

Our extra low discount price. 16-4-8 formula for RW climate and soils. 25-lb. bag covers approximately 5,000 sq. ft.

VM Brand Fish Base Liquid Fertilizer 97¢

One gallon size. Provides fast plant nourishment. Our extra low discount price

True-Temper Garden Tools 197

Our extra low discount price. Your choice of shovel, rake or garden hoe.

Golden Vigoro Moss control Lawn Fertilizer 3.99

Our low discount price 4.37. Kills winter mosses and lets grass grow thicker with better turf color.

Vigoro 5 lb. Box Fertilizers 73¢ each

Our low discount price 97¢. Food for your plants; rose, azalea, rhododendron, all purpose plant food. A complete fertilizer for a specific use in your garden or flower bed.

Vigoro 10-pound Box Super Bone Meal 1.27

Our low discount price 1.77. Promotes root growth.

Vigoro 1 quart Wood & Grass Killer 1.59

Our low discount price 1.77. Kills most vegetation for a long time.

Vigoro 1 quart Wood & Grass Topkill 99¢

Our low discount price 1.27. Kills most vegetation for a long time.

Prices effective thru Feb. 25

Weekdays: 10-9, Saturdays: 10-6, Sundays: 11-6

• 10000th - 10548 & Aurora Blvd. • 10000th - 10548 & Aurora Blvd. • 10000th - 10548 & Aurora Blvd.

• 6200 4th Ave. • 6200 4th Ave. • 6200 4th Ave.

• 4000 10th Ave. • 4000 10th Ave. • 4000 10th Ave.

• 2400 10th Ave. • 2400 10th Ave. • 2400 10th Ave.

Satisfaction guaranteed or your money refunded.

Exhibit 7

A REPORTER AT LARGE

BACK in the nineteen-twenties, when the word "ASBESTOS" frequently appeared in large block letters on the fireproof drop curtains that closed off the proscenium openings of theatre stages, it was customary in certain parts of the country for youngsters attending Saturday-matinee performances of "Charley's Aunt" or "The Vagabond King" or "Mrs. Wiggs of the Cabbage Patch" to greet the raising of the asbestos curtain with the chant "All school boys eat stewed tomatoes on Saturday!" This was not, of course, an exercise in mnemonics but an expression of youthful exuberance, and, to a lesser extent, perhaps, a reflection of the tendency in an era celebrated for parochialism and flippancy to dismiss strange and exotic substances with jokes. Among older people, it was certainly common knowledge that asbestos was noncombustible, for when "Joe and Asbestos"—the syndicated comic strip about horse racing—first appeared in the *Baltimore Sun*, in 1925, the stableboy named Asbestos explained to the readership that he had acquired his odd moniker because "no matter how hot my tips are, they'll never burn a hole in your pocketbook." Such knowledge was hardly universal, however, for it was also true that a popular portion of the flapper age consisted of solemnly assuring a susceptible theatre companion that the funny-looking word on the curtain meant "Welcome" in Latin. The fact of the matter is that although asbestos was linked one way or another in the public mind with fireproof theatre curtains, many people thought its name was a trademark, few people knew that it was being utilized in a wide variety of industrial products, only a handful of medical researchers were just then beginning to suspect that it was affecting the health of the workers who handled it, and virtually no one had any idea that it would one day prove to be one of the most important industrial causes of cancer in the world.

ASBESTOS, when it comes from the Greek adjective *asbestos*, meaning inextinguishable

THE MAGIC MINERAL

or unquenchable, is a broad term embracing a number of fibrous silicate minerals that are found in practically every country in the world. According to geologists, chrysotile asbestos—a variety of the mineral that accounts for ninety-five per cent of the world's production—had its origin millions of years ago, when subterranean upheavals provided fractures in serpentine rock which were penetrated by water heated in the earth's interior. Subsequently, these waters dissolved some of the serpentine, and as the solutions cooled, fibrous silicate crystals began to grow within the fractures. The two other major varieties of asbestos—crocidolite and amosite—originated through somewhat different dynamic and thermal processes in metamorphic rock, and their fibres, though similar to chrysotile, possess different structural and chemical properties. Although known to man as early as the Stone Age, when it was used in pottery, asbestos was considered a novelty until the late eighteen-seventies, when it began to be mined on a commercial basis. Since then, it has achieved enormous industrial importance because of its unique and astonishing physical properties. It appears to be highly combustible, yet it can withstand the fiercest heat. It seems as perishable as grass, but by virtue of being almost immune to

the forces of corrosion and decay under almost every condition of temperature and moisture (and of being resistant as well to the action of most acids, alkalis, and other chemicals) it is just about indestructible. It looks extremely fragile, yet its fibres have a tensile strength equal to that of piano wire. Apparently as light and feathery as thistle—or ridderdawn, it is actually as heavy and dense as the rock from which it is extracted. In one sense, then, it is a fibre of stone. In another sense, however, it is a mineralogical vegetable whose fibres are so soft and flexible that they can be carded, spun, and woven as easily as fibres of cotton or flax.

Asbestos is the only mineral that can be woven into cloth, and its fibrous structure is, if anything, even more amazing than its remarkable ability to withstand heat. In fact, if it were not for the electron microscope, the extent to which asbestos is fibrous would be difficult to believe, for there are approximately a million individual fibrils lying side by side in a linear inch of chrysotile asbestos, whereas only thirty-eight hundred glass fibrils, such as those found in various insulation materials, or six hundred and thirty human hairs can be aligned along the same distance. Moreover, in addition to their extreme fineness, high tensile strength, unusual flexibility, spinnability, and resistance to heat and the elements, asbestos fibres possess great powers to adsorb and to



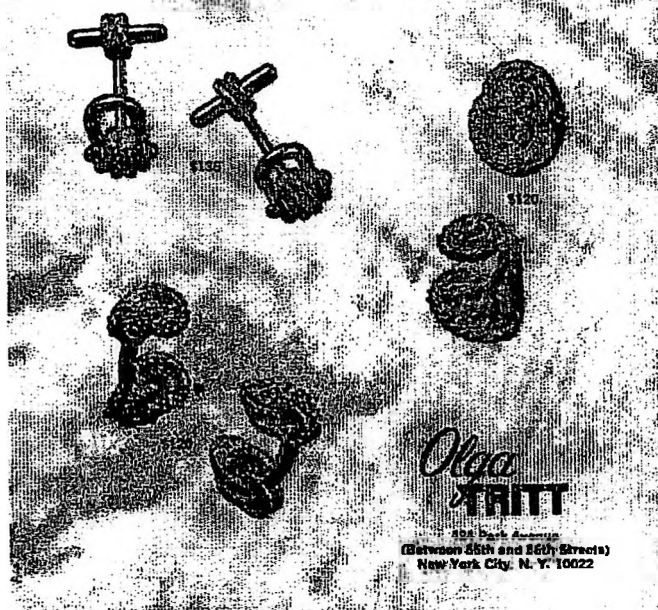


Creighton's Cotton Shirt Classic

Gentlemen of taste who are looking for a particularly special shirt need only to look at the Creighton collection. This one, of deep blue, luxurious cotton broadcloth striped with chalk, is enhanced by our superb Wildaire collar you can also wear pinned. It's about \$8.50 at select shops. They have it in button down too. CREIGHTON SHIRTMAKERS, REIDSVILLE, N. C.



18KT GOLD CUFF LINKS



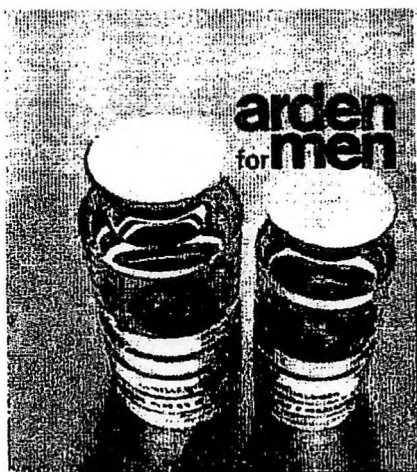
Olga
TRITT

101 Park Avenue
(Between 55th and 56th Streets)
New York City, N. Y. 10022

filter. Small wonder, then, that when asbestos, which had been known to the ancients as "the magic mineral," was, in effect, rediscovered less than a hundred years ago in the age of industrial expansion, it was put to work.

Since that time, the demand for asbestos has risen almost as fast as the stuff could be mined from the earth and milled from its host rock. In 1879, when the world's first commercial asbestos mine was opened at Thetford, in the Province of Quebec, only three hundred tons of the mineral was produced. By 1910, annual world production had jumped to thirty thousand tons; by the middle thirties, it had increased to five hundred thousand tons; and today the total output is more than four million tons a year. Up until a few years ago, asbestos was often called "the mineral of a thousand uses" by those who sold it, but this label has become obsolete, especially in the United States, where it is estimated that asbestos may have as many as three thousand different industrial applications. The United States is the largest consumer of asbestos in the world, importing nearly a million tons a year, mostly chrysotile from Canada, and since fully ninety-five per cent of this amount is used in combination with other raw materials—such as Portland cement, asphalt, and vinyl and other plastics—asbestos is present as an invisible and anonymous ingredient in a myriad of industrial products, many of which are never identified as containing asbestos even though it may constitute up to fifty per cent of their content.

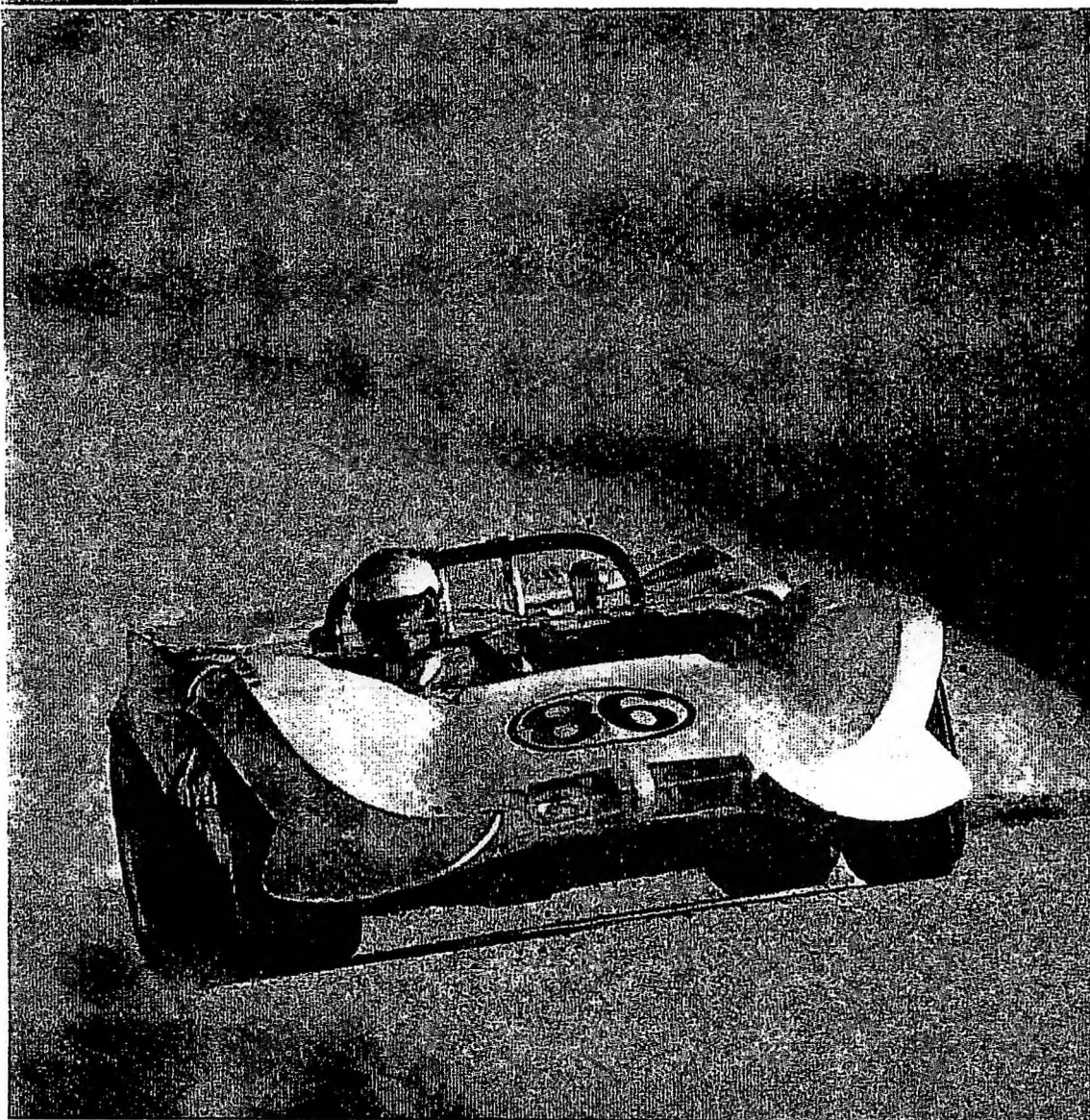
The asbestos-cement industry, which is the principal consumer of the mineral, makes shingles for roofing and siding, sheets for exterior and interior walls, insulation board, clapboard, casings for electric motors, pipes to carry water, sewage, and gas, and numerous other products. Asbestos textiles are used not only in fireproof theatre curtains but also in lagging and other insulating wrapping, in conveyor belting and safety clothing, in pot holders, ironing-board covers, draperies, rugs, and motion-picture screens, as filters in gas masks and in the processing of fruit juices, acids, beer, and medicines, and in mailbags, prison-cell padding, airplane fittings, stove and lamp wicks, sparkplugs, and fire hose. The electrical-equipment industry has depended for years on asbestos yarn and tape for insulating conductors ranging from fine-gauge wire to heavy cable, and woven asbestos friction materials—such as brake linings and clutch fac-



The flask: Arden for Men After Shave. The scent: Sandalwood, the rich tangy fragrance imported from the forests of India. On your face, it does more than refresh. In a subtle way it conjures up

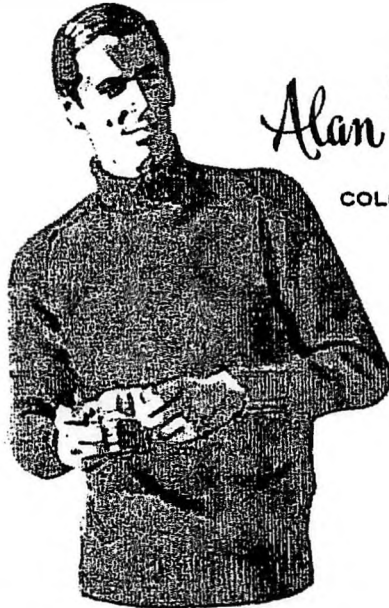
an image of success. Rub on Arden for Men after shaving. Notice how it stays with you. You'll see why Sandalwood has developed such an extraordinary following. After Shave, \$3.00 Cologne, \$4.50

It is not a conventional fragrance.
But then, you're not a conventional man.



120

Ascot—a handsome new turtleneck sweater made in England by Alan Paine. In two-ply pure lambswool, fully fashioned with distinctive Alan Paine saddle shoulder, about \$17. Also available. **Aintree**—a featherweight pure wool shirt, ideal under pullovers, blazers, etc. About \$16. Both in an exciting array of original colours created by Alan Paine.



Alan Paine
COLOUR•MATES

For store names, write: FRANK L. SAVAGE, INC., 17 EAST 37 STREET, NEW YORK, N.Y. 10016

**We Found "ELDORADO" in...
Switzerland**
a dramatic new casual trouser

ELDORADO, a luxurious blend of 50% Dacron polyester and 50% combed cotton that gives a new dimension to casual trousers. Traditionally tailored, "End Iron" finish that never needs ironing. Navy, burnt olive, dark charcoal, khaki. \$12.00

Mail orders to Kalamazoo, Michigan 49003. Sizes 28 to 42. Specify waist and inseam. Add 50c for postage—no COD's.

Redwood & Ross
13 Traditional stores through the Midwest

ings—are found in cars, trucks, tractors, power shovels, boats, and other industrial machines, as are asbestos-cloth packings, seals, and gaskets. Asbestos papers and felts are used for roofing, for piano padding, for lining stoves, heaters, filing cabinets, military helmets, and the mufflers and hoods of automobiles, and they also are found in armored cars, carpets, and cartridges, and as boiler jackets and radiator covers. Asbestos millboard, which is a heavier version of asbestos paper, is used for acoustical ceilings, as plasterboard and fireproof wallboard, and in electric switch boxes, safes, table pads, stove mats, ovens, and dry kilns. Vinyl and asphalt floor tiles contain anywhere from thirty to fifty per cent, by weight, of short asbestos fibres, and the floor-tile industry has become the second-largest user of the mineral. Since the development of phenol-formaldehyde resins in 1909, asbestos has been used in large quantities as a reinforcement and filler by the plastics industry, and today there are countless plastic products that contain asbestos, ranging from frying-pan handles to rocket nose cones. Asbestos is also an ingredient of many paints and sealants, of compounds used for roof coating and road building, of putties, caulking, and other crack fillers, of clays used for pottery and sculpture, of artificial snow, of plaster and stucco, of fireproof insulation sprayed on structural steel, and of undercoating sprayed on automobile bodies.

As a result of these multiple and miscellaneous applications, asbestos has become practically ubiquitous in modern society. There is not an automobile, airplane, train, ship, missile, or engine of any sort that does not contain asbestos in some form or other, and it has found its way into literally every building, factory, home, and farm across the land. And, because its minuscule fibres are eminently respirable, asbestos has also found its way into the lungs of man, where, by remaining as indestructible as it does in nature, it can wreak terrible havoc.

THE adverse biological effects of asbestos were observed as early as the first century by the Greek geographer Strabo and by the Roman naturalist Pliny the Elder, both of whom mentioned in passing a sickness of the lungs in slaves whose occupation was to weave asbestos into cloth. Strabo and Pliny were calling attention for the first time in history to a disease that would one day be known as asbestosis—a form of pneumoconiosis (the

When you've just bought your second antique car and become a collector, the shoe that fits the mood is the convertible buckle slip-on by **Johnston & Murphy**



**WEAR A
COMMITMENT
NOT A COAT**



LET QUALITY BE YOUR GUIDE

ZERO KING

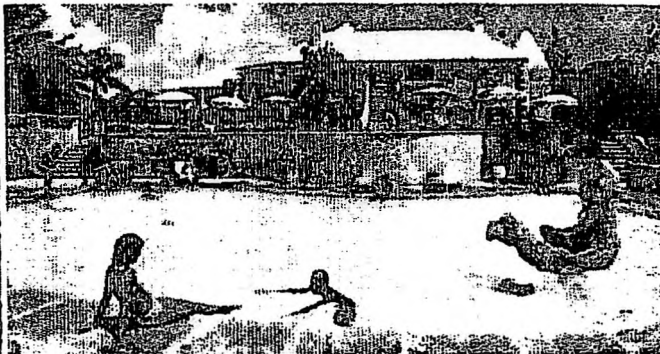
Our pledge: Advanced styling like this up-and-down zip jacket with triple-stitched cadet collar. Superlative fabric like 65% DACRON® polyester and 35% cotton. All-over warmth to spare like ORLON® acrylic pile, lining the collar as well. The Rogue, about \$35*.

B. W. Harris Mfg. Co., Park Square, St. Paul, Minn. 55101

© 1968 B. W. HARRIS MFG. CO. ST. PAUL, MINN. 55101

general term for all dust diseases of the lungs) caused by the inhalation of fine fibres and particles of asbestos—but the ancients were much too awed by the magic of the mineral to be concerned with the possibility that it might constitute a health hazard. Indeed, their attitude toward asbestos sometimes bordered on veneration. Strabo and Plutarch noted that the “perpetual” wicks used in the sacred and inextinguishable lamps of the vestal virgins were made of asbestos, and Pliny described asbestos cloth, which had been used for centuries in cremations, as the rare and costly “funeral dress of kings.” It was generally assumed in ancient times that asbestos was of vegetable origin—Pliny called it “*linum ignum*,” and the second-century Greek topographer Pausanias referred to it as “the only linen that is not consumed by fire”—and this misconception endured for centuries. (Only a few years ago, a major shareholder of an English asbestos company who was visiting the source of its supplies in South Africa asked the resident manager where the plantations were.) The Romans were especially impressed by the fact that when cloth made of asbestos was exposed to flame it always came out whiter than before—hence the Latin word for asbestos, *amiantus*, meaning unpolluted or undefiled—and they are said to have cleaned asbestos dinner napkins by tossing them into the fire.

The use of asbestos in Europe appears to have diminished greatly during the Dark Ages, although it is said that the Emperor Charlemagne convinced some warrior guests from a rival kingdom that he possessed magic powers by throwing an asbestos tablecloth into the fire and then withdrawing it, unscathed, from the flames. In the latter part of the thirteenth century, when the indefatigable Venetian traveller Marco Polo was traversing a part of Siberia then known as the Great Empire of Tartary, he was shown some cloth that would not burn, and was told by his Tartar hosts that it was made from salamander's wool. Too wily to be taken in by a story like that, Marco examined the material carefully and, after making some inquiries, learned that there was a mineral in the mountains of the district that contained threads like those of wool. In 1720, asbestos deposits were discovered in the Ural Mountains, and forty years later a factory was built to manufacture asbestos products. Because the known uses of the mineral were few and the demand was limited, this first commercial attempt to revive the long-



Horizons in Bermuda. Atop a sunny hill overlooking Coral Beach, with all Bermuda at your feet. A luxurious old Bermuda mansion with a cluster of elegant

cottages. Large pool, tennis courts, golf, marvelous ocean swimming—and the mood is relaxing. Robert F. Warner, Inc., Representative, 630 Fifth Ave., New York, JU 6-4500.

Why are these five Bermuda resorts among the island's best-loved? Because of the special attention you get.

There are five Bermuda resorts that have a certain something, quite unique among resorts anywhere in the world.

People say it's like being taken into a friendly private club. There's a house party atmosphere plus thoughtful personal attention that makes people fall in love with these resorts. And keep returning to them.

Perhaps it's their size. These are not enormous hotels. Four of them are cottage colonies and one is a small waterside hotel. Each is privately owned and individually operated. So the welcome is personal, the attention special, the enjoyment relaxed.

Although each resort has a charm of its

own, there are special pleasures that all provide you. Glorious views of blue-green water and tropical flowers. Fine food, attentive service, excellent swimming pools, dancing under the stars.

Wherever you stay, in a cottage-for-two or for all the family, or a room-with-terrace at the inn, you can be private and secluded when you wish. Yet chances are you'll be caught up in the house party spirit and find good company for lunch, cocktails, dinner and evening entertainment.

These very special resorts are your entree into Bermuda's world of pleasures. Why not ask your travel agent about them today?

Glencoe. Sailboats at your door. Breakfast on your terrace at lovely Salt Kettle Inlet. Dine by the pool. Sail, swim, water ski, fish at this charming, informal waterside inn. Reggie Cooper, owner-manager. Hetland & Stevens, Inc., Representative, 211 East 43 St., New York, TN 7-1450.

Pink Beach Club & Cottages. On its own south shore beach in Smith's Parish. De luxe pink cottages with patios. Gourmet fare. Magnificent pool. Tennis courts. Golf nearby. Manager, Sig Wellmann. Representative, Leonard P. Brickett, 1 Palmer Sq., Princeton, N.J. (609) 924-5064.

Lantana Colony Club. Beautiful cottages and clubhouse, on the Great Sound at Somerset Bridge. Choice cuisine. Pool, private beach, sailing, all water sports. New tennis courts. Golf nearby. Manager, John Young. Leonard P. Brickett, Representative, 1 Palmer Sq., Princeton, N.J. (609) 924-5084.

Cambridge Beaches. White beaches, sparkling water on three sides. 250 year old main house, charming cottages. Excellent cuisine, calypso entertainment. Large pool, game, reef and shore fishing. Sailing, tennis. Hetland and Stevens, Inc., Representative, 211 East 43 St., New York, TN 7-1450.

124

GASTON de
LAGRANGE
COGNAC
A New American Favorite



IMPORTED

80 PROOF
ALSO V.S.O.P.

BY APPOINTMENT
TO HIS MAJESTY
NINE ALPHABET
AND TO HIS MAJESTY
PETER II

Imported by: PARK, BENZIGER & CO., INC. • NEW YORK, N.Y. **pb**



A NORTH BAY story: Touching. This coat of Glenoit's GLENSEA. Soft and sleek and luxurious and rich and very dense. Of 100% CRYLOR® acrylic fiber. In brown and black. In sizes 3-15. About \$85 at LORD & TAYLOR, New York & branches.

definitely GLENOIT
for happy persons

dormant asbestos industry was a failure, but the second attempt, which took place slightly more than a century later, succeeded beyond the wildest dreams of its backers. As a result, the fact that asbestos could produce lung disease, which had been forgotten since Strabo and Pliny first recorded it around the time of Christ, soon manifested itself again.

Modern knowledge of asbestosis dates from the year 1900, when a post-mortem examination was performed by Dr. H. Montague Murray, a physician in London's Charing Cross Hospital, on the body of a thirty-three-year-old man who had worked for fourteen years in an asbestos-textile factory. The patient, found to have been suffering from severe pulmonary fibrosis, which is scarring of the lungs, had been the last survivor of a group of ten men who were working in the carding room of the factory in 1886, and since Dr. Murray found spicules of asbestos in the lung tissues at autopsy, he was able to establish a presumptive connection between the man's occupation and the disease that killed him. A few years later, an inspector in the Department of Labor at Caen, whose name was Auribault, reported the results of what was undoubtedly the first study of mortality among asbestos workers. According to Auribault, whose account appeared in the *Bulletin de l'Inspection du Travail et de l'Hygiène Industrielle*, an asbestos-weaving mill had been established in 1890 at Conde-sur-Noireau, in Calvados, and during its first five years of operation, when there was no artificial ventilation and the employees were heavily exposed to dust from the looms, fifty of them died. Moreover, the director of the factory, who had previously owned a cotton mill at Gonneville, in Manche, had recruited seventeen workers from his former staff, of whom sixteen were wiped out by what Auribault, who was not a physician, mistakenly described as clialicosis—a pneumoconiosis common among stonecutters.

Unfortunately, neither Murray nor Auribault realized the importance of their findings. Testifying before a Departmental Committee on Compensation for Industrial Diseases, in 1906, Murray said, "One hears, generally speaking, that considerable trouble is now taken to prevent the inhalation of dust, and so the disease is not so likely to occur as heretofore," and the concluding recommendation of Auribault's report was simply that people under eighteen years of age should not be allowed to work in dusty conditions. Be-

The Travel Agent

A blessing in disguise.



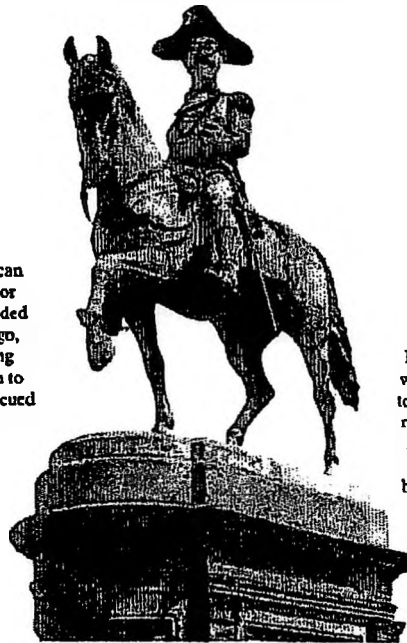
Uplifting.

You're in a vacation quandary. Where to go? Even, why to go? You need some inspiration. Take your quandary to a travel agent. It doesn't cost you. (Except for his out-of-pocket expenses.) He's there to listen, to suggest, to plan, to arrange. All so you can go off winging.



To the rescue!

A travel agent is a travel agent so he can save us from our mistakes. Tell us, for an instance, that the hotel recommended by a friend who was there 15 years ago, burned down 14 years ago. (Talking about mistakes, we have been known to make them on occasion. And to be rescued by our hero.)



Authoritative.

Sure, he knows about passports and hotels and flight schedules. But a travel agent must also make like a father image . . . giving you sage counsel, weighing pros & cons, settling your doubts firmly, decisively. You should leave his office feeling like one smart traveller. Which, for seeking him out, you are!



Helpful.

In his loyal, obedient, trustworthy way, a travel agent is honor-bound to carry out your every whim. You'd rather be with a tour? You'd rather not? You need a special diet? You must sit on the left in the plane, but on the right in a bus? Speak up. You have but to demand.

New York, Beverly Hills, Boston, Chicago, Cleveland, Detroit, Houston, Miami Beach, Mexico City, Montreal, Philadelphia, San Francisco, St. Louis, Toronto, Washington, D.C.



*The individuality of
the New Yorker...*

He's a non-conformist and is sympathetic to anything modern, especially when it comes to clothing. He expresses his individuality with our sculptured suit from France by Brit. Chalk striped wool worsted, \$155. From our "Sutton East Gallery." Men's Store, Street Floor and a selection at Bergen County, Short Hills, Stamford.



59th at 3rd, New York 10022 • EL 5-5900

cause of ignorance about the cause of the disease, and because it manifested itself slowly and insidiously over a period of from ten to twenty years or more, asbestosis was probably more often than not misdiagnosed in the early part of the century as pulmonary tuberculosis, silicosis, or fibrosing pneumonia. In addition, coyness on the part of industry, timidity on the part of labor, and obtuseness on the part of the medical profession often combined to make early investigations into the health of asbestos workers meaningless. As a result, even though the asbestos industry was growing very rapidly in all the industrialized countries of the world, almost nothing was done to control dust levels in asbestos factories, and almost no medical information on asbestosis was gathered during the quarter of a century that followed the disclosures of Murray and Anribault—although asbestos workers were probably dying like flies of it.

It was 1924 before the first clear case of death due to asbestosis appeared in medical literature. In that year, Dr. W. E. Cooke, an English physician, who gave the disease its name, performed a post-mortem examination on a thirty-three-year-old woman patient who had started working at the age of thirteen in an asbestos-textile factory in which there was no provision for the removal of dust. By 1917, after thirteen years of exposure, she had been coughing and in bad health, and from then on her attendance at work had been intermittent because of shortness of breath and lassitude. The autopsy showed extensive pulmonary fibrosis and dense strands of abnormal fibrous tissue connecting the lungs and the pleural membranes surrounding them. In

addition, Cooke noted the presence of solid yellowish-brown particles, which he called "curious bodies," in the areas of fibrosis. "We have never seen anything parallel to this in pneumoconiosis due to other dusts, nor have we been able to find such occurrence in literature," he declared, and he added, "We cannot think there is any reasonable doubt that the particles in the lung are the heavy, brittle, iron-containing fragments of asbestos fibre."

Cooke's discovery, which was published in the *British Medical Journal* of July 26, 1924, and republished in 1927, provided the point of departure

for a scientific journey that started on an apparently straightforward path of occupational hygiene and that has since branched out into epidemiology, oncology, physical chemistry, physiology, and experimental pathology. As a result of studies made between 1927 and 1931, a whole literature relating to asbestosis appeared in Great Britain, which included clinical and X-ray findings, descriptions of the histology of the disease, and the hypothesis (soon widely accepted) that the strange-looking yellowish-brown bodies noticed by Cooke were asbestos fibres that had been altered by the reaction of lung tissue, and coated with a colloidal substance rich in iron. In fact, Cooke's "curious bodies" proved to be so abundant in the lungs of autopsied asbestos workers, many of which contained literally billions of them, that they quickly came to be called "asbestos bodies."

The most important investigation of this period was conducted by Dr. E. R. A. Merewether, a medical inspector for the Factory Department of the British Home Office. Between 1928 and 1929, he examined three hundred and sixty-three asbestos-textile workers out of an estimated total of twenty-two hundred asbestos workers employed in Great Britain at the time, and found that ninety-five, or slightly more than twenty-five per cent, showed evidence of suffering from pulmonary fibrosis. He also demonstrated that the incidence of fibrosis increased in direct proportion to the number

of years of exposure, reaching eighty-one per cent in the group of workers who had been employed in the industry for twenty years or more. As a result of Merewether's report, Parliament passed legislation in 1931 that made asbestosis a compensable disease,

required improved methods of exhaust ventilation and dust suppression in asbestos-textile factories, and instituted periodical medical examinations for workers engaged in particularly dusty processes in the asbestos-textile industry.

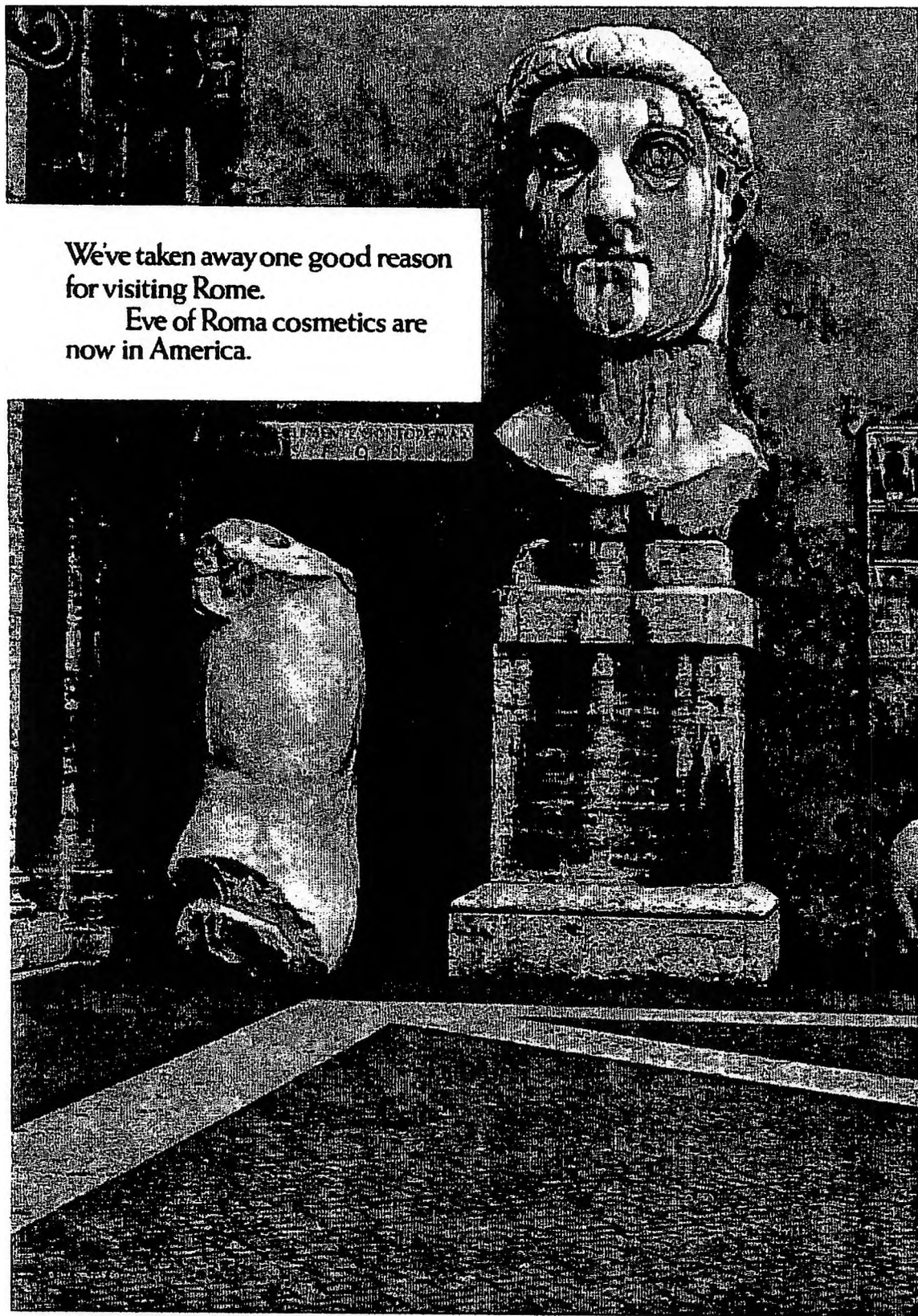
After this promising burst of activity, however, progress in the field of asbestosis was depressingly slow, for, as things turned out, the doctors had only begun to scratch the surface of a problem of bewildering complexity. Many investigators assumed that the new regulations would prove effective in controlling the disease, thus failing to appreciate the fact that, once inhaled,



DISTILLED FROM GRAIN 91.5 PROOF BOTTLED AND KEPT IN LONDON
IMPORTED BY MONSIEUR INTERNATIONAL NEW YORK N.Y.



To make martinis with.





Among her devoted fans she counts 7 Princesses, 8 Countesses, 2 Marchionesses, 1 Maharani, scores of Roman socialites and practically the whole Roman film contingent. Her salon at 116 Via Veneto is where the Beautiful People go to get beautiful.

She invented the Doe-Eyed Look of a few years ago, the Pale Look that followed that, the sun-kissed Terra-Cotta Look that's all the rage right now.

She probably knows more about the delicate nuances of color and how to turn them into beautiful cosmetics than any other living woman.

She is Eve of Roma.

Today, Madame Eve is extending her empire to America. And this astonishingly honest woman admits that it is partly because she believes we need her.

"American women have beautiful skin," she will tell you. "But they cover it up with much too much makeup. And they slap so much cream on their faces that their pores cannot breathe."

"With makeup and skin preparations, the less you use the better you will look. You should always put on just the tiniest amount of the right thing."

The very first time you use Eve of Roma cosmetics, you will know they are the right thing.

You will love the way they combine light and color and transparency—the effect is so delicate. Madame Eve's skin care preparations will delight you too. They are designed not to smother the skin, but to hydrate it. A refreshing difference responsible for some of the world's most celebrated complexions.

And now Eve of Roma products are here in America. (They are all, of course, made in Italy.) Only at the very best stores, such as Lord & Taylor, Rich's, and Marshall Field.

Left: Eve of Roma, in the Palazzo dei Conservatori.



Imported from Italy
116 Via Veneto Roma

The fewer you make, the better you can make them.



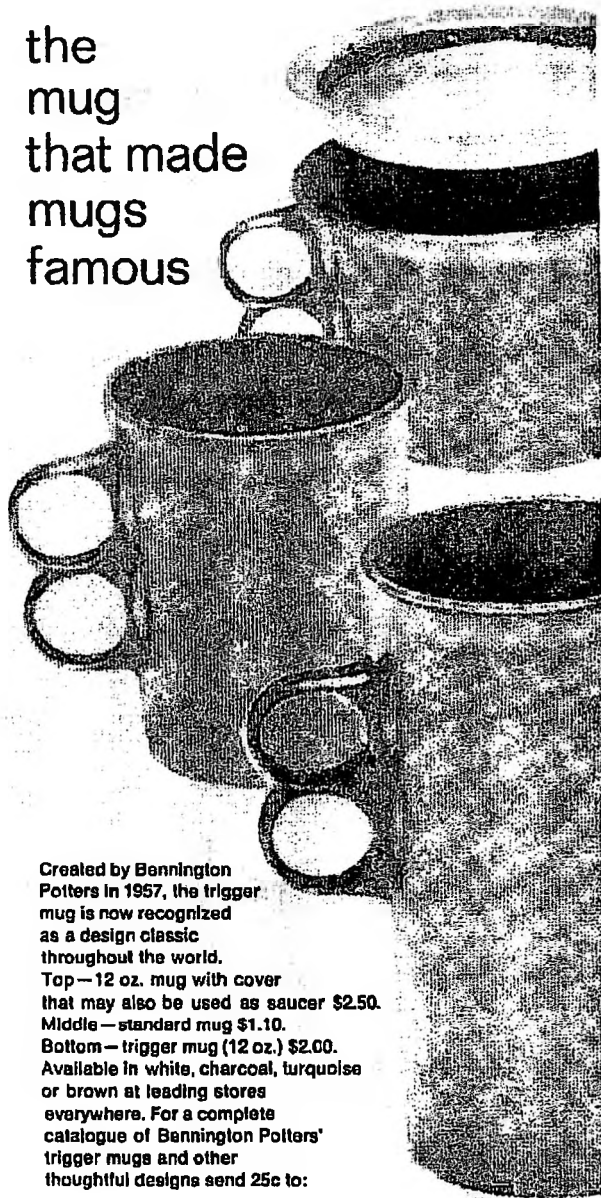
Exquisite Italian Provincial Console with the largest color picture made. Nearly every possible feature in an elegant hand-crafted cherry and select hardwood cabinet. One of nine models. A limited number are planned.

DUMONT

asbestos, which is virtually indestructible, continues to react within the lungs for a lifetime, and to heed the warning of Merewether, who, when asked if two years of exposure was sufficient to cause asbestosis in a young girl, replied, "Yes, if she lives long enough." Moreover, techniques of dust sampling were primitive and inaccurate, and dust levels varied so greatly—not only from factory to factory but from area to area within a given factory—that it would have been almost impossible to establish criteria upon which to recommend a safe level of exposure. But as time went by, the generally lowered dust levels that did result from the regulations of 1931 appeared to be slowing down the attack rate of the disease, at least in Great Britain, and the life expectancy of the average asbestos-textile worker was further increased by the advent of antibiotics, which drastically reduced the death rate from infectious pulmonary diseases that often had to be feared as a complication of asbestosis. The totally unforeseeable consequence of all this was that asbestos workers, instead of dying of asbestosis, began living long enough to develop asbestos-induced cancer.

The first published suggestion of an association between asbestosis and malignant disease was made in 1935 by Dr. Kenneth M. Lynch, professor of pathology at the Medical College of South Carolina, who described the case of a fifty-seven-year-old asbestos weaver who died of asbestosis and in whose lungs cancer was also found. Because the regulations of 1931 required British coroners to conduct autopsies on men who had been suspended from work with asbestos on account of pulmonary disability or when their length of service rendered it likely that their occupation was a contributory cause of death, pathologists in Britain were able to investigate the suggested link between asbestosis and lung cancer much more easily than their counterparts in the United States, where few states had workmen's compensation laws covering dust diseases, and where there were no specific regulations requiring post-mortem examinations of asbestos workers. The British investigations were not made the subject of official comment until 1949, however, when Dr. Merewether, who was then Chief Inspector of Factories, published a review of data that had been accumulated from 1924 to 1946, which revealed that lung cancer was present in thirty-one out of two hundred and thirty-five deaths that were caused by asbestosis or in which asbestosis was

the
mug
that made
mugs
famous



Created by Bennington Pottery in 1957, the trigger mug is now recognized as a design classic throughout the world.
Top—12 oz. mug with cover that may also be used as saucer \$2.50.
Middle—standard mug \$1.10.
Bottom—trigger mug (12 oz.) \$2.00.
Available in white, charcoal, turquoise or brown at leading stores everywhere. For a complete catalogue of Bennington Pottery's trigger mugs and other thoughtful designs send 25c to:

bennington potters
Bennington, Vermont

found at autopsy. This was an incidence of slightly more than thirteen per cent, and Merewether found it highly significant, for lung cancer, according to its incidence in the general population, should only have been present in approximately one per cent of the cases. At the time, no formal claim of an association between the two diseases was made, but during the next few years an increasing amount of evidence began to establish one. Then, in 1955, Dr. Richard S. Doll, director of the Statistical Research Unit of the British Medical Research Council, completed a study of a hundred and thirteen consecutive autopsies of men with more than twenty years of exposure in a large asbestos-textile factory, which showed that the extent to which they had risked lung cancer over the whole period was eleven times as great as that of men in the general population of England and Wales. From then on, many doctors were convinced that a causal relationship between asbestos exposure and lung cancer had been demonstrated, although almost no part of the vast asbestos industry either acknowledged the relationship or found it advisable to aid the independent researchers who were investigating it.

AT this point, many epidemiologists had concluded that the hazards to human health presented by asbestos were limited to the relatively small group of heavily exposed workers engaged in making asbestos textiles. The trouble was that very few studies had been made of the tens of thousands of workers engaged in other branches of the industry, which was then expanding at an enormous rate all over the world, so that no one really had any way of knowing whether there was any danger from moderate or light occupational exposure—or, for that matter, from indirect, non-occupational exposure. Such studies were under way in a number of countries, however, and when the results began to appear, in the late fifties, it became evident that the hazard posed to man by asbestos had once again been underestimated.

The most dramatic development was the discovery of an association between exposure to asbestos and mesothelioma, an almost always malignant tumor of the pleura, which is the delicate membrane that encases the lungs, or of the peritoneum, a similar membrane that lines the abdominal cavity. Previously, mesothelioma had been so rare that it was considered a pathological curiosity. It was found in only one out of every ten thousand autopsies, it was

Tailored by
H. FREEMAN & SON
PHILADELPHIA

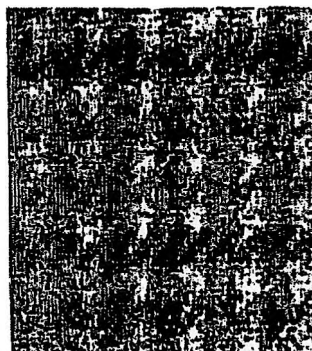
[illegible]

Naturally, in one ad we cannot list all the fine stores that carry our clothing. Subsequent ads will carry other names. Meanwhile, if a store in your city is not listed, please write us.

H. FREEMAN & SON, Inc.
33rd & Arch Sts., Philadelphia, Pa. 19104

H. Freeman & Son clothes combine ideas and ideals. Since 1885.

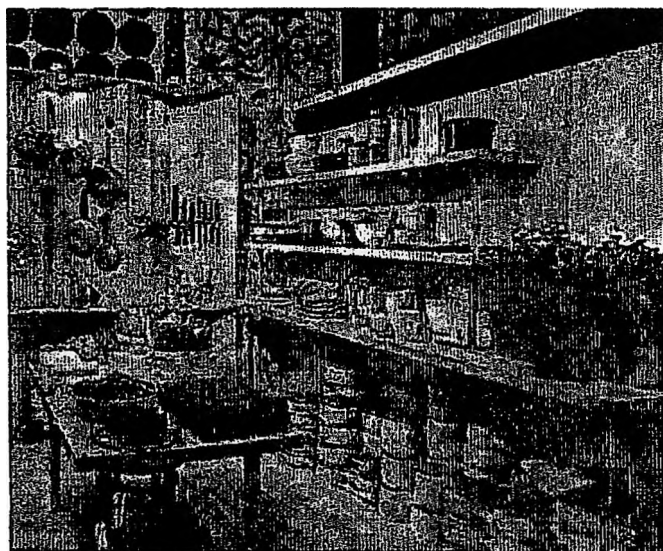
Here's today's classic for today's fast-moving world.



This Folkweave® sport coat is hand-tailored of one of the finest British wools. Like so many fashions with the H. Freeman label, it is exclusive in pattern and coloring. When you wear it, you will feel it was made for you alone . . . so great is the attention we pay to every detail. In truth, Folkweave combines ideas and ideals — today's classics for today's fast-moving world. From \$89.50 at stores listed on the opposite page.

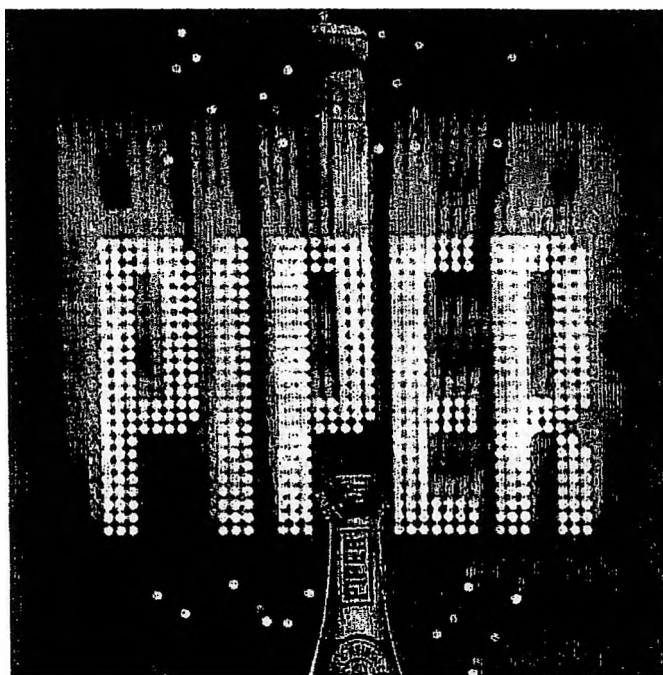


33rd & Arch Streets, Philadelphia, Pa. 19104



Design Research is gathering its autumn stock of recognized classics and new designs to add to the collection of D/R furniture, Marimekko® textiles and dresses, fur and leather, toys, kitchen things and many other accessories.

Design Research, 53 East 57th Street, New York; 57 Brattle Street, Cambridge; Ghirardelli Square, San Francisco.



PIPER-HEIDSIECK CHAMPAGNE • PIPER BRUT 1962 VINTAGE • PIPER PINK • CUVEE DES AMBASSADEURS • PIPER EXTRA DRY NON-VINTAGE • HENFIELD IMPORTERS, LTD. N.Y.

not listed in most medical books, and it was not even coded separately in the World Health Organization's International Classification of Diseases. In 1956 and 1957, however, sixteen cases of this rare tumor—tantamount to an epidemic—were diagnosed at the Pneumoconiosis Research Unit in Johannesburg, South Africa, by a pathologist named J. Christopher Wagner. Two circumstances led Dr. Wagner and his associates to suggest that asbestos might play some part in the mysterious outbreak: asbestos bodies had been found at autopsy in the lungs of the very first case, and ten of the cases had come from a hospital to which patients suspected of suffering from tuberculosis were referred from a large crocidolite-asbestos mining area.

At the beginning, this hypothesis seemed rather tenuous, for none of the sixteen patients who suffered from mesothelioma had ever worked in asbestos mines or mills. Within a short period, however, cases of mesothelioma began to crop up elsewhere in South Africa, and when Wagner and his associates discovered that the father of one of their new mesothelioma patients had been the manager of an asbestos mine, and that the patient had played around the mine and on the adjacent dumps as a child, they undertook to reinvestigate the sixteen original cases and to obtain detailed life histories in all future cases. By the end of 1961, they had diagnosed a total of eighty-seven mesotheliomas of the pleura and two mesotheliomas of the peritoneum. Only twelve of the cases proved to have had industrial exposure to asbestos, but all the rest came from the arid, windswept region of the Cape asbestos fields, where they could easily have sustained exposure simply by living in the vicinity of asbestos mills and dumps. A particularly striking case was that of a woman who was born in a town on the asbestos fields, left the region at the age of five, and died of a pleural mesothelioma at the age of fifty-seven. Detailed questioning about her childhood revealed that she had attended a kindergarten near an asbestos dump and that she and her playmates (two of whom also died of mesothelioma) used to enjoy sliding down the dump on their way home from school. Another example was provided by the youngest patient of the series—a man who died at the age of twenty-one. He had been exposed to asbestos from the age of six weeks until he was weaned—a period during which his mother took him along with her when she went to work at a cobbing site, which is a place where



**Armstrong
introduces the
I'll-show-Gloria-
I-know-a-thing-or-two-
about-decorating
wall.**

You know Gloria. She's the kind who tells you what picture to hang where. Anytime you want to top her, just put up a wall by Armstrong.

Armstrong paneling is the one-wall wall paneling. It has such deep grain and warm coloring, one wall is all you need. A fireplace wall. A staircase wall. Any wall you want to accent.

The one shown is Sturbridge™. It looks and feels like weathered barn siding. Then there's Colonial Chestnut™ with the look of expensive worn chestnuts. And Woodstock™, that looks for all the world like hand-hewn planks. All are 4-by-8-foot panels. All are easy to install.

None will cost you more than about \$40 for an average wall. Walls by Armstrong are on display at your local building supply dealer. See them all. But try to use a little restraint. Remember, one wall is all it takes. To top Gloria.

Armstrong

Why the dry martini wasn't always dry.



To make a dry martini, you first need a dry gin.
And nobody in America made a dry gin
until Fleischmann did it back in 1870.
Today the gin that made the martini dry is still the one
to use for a dry martini.

Fleischmann's. The world's driest gin since 1870.

THE FLEISCHMANN DIST. CORP. 40% ALC/VOL (80 PROOF) DISTILLED FROM AMERICAN GRAIN

asbestos is separated from its host rock. Even among those patients who had worked in asbestos mines, the actual exposure appeared to have been slight, for in most cases the lungs showed no evidence of asbestosis but only a few asbestos bodies and fibres in the air spaces. From this, Wagner drew the chilling conclusion that mesothelioma might result from an exposure to asbestos dust that was considerably less than that needed to produce fibrosis—the condition that had always been considered essential for the development of asbestos lung cancer. (In some areas of South Africa, occupational exposure to asbestos dust was so heavy, however, that fibrosis of the lungs was almost certainly killing people before cancer could develop. According to Dr. G. W. H. Schepers, a native of South Africa who is now director of the Bureau of Laboratories in the Department of Health in Washington, D.C., conditions of industrial hygiene in the asbestos mines and factories were often “deplorable.” In 1949, when Schepers was sent into the northeastern Transvaal to make the first official radiological and clinical survey of the asbestos industry for the South African government, he found barefoot Bantu children spending their days inside large jute shipping bags, where they were forced by overseers armed with whips to trample down fluffy amosite asbestos as it came cascading over their heads into the bags. Schepers found that a number of these children had developed asbestosis with cor pulmonale—right-sided heart failure, which often accompanies the disease—before the age of twelve, and he has said that he would be very surprised if any of them had lived long enough to develop either lung cancer or mesothelioma.)

In 1960, the year that Wagner published the first of his disturbing reports about mesothelioma, there were two additional developments that caused grave concern among scientists investigating the asbestos problem. One of them occurred in Finland, where Dr. Raimo Kiviluoto, a radiologist, had been surveying the general population for tuberculosis; he detected deposits of calcium on the pleura, which had previously been seen almost exclusively in asbestos workers, in four hundred and ninety-nine out of sixty-three hundred and twelve people (mostly farmers and their wives) who lived in a county where asbestos had been mined and milled for many years, and no pleural calcifications in seventy-one hundred and one people who lived in a neighboring county where there was no as-

Handsome and then some!



FOXHEAD coats with DACRON*

Handsome any time, any place, any weather.

Lightweight, fashion-styled in a 2-ply Dacron® polyester and wool-worsted fabric. And then some. Sheds wrinkles and retains shape. Zepel® finish for rain and stain protection. Optional zip-liner available. See Foxhead, in elegant colors and patterns, from \$75, at smart stores everywhere.

*Tailored in U.S.A. *Dacron® is a registered trademark.



OUTSMARTS THE WEATHER

For names of nearby Foxhead stores, write the world's largest topcoat maker: Goodstein Bros. & Co., Inc. 10 West 20th Street, New York, N.Y. 10011.



The Towncliffe Attitude

She's a fashion adventuress—

She wears suits almost everywhere, making all the ladies in dresses feel miserably timid. Terribly conventional.

It has to do with the suits she picks, of course. They're so smashingly distinctive.

Her suits are works of art, with all the detail and flair that makes for greatness. It's the heart of

The Towncliffe Attitude—the right suit is worlds apart from everything else.

Townspin in Red, Royal, Jade, Coffee
8 to 18 About \$90
Slightly higher waist.

BEST & CO., NEW YORK
GODCHAUX'S, NEW ORLEANS
GIDDING-JENNY, CINCINNATI & DAYTON
WOOLF BROTHERS, KANSAS CITY
and fine stores everywhere.



TownLife, Inc.
512 Seventh Avenue
New York, N.Y. 10018

bestos industry. The other development took place back in South Africa, where Dr. J. G. Thomson, professor of pathology at the Medical School of the University of Cape Town, was examining lung-fluid smears from five hundred consecutive autopsies to determine the extent to which the ordinary urban dweller was exposed to the inhalation of asbestos; he found asbestos bodies in twenty-five per cent of the total. Thomson's discovery astonished the medical world, for up until that time no one suspected that asbestos bodies might be present in the lungs of people who did not work in asbestos mines or factories. He pointed out, however, that there had been a tremendous increase in the use of asbestos throughout the world over the previous twenty years—three million tons were marketed in 1960—and that asbestos was being incorporated into an increasing number and variety of industrial products with which the ordinary urban dweller came into intimate daily contact. He also suggested that the air of city streets was a likely source of asbestos exposure, and that the average motor vehicle, which wears out three or four sets of asbestos brake linings and one or two asbestos clutch facings in its lifetime, might well be a major cause of the liberation of asbestos dust. Thomson reminded his colleagues that, compared to a half-life of twenty-eight years for strontium 90, the half-life of asbestos fibre was an infinity of years, and he concluded that, because of the continuous disintegration of asbestos products such as brake linings, floor tiles, and roofing materials, as well as the demolition of buildings containing numerous other asbestos products, asbestos was constantly finding its way into the atmosphere as an everlasting contaminant. He even went so far as to predict that in future decades, as the accumulation of asbestos in urban areas led inexorably to higher concentrations of asbestos fibres in the lungs of urban dwellers, asbestos-induced neoplasms would rival cigarette-induced lung cancer as a cause of death.

As might be expected, the disclosures made by Wagner, Kivluoto, and Thomson provided a powerful stimulus for further investigation of the problem of asbestos exposure. During the next few years, a hunt for mesotheliomas and asbestos bodies was undertaken by pathologists all over the world.

Thomson's observations were confirmed by studies made in Miami, in London, and in Belfast, while in Pittsburgh asbestos bodies were found in the lungs of forty-six of a hundred consecutive autopsies at Presbyterian-University Hospital. And Wagner's findings were corroborated by investigations that associated mesothelioma with exposure to asbestos in half a dozen cities in Europe and the United States. Perhaps the most striking confirmation of Wagner's data came from London, where Dr. Muriel L. Newhouse and Dr. Hilda Thompson, of the Department of Occupational Health at the London School of Hygiene and Tropical Medicine, investigated the life histories of seventy-six cases of mesothelioma that had been confirmed by autopsy or biopsy in London Hospital. To no one's surprise, thirty-one of the seventy-six patients had worked with asbestos, but eleven of those who had died had simply lived within half a mile of an asbestos factory, and nine others—seven women and two men—were relatives of asbestos workers. Most of these women had washed their husbands' work clothes regularly. The investigators learned that one of the husbands, a docker, had come home "white with asbestos" every evening for three or four years, and that his wife had brushed him down. Both of the men in this group, when boys of eight or nine years, had had sisters who worked in asbestos-textile factories. One of the sisters had been employed as a spinner from 1925 to 1936, and had died of asbestosis in 1947, at which time it was determined at an inquest that "she used to return home from work with dust on her clothes." Her brother, who had apparently sustained no other exposure to asbestos in his lifetime, died in 1956 of a pleural mesothelioma.

Further corroboration of Wagner's findings came from southeastern Pennsylvania, where Dr. Jan Lieben, then head of the Division of Occupational Health at the State Department of Health, in Harrisburg, investigated the backgrounds of forty-two people who had died of mesothelioma between 1958 and 1963. Of the forty-two patients, ten proved to have had definite occupational exposure to asbestos, three were relatives of asbestos workers, eight either lived or were employed in the vicinity of an asbestos factory, and ten



A tour isn't a tour without Alitalia.

In the first place, we don't forget about you once we've flown you there.

We put you up in clean rooms with private bath or shower—in centrally-located hotels, downtown where all the life is, not in the outlying suburbs.

We take you through the country in

modern, comfortable motorcoaches with English-speaking guides.

They know all the traditional sights as well as the intriguing out-of-the-way places that give you a richer understanding of the country, its history and people.

And unlike all other tours, ours take off as scheduled; all our tour

departures are guaranteed, so you're never stuck at the last minute having to make other arrangements.

And, of course, a tour isn't a tour without an attractive low price. Ours are so low that you can't afford to stay home. So don't stay home. Fly away and live.

ALITALIA 



Italy is great art. And great food and drink and fun. 15 days for just \$499 (including round trip economy air fare from New York, hotels, two meals daily, sightseeing).
For Alitalia Extra-Value Vacation brochures, see your travel agent or mail coupon to Alitalia Airlines Tours, 666 Fifth Avenue, New York, N.Y. 10019.

Alitalia Extra-Value Vacations			
2 weeks		3 weeks	
☐ Italy	\$499	☐ Portugal-Spain-Morocco	\$579
☐ Italy (Independents)	\$587	☐ Israel & Europe	\$799
☐ Portugal & Madeira	\$1115	☐ Africa	\$1619
☐ Portugal & Spain	\$629		

Alitalia Bargain Hunter's Holidays (2 and 3 weeks)			
☐ London Theatre Tour	\$1300	☐ Portugal	\$300
☐ London Casino Tour	\$1300	☐ Italy	\$360
☐ Britain by Rail	\$300	☐ Skiing	\$360
☐ Britain by Car	\$300		

Name _____

Address _____

City _____

My travel agent is _____

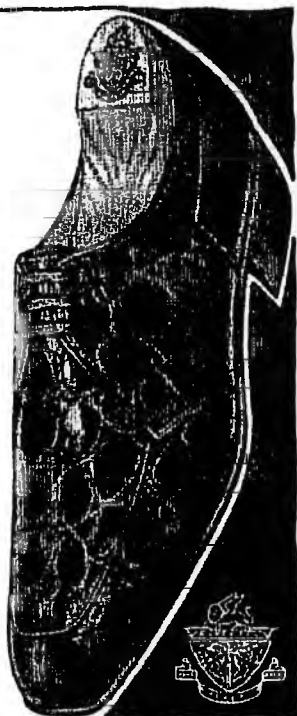
NY 1012



140

*Casa nel
dire
Barletta?*

What does Barletta mean? Style. Luxury. More style and luxury than you've ever enjoyed in any shoe. The Barletta shoe is hand cut. Hand lasted. Hand sewn. Hand made. Each pair of Barletta shoes is a proud example of its Italian bootmaker's art. Not all stores have them. Then, not all stores deserve them. You do. One fine store near you should have Barletta shoes. They are not inexpensive. But, what worthwhile ever is!



Ultimo

Barletta Shoe Co. • 40 S. Clinton, Chicago 60606

Paris, Milan, London, Palm Springs, Beverly Hills, New York, Chicago, some other American cities.

TURRET CLUB

Contemporary
soft shouldered
clothing

No one
does
it like
Haspel



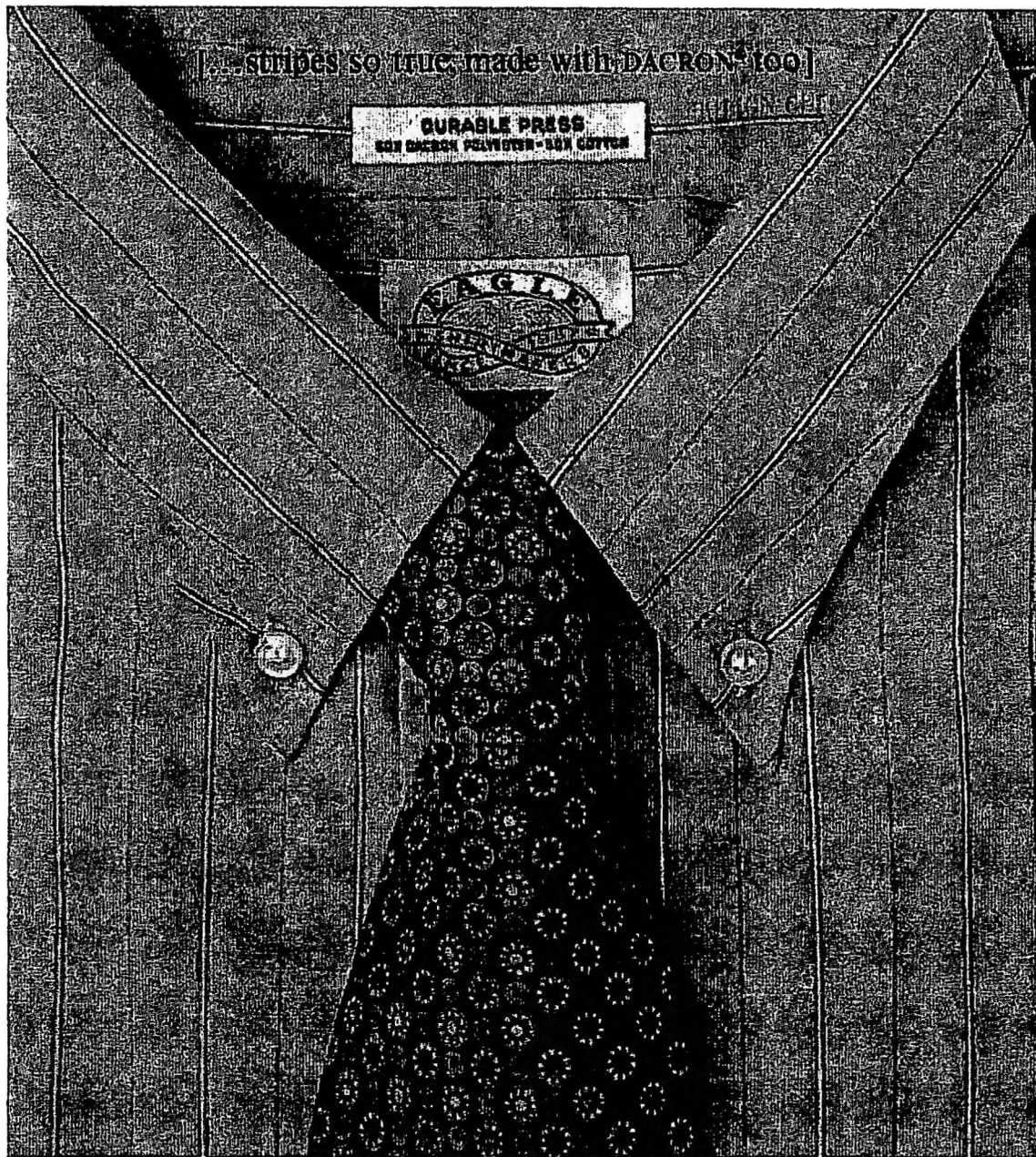
Suits about \$75, sport jackets about \$45 (slightly higher on the West Coast).
Haspel Bros., Inc., New Orleans, U.S.A.

others were discovered to have had at least some minor exposure to the mineral. The ten people with minor exposure included a self-employed maker of Swiss cheese who used a five-hundred-gallon boiler covered with asbestos insulation that flaked off on contact, a salesman who had mixed and applied asbestos-cement insulation to boilers in his home, and a fourteen-year-old boy who at one time had helped his father saw up and install plasterboard during an extensive remodeling of their house.

From an epidemiological point of view, the investigations that tended to support the findings of Wagner and Thomson were weak, because they lacked a defined population as a base against which the data could be measured. On the other hand, the presence of asbestos bodies in the lungs of such a large percentage of consecutive autopsies in so many widely distributed cities of the world was sufficient to indicate that asbestos fibres were probably being inhaled by a majority of urban dwellers everywhere, and the association between asbestos and mesothelioma was striking enough to suggest that a history of exposure to the mineral was likely to be found whenever a positive diagnosis of the tumor was made. As a result, epidemiologists were forced to revise their idea that asbestos was only an industrial hazard, and to give serious consideration to Thomson's prediction that it might prove to be dangerous for untold numbers of unsuspecting people in the general community.

IN October of 1964, in order to review the data collected in the past and to discuss the problems awaiting solution in the future, the New York Academy of Sciences sponsored an international Conference on the Biological Effects of Asbestos, at the Waldorf-Astoria. The conference enabled more than four hundred scientists from all over the world to discuss the immensely complicated epidemiological and clinical problems that had appeared in the forty years since Dr. Cooke described the first clear case of asbestosis, and its planning was largely the work of one of its co-chairmen, Dr. Irving J. Selikoff, who is head of the Division of Environmental Medicine at the City University's Mount Sinai School of Medicine, director of its Environmental Sciences Laboratory, and a pioneer in the field of modern asbestos epidemiology.

Like many of his colleagues at the conference, Dr. Selikoff became inter-

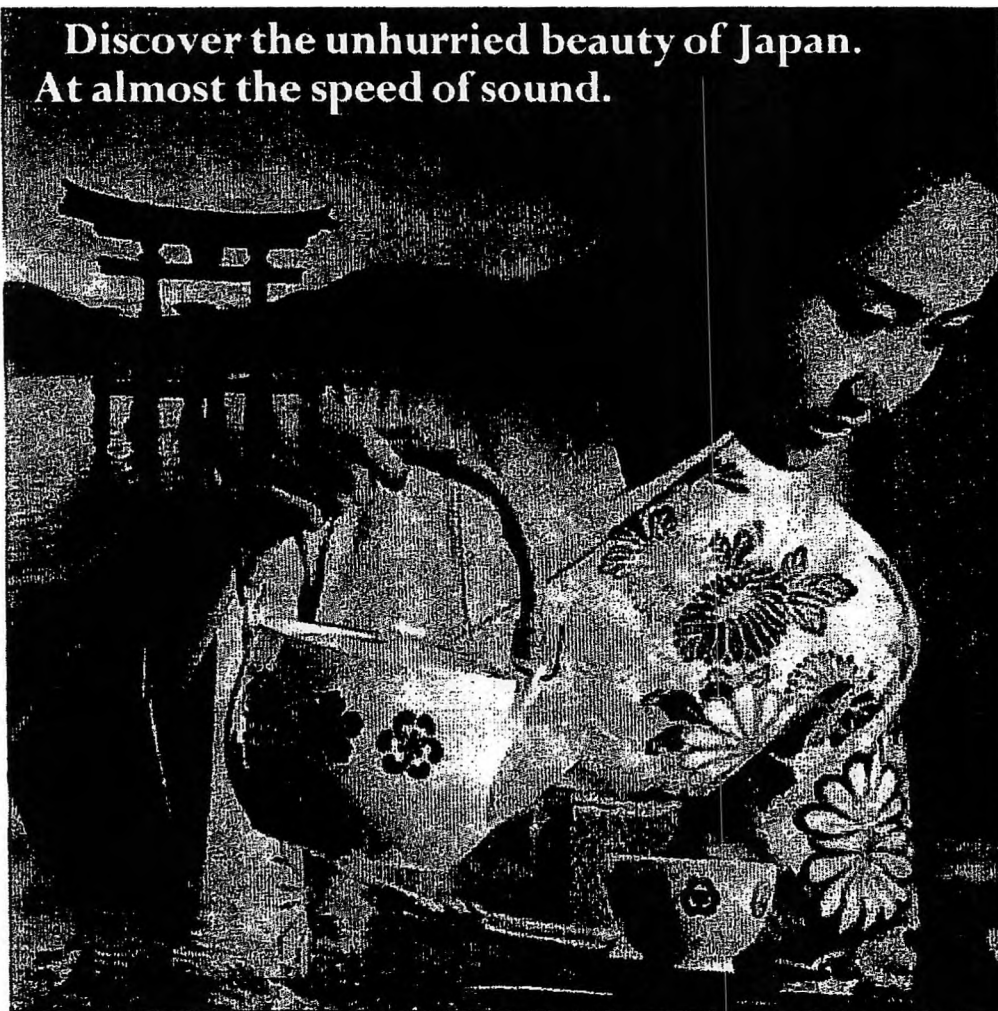


If you can make out a figure 8
in this tie you're color blind;
but look at that shirt for 9.50!

* Dacron is Dupont's registered trademark.

© 1968, EAGLE SHIRTMAKERS (a buttoned-down subsidiary of Hat Corporation), QUAKERTOWN, PA. 18911.

Discover the unhurried beauty of Japan.
At almost the speed of sound.



Enjoy the traditional hospitality of JAL on your way to the Orient...any day of the week from New York, Los Angeles, San Francisco or Honolulu.

The serenity of Japan begins the moment you board one of our Jet Couriers, when a kimono-clad hostess greets you with a classic bow. In the Japanese manner, she has been trained since childhood in the art of pleasing her guests. An *o-shibori* hot towel is offered to refresh you. Then, warmed *sake*, ritually served in its tiny cup.

Relax and enjoy all the special courtesies you'll find only on Japan Air Lines. It's the very nicest way to get to the Orient.

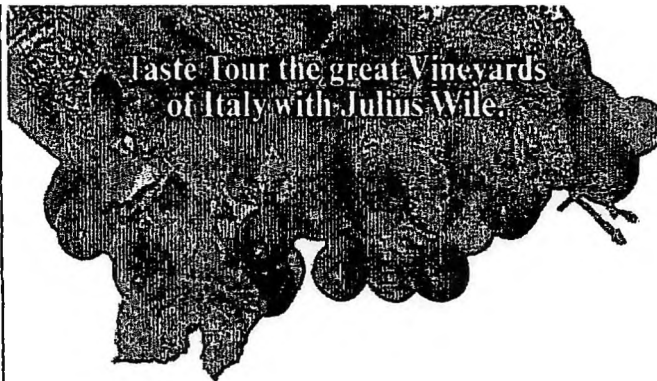
Whether you're traveling on business or for pleasure JAL offers an abundance of flights from both East and West Coasts, and you can enjoy a stopover in Hawaii at no extra fare. (Or, we can take you around the world in the same serene fashion.) Ask your travel agent about us. Why be a passenger with some other airline when you can be our guest?



JAPAN AIR LINES
the worldwide airline of Japan

ested in asbestos in a roundabout way. A native of New York City, he interned at Beth Israel Hospital in New York; did his pathology at Mount Sinai, where he has been a member of the staff since 1947; and became a chest physician at the Sea View Hospital on Staten Island, specializing in tuberculosis. In 1951, he participated in the basic research on isoniazid—the antibiotic drug that, by effectively killing tubercle bacilli, has provided a cure for tuberculosis—for which he received the American Public Health Association's Albert Lasker Award in Medicine. In 1953, Dr. Selikoff founded a medical clinic in Paterson, New Jersey, where, by chance, seventeen of his early patients were men referred for chest-disease consultations who worked in a local factory that had been making asbestos-insulation materials since 1940. When the factory closed down in 1954, the seventeen men went into other work, and at that point Dr. Selikoff decided to continue his observation of these patients with X-ray examinations and pulmonary-function tests in order to determine the history and the natural course of asbestosis in men who would not be subjected to further exposure.

At the time, Dr. Selikoff was chiefly interested in asbestosis because, as he has explained, "I was still unconvinced of the relationship between asbestos and lung cancer. There wasn't much data, and what there was scarcely seemed to indicate that it would prove to be much of a problem." As things turned out, he changed his mind. In 1954, all seventeen men from the Paterson factory were able-bodied and working. By 1961, however, six of them were dead, and today only six of them are alive. Of the eleven who died, four were victims of lung cancer, three of other cancers, one of mesothelioma, and two of asbestosis. Of the six who are still alive, two are disabled because of respiratory insufficiency caused by fibrosis of the lungs, and one has recovered from surgery for cancers of the lung and larynx. Dr. Selikoff shook his head in describing the fate of these patients, but as early as 1961 their ranks had been thinned out so drastically that, as he said, "I was forced to the awful realization of what could happen to men who were occupationally exposed to asbestos." After the company that owned the factory said it was unable to make its employment records available, he wrote to several other large asbestos manufacturers in the United States, inquiring about the health experiences in their



The best Wine is the Wine you like best.

Villa Antinori — Gran Vino del Chianti — The superior Classico Chianti from Antinori. Estate Bottled.

Antinori Bianco Della Costa Toscana — Light and fruity — a medium dry white wine from Tuscany, in its unique fish bottle.

Antinori Valpolicella — Ruby red, fresh and harmonious with character and flavor.

Antinori Soave — Velvety, light and dry white wine with a faint taste of almonds.

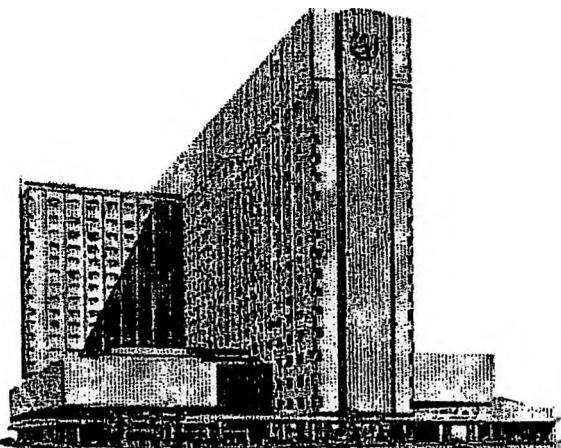


Marchesi L & P



ANTINORI

The Nobility of Italian Wines



For all those people who thought they would miss the old Imperial, here's what is going up in its place: The new Imperial. A majestic, 17-story high rise scheduled to open in March, 1970, on the site of our old wing. With a thousand spacious new rooms added to the 600 in the present building, the Imperial will be the largest hotel in the Orient. And then, as now, you can be sure the Imperial's famous personal attention to service, and its matchless facilities in the heart of the world's biggest city, will live up to the name. Imperial... and the legend continues.

IMPERIAL HOTEL

T. Inamura, President and General Manager

TOKYO



Why wait for your emerald anniversary to buy an emerald?

You can wait until your 55th anniversary and then get an emerald to celebrate the occasion. Or you can choose an emerald now from The Quintessa Collection and get one that's excitingly beautiful—when you're still young enough to be excited!

The Quintessa Collection includes over 300 pieces of fine jewelry, containing diamonds, emeralds, sapphires, rubies, and the Linde Created Emerald.

Emeralds by Quintessa. You don't have to wait to inherit them.

Available at selected jewelers throughout the country.

For information, write: The Quintessa Collection,
270 Park Avenue, New York, New York 10017

Ring shown \$215. (larger than actual size).



plants, and was unable to obtain information from any of them. Meanwhile, he and Dr. Jacob Churg, chief pathologist at Barnert Memorial Hospital, in Paterson, who had been finding asbestos and lung cancer in a large number of workers from the Paterson factory, took their data to Dr. Roscoe P. Kandle, Commissioner of the New Jersey State Department of Health, and Dr. Kandle applied to the United States Public Health Service for funds to undertake a study of the Paterson factory and to make a statewide survey to determine how many people were being occupationally exposed to asbestos. However, the request was denied for lack of resources.

Since Dr. Selikoff already knew that men who had worked in the factory that made insulation materials were dying of asbestos and lung cancer at an alarming rate, he considered that men who were installing such materials might also risk disease, and early in 1962 he made contact with officials of New York Local 12 and Newark Local 32 of the International Association of Heat and Frost Insulators and Asbestos Workers. The asbestos insulators had been trying for years to interest doctors and various government agencies in their medical problems, so they were only too glad to cooperate, and urged Dr. Selikoff to make a study in depth of the effects of asbestos exposure among their members.

During the next six months, Dr. Selikoff and his administrative assistant, Mrs. Janet S. Kaffenburgh, pored through the unions' records and compiled a list of the names and addresses of the six hundred and thirty-two men who had been members of either of the metropolitan locals on December 31, 1942, and of the eight hundred and ninety men who had joined between then and December 31, 1962. From the unions' employment records, they obtained detailed work histories of the total membership of fifteen hundred and twenty-two men, including data on their withdrawal from work for other employment, war service, retirement, or illness. This enabled them to calculate the onset and duration of exposure to asbestos for each worker. Records of the unions' health and welfare funds provided them with the dates and places of death of the two hundred and sixty-two workers who had died between 1942 and 1962, and copies of the death certificates of all but one of them were obtained. In addition, autopsy protocols, histological specimens, and hospital records were reviewed by Dr. Selikoff and Dr. Churg in those

Today this new Library of the English Language belongs in your personal library.

This is the English language. As it is written and spoken today.

Unabridged.

Understandable.

Completely new.

With 100,000 new words and meanings you won't find in older dictionaries. With over 200,000 examples that show you precisely how a word is used. With verbal illustrations and quotations from contemporary publications and experts in every field of human endeavor. With every definition given vividly in a single precise phrase for quicker, easier under-

standing. With over 3,000 illustrations and magnificent color plates. With over 1,000 synonym articles to help you distinguish the subtle differences between similar words. With guides for spelling, punctuation, and pronunciation, foreign alphabets, abbreviations, etymologies, plus 52 tables of special information. With nearly half a million entries in all, Webster's Third New International is a complete library of the English language.

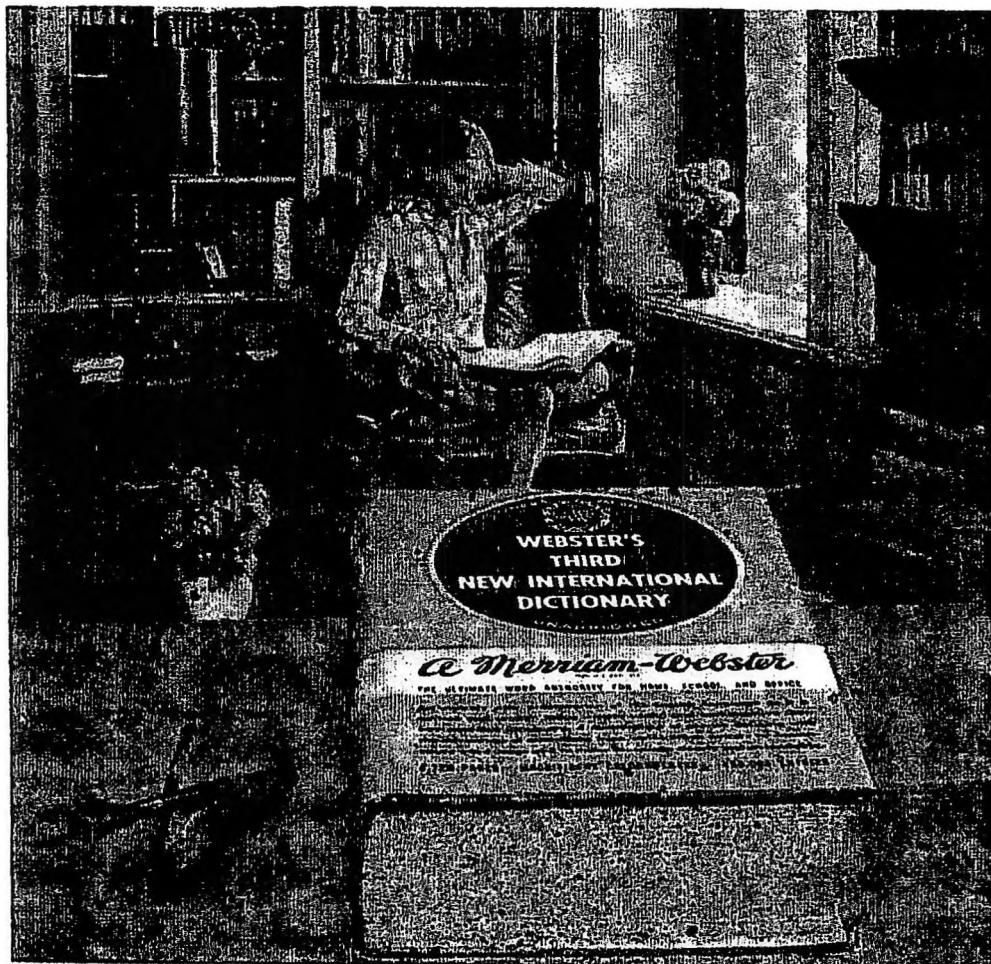
Merriam-Webster unabridged dictionaries have been accepted as the ultimate word authority by libraries, universities, courts, and the U. S.

Government Printing Office for generations. And this completely new edition is the ultimate in dictionary ownership. You can buy it now at book, department, and stationery stores for only \$47.50. Deluxe India Paper editions to \$59.50.

Free Booklet

"Hold the English language in your two hands" is a 12-page illustrated booklet describing in detail Webster's Third New International Dictionary. For your free copy write to:

G. & C. MERRIAM CO., Dept. D-11,
Springfield, Mass. 01101



Stieff Silver is for lovers



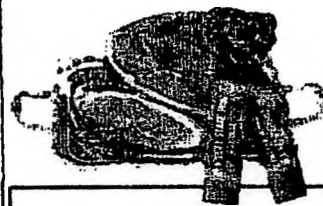
For lovers of grace and beauty from people who love their craft. See Stieff's loving attention to detail in the cool, contemporary look of Persimma... the restrained elegance of Royal Dynasty. As in every Stieff pattern, each piece is carefully hand-ground, hand-buffed, and hand-polished to the complete satisfaction of proud artists in silver. You get so much more pleasure out of Stieff silver because so much more love goes into it. At selected jewelry and department stores... write for free literature and address of your nearest dealer.

Stieff

Wyman Park Drive, Baltimore, Md. 21211
Shown left: Persimma; right: Royal Dynasty

deaths (approximately one-half of the total) which occurred in hospitals.

In the next phase of the study, Dr. Selikoff and Dr. Churg were joined by Dr. E. Cuyler Hammond, Vice-President for Epidemiology and Statistics of the American Cancer Society, who had participated in an analysis of the medical effects of the atomic explosions that devastated Hiroshima and Nagasaki, in 1945, and whose large-scale epidemiological studies of more than a million men and women provided a major basis for the conclusions drawn in the 1964 Surgeon General's report on the effects of cigarette smoking. Since previous studies had suggested that lung cancer associated with asbestosis seldom develops until twenty years after initial exposure to asbestos dust, Dr. Selikoff and Dr. Hammond decided to limit their first report to the six hundred and thirty-two men who were on the union rolls as of December 31, 1942. Taking the men's ages into consideration, Dr. Selikoff and Dr. Hammond then set about comparing the number and causes of death among them with those of the general male population in the United States. The results were depressing. According to the standard mortality tables, two hundred and three deaths could have been expected among the six hundred and thirty-two workers. Instead, there were two hundred and fifty-five, not counting seven men who had died before incurring twenty years of exposure—an excess of twenty-five per cent. The reason for the excess was not hard to find. The fact that twelve of the deaths were attributed to asbestosis was not particularly surprising, but only six or seven deaths from cancer of the lung, pleura, or trachea were to be expected, whereas there were forty-five. And where nine or ten gastro-intestinal cancers were to be expected there were actually twenty-nine. Since the lung-cancer death rate was known to be more than ten times as high among cigarette smokers as among non-smokers, Dr. Selikoff and Dr. Hammond realized that they would have to take the smoking habits of the asbestos-insulation workers into account if their findings were to have any validity. It was, of course, impossible for them to ascertain this with accuracy in the cases of the two hundred and thirty-five men who had died, so, for purposes of calculation, they assumed that all six hundred and thirty-two men had smoked a pack or more of cigarettes each day, and they demonstrated that even if this had been the case it would have produced a lung-cancer death rate



Autumn appetizer

For tall tales or banquet plates, a Broadbent & Bingham aged and registered Kentucky Country Ham is just the thing. We guarantee unvarying quality and flavor because we do everything ourselves, from raising our own hogs to smoking and curing our hams the old-fashioned sausage way. Each ham is registered for absolute quality control, guaranteed or your money back. Delight your friends by giving or serving this famous Kentucky delicacy.

Smith & Barry

Write for descriptive brochure or send check for size ham desired. Uncooked weight—
Apx. 11 lbs. \$16.50. Apx. 13 lbs. \$18.50.
Apx. 15 lbs. \$22.50. Add \$2.50 for shipping or \$2.50 for shipping and cooking.



Broadbent & Bingham Kentucky Food Products, Inc.
Dept. N, P.O. Box 6108, Louisville, Ky. 40206

BOOTH'S

Earthenware of
Staffordshire
England...
Since
1757



BLUE PEONY—5 pc. place setting, about \$5.50
Available at Tiffany & Co.
Send for FREE illustrated Booth's brochure to:
EBELING & REUSS CO.
Dept. B1, 23rd & Chestnut Sts., Phila., Pa. 19103



"I'll have a Hennessy Very Superior Old Pale Reserve Cognac, thank you."

The Taste of Success

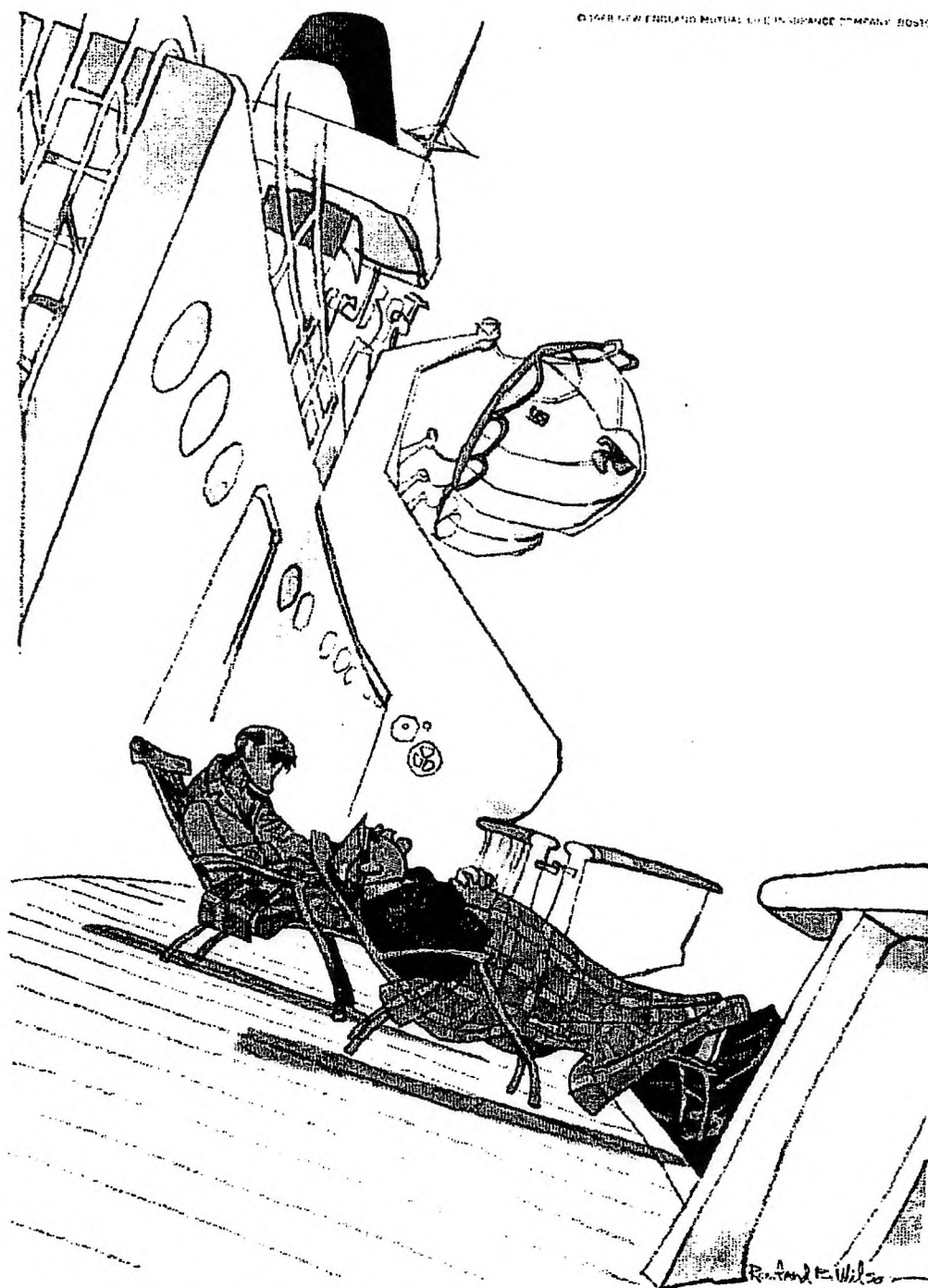
Every drop of Hennessy V.S.O.P. Reserve is Grande Fine Champagne Cognac. It's made solely from grapes grown in La Grande Champagne—the small district in the Cognac region which is the source of the very greatest Cognac. What's more, Hennessy is selected from the largest reserves of aged Cognacs in existence. Enjoy a taste of success today...

Hennessy V.S.O.P. Reserve Cognac



Hennessy V.S.O.P. Grande Fine Champagne Cognac 50 Proof. J. & F. Hennessy & Co., N.Y.





"My insurance company? New England Life, of course. Why?"

only three and a half times that of the general male population. Cigarette smoking, therefore, could not explain the fact that in this group of asbestos-insulation workers the rate of death from lung cancer was seven times the expected rate.

Because of its objectivity, its scope, and its thoroughness, this study conducted by Drs. Selikoff, Churg, and Hammond had a great impact on the medical community when it was published, in the spring of 1964, in the *Journal of the American Medical Association*, and when it was delivered before the Conference on the Biological Effects of Asbestos that October. It was the first study ever made that had taken a large enough group of asbestos workers from a point far enough back in time and followed them long enough to determine unequivocally what their health experience had been. Unlike almost all the previous investigations, which simply indicated that there was an association between asbestos and various kinds of cancer, it was based upon the incidence of disease within a defined population, and thus answered a fundamental epidemiological question of how many cancers had developed out of how many persons exposed. In doing so, it furnished the first incontrovertible evidence that industrial exposure to asbestos was hazardous; it established sound methodology for future studies; and it marked a turning point in the views held by doctors and health officials around the world.

IN the autumn of 1962, Dr. Selikoff, using donations from private sources and a grant awarded by the Health Research Council of New York City, headed by Dr. George S. Mirick, had set up informal clinics at union halls in New York and Newark and started giving X-ray examinations, pulmonary-function tests, and blood tests to the members of the two asbestos workers' locals. During the next year, he examined eleven hundred and seventeen workers, and he also questioned them closely about their smoking habits, the kinds of materials they used, and the conditions under which they worked. "The insulation workers, an intelligent and highly skilled group of craftsmen, patiently educated me concerning their trade," he once said. "I learned that they had had comparatively light and intermittent exposure as asbestos workers go, because they often worked out-of-doors on construction projects, and because most of the materials they used had an asbestos content of less than fif-

RENFIELD IMPORTERS, LTD., N.Y.

Do you have the
self-confidence to pay
less for your Scotch?



KING WILLIAM IV



Some people don't taste the Scotch. They taste the price. So they aren't comfortable unless they spend seven or eight dollars a bottle.

When you try King William, forget that you're getting 86 proof Scotch at an upsettingly low price. Just savor the Scotch itself. Smooth and light. As good or better than

the higher-priced Scotches. King William is one of Scotland's oldest and most respected brands. Produced there by John Gillon & Co. since 1817. And enjoyed throughout the world.

Will King William impress your friends? That depends. On whether they're Scotch drinkers—or money drinkers.

86 PROOF BLENDED SCOTCH WHISKY

150

DON'T KILL THE MARTINI



Mix with
BOISSIERE

(Say "Bwa-See-Air")
LE FRENCH VERMOUTH TRES DRY

Bring your Martini to life
with Boissiere. Crisp...
subtle...extra dry...the
connoisseur's vermouth.
It does make a difference.

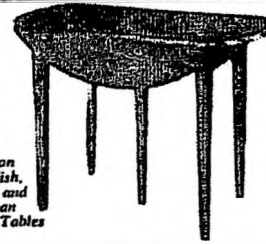


SOLE DISTRIBUTOR U.S.A.:
MORSON & SHAW CO., NEW YORK

teen per cent. I also found out how their problems had been neglected. Most of them had never seen a labor inspector in their lives, and only a handful could remember seeing anyone make a dust-level count in the areas where they were at work." Dr. Selikoff also learned that although some of the workers knew they ran a risk of developing asbestosis (which they usually referred to as silicosis) almost none of them had any idea that they also risked cancer because of their occupation. As things turned out, he found radiological evidence of asbestosis in fully half of the eleven hundred and seventeen men. The extent of the fibrosis varied directly with the duration of exposure. Of three hundred and forty-six men whose exposure had begun less than ten years before, only ten per cent showed any abnormality, and of three hundred and seventy-nine men who had been exposed for between ten and nineteen years more than half still had normal X-rays; in neither group was there any discernible evidence of cancer. On the other hand, Dr. Selikoff found that among three hundred and ninety-two men with more than twenty years of exposure three hundred and thirty-nine had developed asbestosis, which had by that time become moderate or extensive in more than fifty per cent of the cases; he also found that eleven of the men had developed cancers of the lung or pleura.

Aided by yearly grants from the Health Research Council, Dr. Selikoff has maintained a close watch on the asbestos workers' health, paying particular attention to those men with more than twenty years of exposure by examining them once or twice a year. As a result, he has been able to detect symptoms of illness in many of the men much earlier than they might have been detected and to observe with great accuracy the mortality experience of the three hundred and seventy whom he found in 1963 to be survivors of the original six hundred and thirty-two members of the union in 1942. It continues to be disastrous. Between January of 1963 and March of 1968, fifty deaths would normally have been expected to occur among these men. Instead, there were a hundred and thirteen. Fifteen of them were caused by asbestosis, and, as with the earlier study, the rest of the excess turned out to be caused by cancer of various kinds. Two or three bronchogenic cancers would have been normal, but twenty-eight occurred, and where the actuarial tables predicted only two gastro-intestinal cancers there were eight. An un-

BON APPETIT



From
Lloyds
collection
of English,
French and
American
Dining Tables

DIRECTOIRE EXTENSION TABLE SEATS TEN

Perfect for the Living-Dining Area
This most versatile translation of the French original extends to a huge 87" oval with 4 extra leaves inserted. With drop leaves down it measures only 19" x 38" to fit comfortably into a tiny space. 33" x 38" with leaves up. Simple... elegant, entirely finished by hand in French acajou (brown mahogany), or in aged fruitwood color. Both with brass edges — both with the mellow patina of an inherited antique. **\$269**

F.O.B., N.Y.C.

Add \$18 crating beyond delivery area.

GET TO KNOW LLOYDS: it's one of the most unusual shops of its kind in New York. You'll find that it's fun to browse to your heart's content through our large collection of Antique and Reproduction furniture, paintings and decorations and objects d'art. Discover Lloyds as soon as you can. You'll be glad that you did.

NEW 64 PAGE CATALOGUE \$1.00

LLOYDS

116 EAST 60th ST., N. Y. 22, N. Y., PL 9 7313

To get the most
authentic mutton
chop in the world,
fly to London.
Or, take a cab to

Keen's
English Chop House.
72 W. 36, N.Y.—W17-3636
Open Sundays, 4-11 P.M.



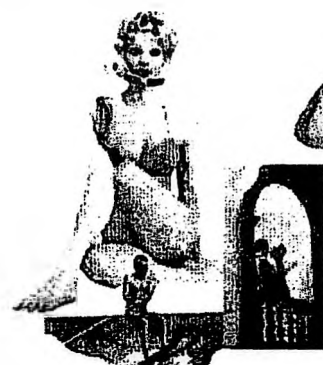
A sitting in
black and white
plus six glossies,
only \$42.50.
Color from \$150.

Bachrach

48 East 50th Street, New York Plaza 5-0233

If you think the Riviera's great, we have five.

Fly the easy way to South America's Rivas.
With our girls in the Red Ruana, we'll jet you
nonstop to Bogota, gateway to everywhere.
To beaches bright with bikinis. Yachting,
waterskiing, horseback riding. Plush
casinos, theaters, racetracks and gourmet
restaurants. The Mediterranean before the
crowds moved in.



Our Caribbean Costa del Sol
Hop over to old Santa Marta on the
Emerald Coast. The only Riviera
with snow-crowned Sierra, Spanish
Cariacou—and sensational
San Andres Island.



**Juan-les-Pins
in Brazil**
The girls don't look
French, they just look
lovely and speak
Portuguese. Life
begins on Rio's five
photogenic beaches,
winds up at shows
straight from Paris.



San Remo on the Pacific
Bikini-clad beauties brighten the beaches
of Vina del Mar, our Chilean challenge
to Italy. When the shiny Casino's open,
you'll see them in something slinky.



**Monaco's
moved
over here**
For the world's
largest, plushest
Casino, join the big breezy
beachparty we call Mar del Plata.
Argentina's answer to gregarious
souls who like vistas of
beach umbrellas.



**Antibes on
the Atlantic**
To rest up from Rio,
move down the coast to Punta del Este.
Sit on San Rafael Beach, play a guitar,
ride a horse drawn victrola. Swallow the
anchor with a shot of grappa.



Avianca.

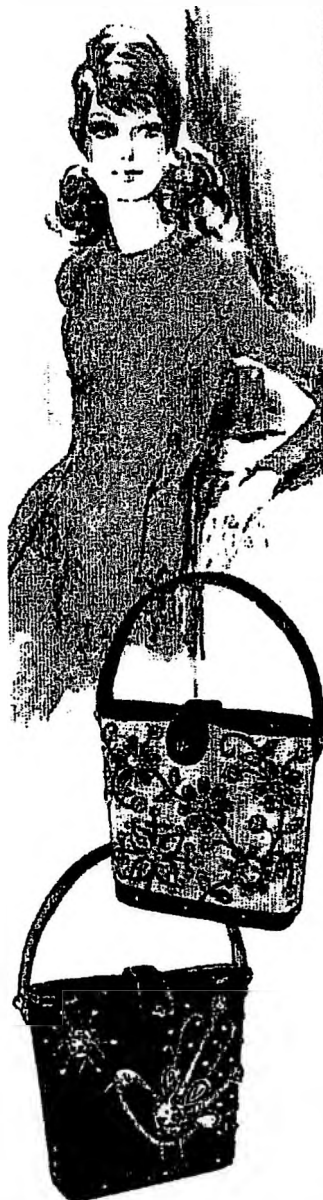
The airline that makes South America easy.

Mornings from New York, afternoons from Miami, we make jet travel easy to South America's playgrounds. Try us, any day of the week. Credit cards or Pay Later. Call your travel agent or Avianca. New York: 8 West 49th St., 588-8041 • Miami: 377-8888 • Boston • Chicago • Houston • Los Angeles • San Francisco • Washington, D.C.



152

It's her bag... Fine Feathers and Jewel Gardens on mini-totes for memorable evenings... from Enid Collins' current collection of Collinsiana... yours for \$18.00... at all fine stores.



Collins of Texas
320 Fifth Avenue, New York, N.Y.

expectedly sharp rise in the number of mesotheliomas was observed. In the earlier study, there had been only four in two hundred and fifty-five deaths; between 1963 and 1968, however, thirteen of these rare tumors were found in a hundred and thirteen deaths. Dr. Selikoff suspects that the latent period for mesothelioma may be longer than that for either asbestosis or lung cancer, but so far he regards the heavy increase of mesothelioma among the insulation workers as something of a mystery.

Dr. Selikoff and Dr. Hammond found special significance in the fact that all twenty-eight bronchogenic carcinomas occurred among asbestos workers who smoked cigarettes regularly. None were found among eighty-seven men who never smoked cigarettes. Dr. Selikoff and Dr. Hammond have reservations about these data, which suggest that asbestos workers who smoke cigarettes are ninety times more likely to die of lung cancer than men who neither work with asbestos nor smoke, because they are based upon the experience of a relatively small number of people. They do conclude from it, however, that an important co-carcinogenic effect exists between asbestos exposure and cigarette smoking, and in a recent article published in the *Journal of the American Medical Association* they recommend "that asbestos exposure be minimized, that asbestos workers who do not smoke should never start, and that those now smoking should stop immediately." It has been suggested in some quarters that asbestos fibres, which are known to be highly adsorbent as well as virtually indestructible, may retain the substance known as benzo [a] pyrene from cigarette smoke for long periods of time in lung tissue, thus tending to produce lung cancer by a synergistic effect. No one knows for sure, however, and Dr. Selikoff will not hazard a guess about the matter until more information is gathered. He expresses certainty about the effects of asbestos exposure only when he has epidemiological proof. He knows, for example, that one out of every five asbestos-insulation workers who die in the New York-New Jersey metropolitan area dies of lung cancer, and that almost half of the three hundred and sixty-eight deaths he has recorded among these men in the past twenty-five years have been caused by cancer of one type or another. Last March, citing these figures before a House subcommittee on labor, he warned that "if they are projected to the country as a whole, and if no im-

Cini
EARRINGS
Blue Baroque Pearl
with .04 pt. diamonds
\$120.
RING
Blue Baroque Pearl
with .10 pt. diamonds
\$135.
GUGLIELMO CINI INC.
867 SOUTH COAST HWY.
LAGUNA BEACH, CALIF. 92651



LOCHINVAR

When he came
out of the west
he found
that this hotel
was the best.



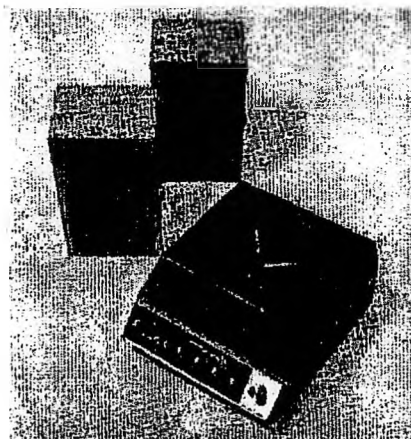
Chalfonte-Haddon Hall

on the Boardwalk, Atlantic City, N.J.
Call Robert F. Warner, Inc., New York
Chicago, Washington, Boston, Toronto
For reservations: Call collect 609-344-5131



Lots of famous manufacturers make toasters, TVs, vacuum cleaners, blenders and electric frying pans. And Hi-Fi's

We make
high
fidelity.



Only.

We're prepared to graciously concede the field to the famous manufacturers when it comes to TVs, toasters and electric frying pans.

Not when it comes to music systems.

They make Hi-Fi's.
We make high fidelity.

There's a difference

They make products for a mass market. And we never will. We can't, and still achieve the quality we want.

The famous manufacturers have the same pool of technology available that we do. The only difference is that we dip more deeply into it.

Mass manufacturers design Hi-Fi's for a position in the marketplace. We design high fidelity, as a reviewer once wrote, "for the sake of music and our demanding love of it."

What it means is that our people have a genuine love for what they do because they love the end product of what they do—music.

It's that simple. And so we

make the logical choice not to be a mass company; not to sell our products in every corner drugstore.

We think our new SC1510 is an excellent example of the difference between Hi-Fi and high fidelity. We call it the *compact compact music system*.

It's one of the nicest, most graceful high performance stereo systems you can buy. Compare its sound with one of those multi-ton French Provincial musical mastodons put out by the toaster/vacuum cleaner/hi-fi makers and you'll hear the difference.

The SC1510 is at our dealers now. And while we're not as close as the corner drugstore, chances are we've got a dealer near you.

As you listen to the SC1510 notice that we feature no doodadkeys, doodads or non-per-

forming cabinetry. Every dollar goes into performance. Our knobs do what they're supposed to do. They just don't sit there looking pretty.

For instance, the SC1510 has a new speaker switching system which permits you to play stereo in two rooms simultaneously; or stereo in one room, mono in another; or just select the rooms in which you want music.

There's a powerful, distortion-free amplifier; a custom-designed four-speed Garrard changer (optional FM stereo also available), headphone receptacle on front panel and many other features.

Real features

For a free booklet with complete information on our new SC1510 and its compact compact price, just write to us: Harman-Kardon, Inc. 55 Ames Court, Plainview, N.Y. 11803, Dept. NY12. We'll also include a list of our very special dealers.

harman kardon

We want you to hear more music.

Total Recall

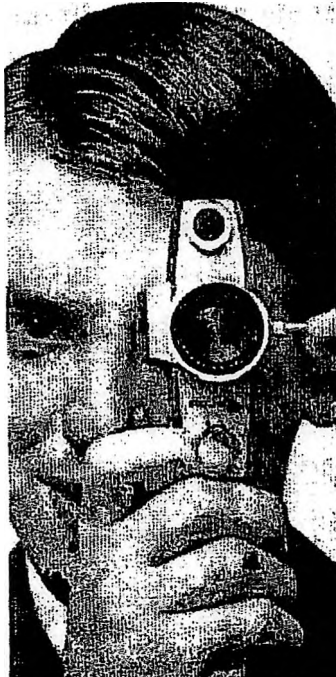
This Fujica Single-8 Instant Load camera has a photographic "memory". It records what you see just as you see it. Clear, bright, true-to-life.

Unique features not found in any other instant load movie system make this possible. The camera has a built-in pressure plate. You have nothing to do with it... but it does something important for you... automatically locks the film flat behind the lens to give you the sharpest movies you've ever seen outside a theatre screen.

Even if you've never taken a movie before, you get professional results easily. Drop in cartridge...aim...shoot! A full 50 continuous feet if you wish with no film flipover. Zoom in or zoom out! Fully automatic electric eye sets correct exposure. Reflex lens gets you exactly what you see. Less than \$125. Other Fujica Single-8s less than \$80... at camera stores or write for the colorful facts.

FUJI PHOTO FILM U.S.A., Inc.
U.S. Distributor: Ehrenreich Photo-Optical
Industries, Inc., Garden City, N.Y. 11530
In Canada: R. & H. Products, Ltd.

FUJICA
INSTANT LOAD
Single-8
Reflex Zoom P-300



Improvement in the health hazards these men face is achieved, we may look forward to perhaps six thousand deaths from lung cancer and to perhaps fifteen thousand deaths from cancer in general among men in this single asbestos trade alone." Considering that the total membership of the International Association of Heat and Frost Insulators and Asbestos Workers is only eighteen thousand men, and that there are about the same number of non-union asbestos workers, his prediction has staggering implications.

I RECENTLY spent several days with Dr. Selikoff in the Environmental Sciences Laboratory at Mount Sinai, where he has assembled a team of thirty men and women to work on various aspects of the asbestos problem. The rooms include laboratories for histology, pathology, electron microscopy, chemistry, and mineralogy, and among the imposing array of equipment they contain is an electron microprobe that is capable of identifying particles of infinitesimal size. Dr. Selikoff's office is large and modern. Its walls are lined with shelves and cabinets containing hundreds of bound volumes of research papers and reports on asbestos, and at one end are a large conference table and a blackboard. The place gives an immediate impression of rather cold efficiency, but this is tempered to a great degree by the affability of the director. As we talked, Dr. Selikoff, a large, soft-spoken man in his early fifties, was frequently interrupted by telephone calls and by questions from staff members, but he generally resumed—often with an enthusiastic "Where were we?"—and rattled off statistics about asbestos disease the way some baseball fanatics recite the batting averages of big-league ballplayers. On the day of my first visit, however, he received a call from a doctor in New Jersey who informed him that a lung cancer had just been diagnosed in another of the insulation workers. Dr. Selikoff told the physician that the patient's last X-rays showed moderate asbestosis, that he had had more than twenty years of exposure, and that he smoked a pack of cigarettes a day. When he hung up the phone, he was visibly upset, and fell silent. A few moments later, he told me that he had taken more calls like that than he cared to remember. "I don't relish the role of Cassandra, but I feel we've got to forge ahead on this problem as quickly as possible," he said. "There are about thirty-six thousand insulation workers—union and non-union—in the

J. PRESS
—Squire Style—
Matching Jackets
and Waistcoats

Power Loom
Irish Tweed
\$85

Handwoven
Irish Tweed
\$90

Irish
'Supersax'
Hunting
Cheeks
\$95

Tailored in Ireland Solely
For J. PRESS in long center
vent & steep side vented
models with matching waistcoat.

Sample
Swatches
& New
Brochure
Upon
Request

NEW YORK CITY
100 EAST 44TH ST. 10TH FL. NEW YORK 17, N.Y.
NEW YORK CITY
100 EAST 44TH ST. 10TH FL. NEW YORK 17, N.Y.
NEW YORK CITY
100 EAST 44TH ST. 10TH FL. NEW YORK 17, N.Y.

Turlough Finn

DUBLIN  NEW YORK

BUTLER AND MANCIPLE
TO THE SPORTING GENTRY

IRISH TWEED HATS & CAPS
\$8.00 to \$12.00

FOR RACE WATCHING, HUNTING,
FISHING, STROLLING, GOLF, SKATING
AND ALL FASHIONABLE SPORT EVENTS

SEND FOR ORDER FORM AND PRICE LIST GRATIS

Turlough Finn
520 FIFTH AVENUE, N.Y.C., N.Y.

Pipe of Peace
P.O. BOX 411/ NASSAU/ BAHAMAS

PIPES FROM AROUND THE WORLD

DUNHILL	BARLING
COMOY	KRISWILL
SASieni	STANWELL
PETERSON	LONGCHAMP

Please send me your
FREE Illustrated Catalogue

Name:

Address:

City:

State: Zip:

Attn: to Nassau 154

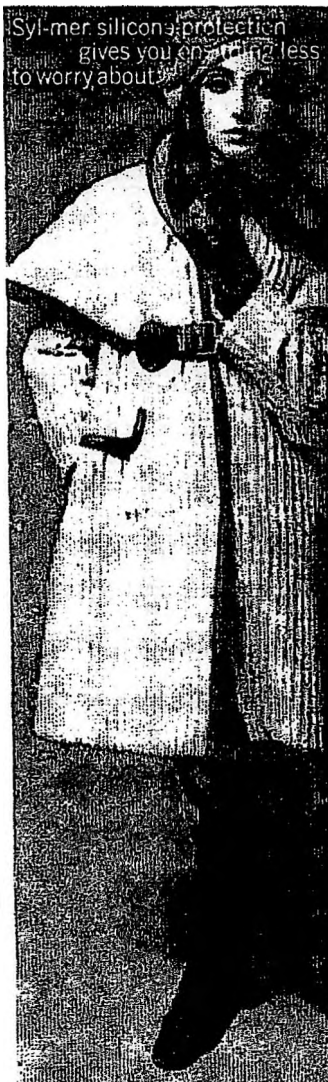
155

80 PROOF, HEUBLEIN, INC., HARTFORD, CONN. SOLE IMPORTER, U.S.A.

Irish Mist Liqueur. There's something in it Irish.

A touch of the poet. For Irishmen and all men. Irish Mist, Ireland's Legendary Liqueur.
Great straight. On the rocks. In Irish Coffee.

156



Weatherproof Syl-mer treated leather boot by Joyce.

You don't have to worry about how this Sherlock Holmes corduroy coat will look after sleuthing in the rain. The SYL-MER brand silicones give it durable water repellency, crush and stain resistance. And a luxurious hand. And this protection lasts. So all you have to worry about is the next case, Watson.

RAINCHEETAHS by **NAMAN**—a great fashion look in Cone Mills Regina 100% cotton corduroy. Brown, tone. Sizes 8-14. About \$65. At Lord & Taylor, New York and branches.

Dow Corning Corporation,
Midland, Michigan



United States. All in all, including asbestos-textile workers and people engaged in manufacturing other asbestos products, there are probably more than a hundred thousand workers who are regularly and directly exposed. The hazard would be serious enough if this were the only group at risk, but it's obvious that the problem extends further, simply because floating asbestos fibres do not respect job classifications. Dr. William H. Stewart, who is the Surgeon General of the United States, told the House subcommittee that the asbestos-insulation workers are probably sharing their exposure to some extent with more than three and a half million other construction workers—steam fitters, electricians, welders, carpenters, ironworkers, plumbers, masons, tile setters, and the like—who are employed on the same projects, often in the same room or general area, and who therefore must be inhaling the same dusts."

Because of their concern with the possible effects of such indirect occupational exposure, Dr. Selikoff and his assistants have spent months compiling the names, addresses, and work histories of twelve hundred tile setters, three thousand roofing workers, and three thousand tunnel, foundation, and caisson workers in the New York metropolitan area. They plan to examine these men for possible health problems as they did the insulation workers, and to determine whether they have significant indirect occupational exposure, and, if they do, whether it is associated with risk of asbestos disease. "We will study defined populations that have been selected in terms of what appear to be diminishing levels of exposure to a known risk," Dr. Selikoff told me. "It's as if a rock had been thrown into a pond and we're watching how far the ripples extend. Since the pond in our case is the general community, you can see how difficult the epidemiological detective work will be. If we discover, for example, that the tile setters run a significant risk of developing asbestos disease—and there are some preliminary indications that they might—then we must look into the question of fibre fallout from the construction sites where they're employed. We're not going to wait for the results of the tile-setter study, however, because the problem is too urgent. We're initiating a whole cluster of studies designed to provide information on whether environmental asbestos pollution carries a risk for the general population. At the same time, by analyzing the ripples, we can determine which rocks thrown into the pond



The beautiful lizards
darting along with tweeds,
furs, leathers—ours alone,
Newton Elkin's pumps in
brown, black or grey with
a twist of gilt metal. 38.00
Designer shoe collections
at all Lord & Taylor stores

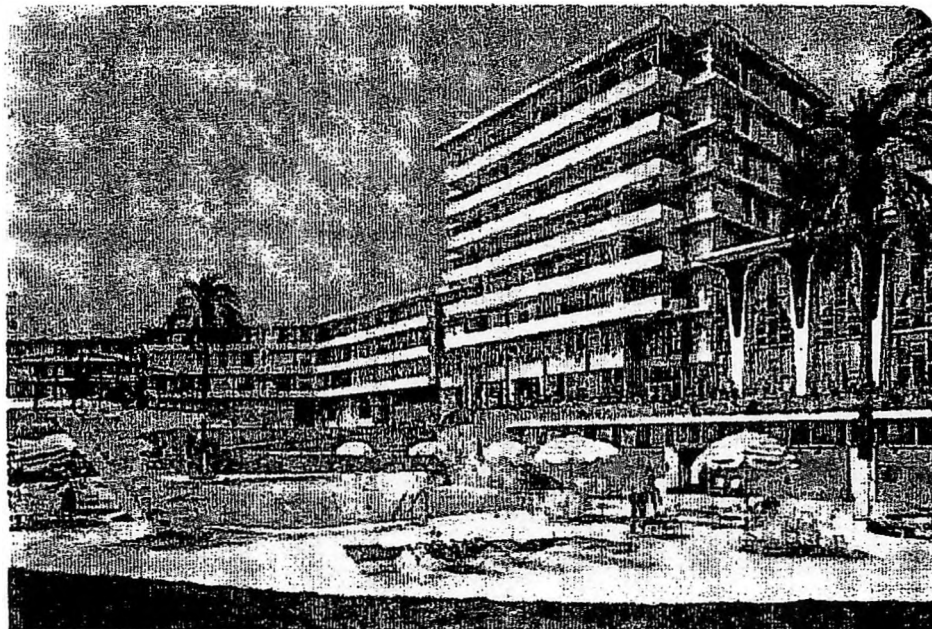


NEW YORK'S BELOVED
Algonquin
Superb pre-theatre dining...and
just a stroll to your theatre.
After-theatre drinks and Supper
Buffer with "the talk of the town"

HOTEL Algonquin
59 WEST 44th ST. NEW YORK • MU 7-4400

Indoor parking (no charge) for
dinner guests and weekend visitors.

JULES PODELL
PRESENTS
JACK JONES
(DOUG TALBERT, Musical Director)
MARTY BARRIS
COPACABANA
FULL COURSE DINNERS
SERVED 6:30 P.M.-9:30 P.M.
2 SHOWS NIGHTLY 8 & 12
3 SHOWS SATS. 8, 11:30 & 2
10 E. 60 • PL 8-0900
AIR
CONDITIONED



The Hotel Inter-Continental Quito has 235 rooms, including 14 bungalows. From the rooftop restaurant you'll have a stunning view of the city and the Andes Mountains beyond. There's an open-air swimming pool, night club, casino, coffee shop, restaurants - everything for a more enjoyable vacation.

Here's one reason why you should swing around Latin America with Inter-Continental.

And there are 9 other swinging reasons.

This year the swing is to vacations in places that swing right along with you - places where the most fabulous hotels are invariably named Inter-Continental.

Comfort, convenience and service are Inter-Continental hallmarks. Rooms are spacious, many of them with planned panoramic views. Our restaurants suit all tastes and our cocktail lounges are, invariably, the smartest gathering places in town.

For all our Inter-Continental uniform standards of excellence, we also know how to maintain the local atmosphere. That's what Inter-Continental Hotels are all about - just the right blend of modern efficiency and old-world hospitality. For reservations call your travel agent or Inter-Continental.

Nine more good reasons why you should swing around Latin America with us.

Bogota - Hotel Tequendama
Caracas - Hotel Tamanaco
Santo Domingo - Embajador Inter-Continental
Mexico City - Reforma Inter-Continental
Maracaibo - Hotel Del Lago
San Salvador - El Salvador Inter-Continental
Barranquilla - El Prado Inter-Continental
Ponce - Inter-Continental Ponce
Curaçao - Inter-Continental Curacao



**INTER-CONTINENTAL
HOTELS**

40 Distinctive Hotels Around the World



Adaptation of
a traditional
votive
candlestand
in the spirit of
Ch'ien Lung
bronzes.
41 inches.
About \$100.*

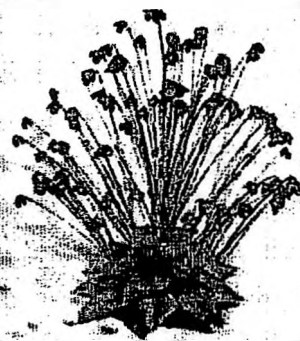
The Stiffel Lamp

For brochure of selected Stiffel lamps,
send 25¢ to The Stiffel Company,
Chicago 60610.

*Slightly higher west and south.

make the biggest splash. By thus identifying the sources of contamination, appropriate control measures will become feasible. Our plan of attack is to discover where asbestos-associated diseases may occur, and to control the sources in such a way as to eliminate them as a hazard. It must be a team effort, of course, including epidemiologists, basic scientists, engineers, public-health officials, and industry and labor."

One of Dr. Selikoff's studies will examine the possible health problems arising from interrupted exposure by tracing thirteen hundred and sixty-seven men who worked at the asbestos-insulation plant in Paterson—closed down in 1954—where Dr. Selikoff's first seventeen patients were employed. Another will look into the matter of neighborhood exposure by tracing and investigating the health experience of seventy-five hundred people who lived within a half-mile radius of the plant in 1942. "The question of neighborhood exposure was emphasized as a result of the mesotheliomas discovered by Christopher Wagner in South Africa, and later by Molly Newhouse and Hilda Thompson in London and by Jan Lieben in Pennsylvania," Dr. Selikoff told me. "Since current evidence suggests that the tumor rarely occurs without a history of exposure to asbestos, epidemiologists consider it a 'marker' disease, and we'll be looking for it when we trace the medical history of the people in Paterson. Incidentally, there's one preliminary indication that leads us to suspect we may find it. In 1955, the proprietor of a junk yard next to the Paterson insulation plant died of a pleural tumor." A third study in Dr. Selikoff's cluster will aim at the protection of relatives of asbestos workers. As in the case of neighborhood exposure, previous investigators of this group had no population base against which to measure the occurrence of the disease they discovered. Dr. Selikoff, however, has a definitely established group to work with. It is composed of the wives and children of all the insulation workers, and their health problems will be carefully scrutinized, especially for evidence of mesothelioma. In Dr. Selikoff's opinion, this study will be of tremendous importance, because its subjects have been far removed from direct exposure. "If the families of insulation workers turn out to be in trouble, the implications will be very serious indeed," he said. "On the other hand, if we find no trouble among them—and this is my hope—we'll be on safer ground. Our observations will also enable us



violets

A perennial reminder of spring... violet plant abundant with oxidized green flowers and leaves. Hand-crafted in metal and mounted on a wooden base.

12" high, 12" spread. \$50.

Add \$3.00 for shipping outside regular delivery area.

america house
THE FINEST IN AMERICAN CRAFTS
44 W. 53rd St., N.Y. 10019 • PL 7-9494

Sometime this
week—take a
quiet walk
along our canal in
Hudson County.

Malden is a wonderful time to stay with us at the 1740 House, an early American inn overlooking the Delaware River. When you get here, the 1740 House will be exactly as you had hoped it would be... quiet, charming and memorable.

21 air-conditioned rooms, each with bath and terrace. Swimming, fishing, boating and tennis. Please write for our brochure and driving directions. Then make reservations for a relaxing weekend retreat from stress and care.

**1740
HOUSE**

1740 HOUSE, INC. • 1740 HOUSE, INC. • 1740 HOUSE, INC.
Tel. 715 292 5861

ENJOYING STEAK AND LOBSTER
IS THE GREAT INDOOR SPORT AT...



AL SCHACHT'S
10 E. 52ND ST., N.Y.C. PL 9-8570
7 DAYS A WEEK TILL 1 AM



There is a land where knobs hardly ever fall off.

IT'S called Toshiba Portable People Land. Don't smile. We make special kinds of portables for it. They're created inside and out to take the jolts and jares of the active portable people.

It's where portable Color TV pictures stay brighter, sharper. Take the Spectrum II to your left. We built a special Toshiba Spectronic picture tube with almost twice the color dots per-square-inch as similar sized sets. Result: Incredible detail, clarity. We banded a high tensile strength steel band to the tube. Result: Extra ruggedness. Toshiba solid state devices

replaced troublesome tubes for even more reliability.

How about portable radios with sound that doesn't wear out before your second set of batteries? Ours won't because they're "Duraligned," precision-crafted. (The portable to your right on the gate pops out of that stay-at-home speaker cabinet.)

For more information on the beauties pictured above, please read the fine print at right. Or, visit Portable People Land at your Toshiba dealer's and ask about the famous Toshiba warranty!

(On the gate, left to right) 1. Spectrum II, Toshiba portable Color TV, 69 sq. inch picture, \$289.50.* 2. The Porta-Corder, Solid state battery/plus in cassette tape recorder, \$99.50.* 3. The Sun Valley, "Sun Screen" portable TV, 78 sq. in. picture, \$99.50.* 4. The Convertible, Solid state FM/AM combination portable/extra radio, \$34.50.* (Background, left to right) 1. The Londoners, World's thinnest solid state stopwatch FM/AM, \$34.50.* 2. The Touch-A-Tune, Touch luxury solid state FM/AM portable, Battery/plus, \$39.50.* 3. The Navigator, 12 transistor FM/AM 2 in 1, \$79.50.* 4. The Galton, Solid state 100 mw. transceiver, \$59.50.* *Manufacturers suggested retail price.

Toshiba

THE INTERNATIONAL ONE

160

OCTOBER 12, 1968



Great legs—

would you know they're wearing Belle Sharmear's Whisper Sheer support stockings? Seamless nylon-and-spandex, to own in suntan, nude, pale beige, misty taupe, dark brown or off-black—all in proportioned leg sizes, 4.95 the pair. All Lord & Taylor stores

to recommend whether special facilities should be provided so that insulation workers can change their work clothes before going home to their families."

With the aid of a grant from the United States Public Health Service, Dr. Selikoff and his associates are currently conducting an investigation that covers an even wider range, by studying samples of lung tissue from three thousand consecutive autopsies that have been performed at three different hospitals in New York City and tracing the work histories of each of the dead people. So far, they have examined two thousand lung samples, and have found asbestos bodies in nearly half of them. According to Dr. Victor Baden, a histologist at the Environmental Sciences Laboratory, from one to five or more asbestos bodies are found in fifty per cent of the tissue slides he examines. Since each slide is composed of seven sections that together represent less than one half-millionth of an entire lung, and since it is widely assumed that asbestos bodies are evenly distributed throughout a lung, the finding of just one of them can be projected to mean that half a million may be present.

Dr. Selikoff and his fellow-epidemiologists do not know whether the relatively small amount of asbestos now being inhaled by the general public carries a risk of inducing mesothelioma, or whether the presence of what appear to be asbestos bodies in the lungs of many people in the general population represents a serious public-health problem. Nor do they know whether relatively light inhalation of asbestos is associated with a special lung-cancer risk in cigarette smokers. "At present, we simply have no way of telling what the dose-disease relationships are," Dr. Selikoff said. "Is it better to have breathed in only fifty asbestos fibres than fifty thousand or fifty million? Does each fibre have the potential of causing a cell with which it comes in contact to turn cancerous? The answers to these immensely complicated questions will have to come from epidemiology over a long period of time. An eightfold increase in asbestos production over the last thirty years would appear to make it likely that asbestos cancers will increase, but only the future will tell. Remember that current cases of mesothelioma must be associated with inhalation that took place twenty, thirty, or more years ago, when world consumption of asbestos was only about five hundred thousand tons a year, and that the neoplasms associated with today's production of over four million tons a

De Busschere

Belgian Shoes

MR. HENRI BENDEL
Owner-President

DAISY
Black or blue calf
with lizard trim
\$65

Classic, timeless styling.
Brochure on request.

BELGIAN SHOES
60 East 56 St., New York 10022
(212) PLaza 3-7372
In California: I. Maginn & Co.

VIRTUTE NON VERBIS

Internationally Famous
Restaurant
with a tradition of Elegance

HOTEL Shelburne
BOARDWALK, ATLANTIC CITY
NEW YORK PHONE (Local Call) RE 2-5450
or Atlantic City 344-8131

LADIES GIFT HANDKERCHIEF

Personalized with four full names on 3 initials! This handkerchief is made of fine Irish flannel with the added pleasure of soft wool non-shedding lace from France. From \$4.95 each. Set of three of the same name \$13.95 each. Write for free color brochure.

VILLARI HANDKERCHIEF CO. Y1012
38 W 34th Street, New York, N.Y. 10018

THE NEW YORKER

161

year will not be evident until the nineteen-nineties. Moreover, we have found that all varieties of asbestos fibres appear to be implicated in mesothelioma, and not just crocidolite, as some of us had hoped following Wagner's observations in South Africa. The problem would have been simple if only one variety of asbestos had been related to this tumor. Control procedures could have been narrowly focussed. As it is, however, a control program will have to be concerned with asbestos in general."

I asked Dr. Selikoff if he thought that asbestos air pollution was responsible for the occurrence of asbestos bodies in the lungs of people in the general population, and he replied that although there was relatively little direct confirmation, he felt it was at least partly responsible. Pointing out again that direct and indirect occupational exposure were much more common than had been suspected, especially in the construction and shipbuilding industries, he went on to say, "The possible sources of environmental contamination are numerous. Mining and milling operations, manufacturing processes, and the delivery and storage of finished products constitute just one part of it. The constant use of asbestos materials in the construction industry is another, and the destruction and deterioration of asbestos products in the community at large constitutes a third. There's no question in my mind that unsuspecting people are being exposed to small quantities of fibres from such sources as torn ironing-board covers and pot holders, and who knows how much asbestos is inhaled by hobbyists engaged in do-it-yourself projects around the house—like sawing up wall-board, mixing crack-filler compounds, insulating pipes with asbestos materials, and repairing furnaces and boilers with asbestos cements? I agree with those who suggest that small numbers of fibres may be liberated from many products in widespread use, such as asbestos-cement pipe and asbestos filters, which are employed in the food and pharmaceutical industries, but we have no information that this carries a disease potential. What troubles me is that relatively few people are aware of the fact that it can be dangerous to inhale asbestos. Not long ago, we discovered that children in a number of kindergartens in New York, California, and other states were being allowed to mix raw asbestos with water to make a cheap form of play dough. We have also learned that the powders in some children's cosmetics kits and in certain



Holidays are happy days in Germany

Germany has probably the most modern cities in Europe. But many old fashioned things like the well in the picture still persist. The Germans cling to the relics and reminders of the past—their visitors are charmed by them. The old and the new stand side by side... contrasting, yet blending. But more important is the spirit of the cities and of the towns, villages, hamlets and resorts. This spirit, too, is a wonderful combination of old traditions and strong, vital contemporary ideas and thinking. It's in the air, as are music and song and the gay laughter of your friendly hosts, the Germans. Come to Germany where holidays are happy days.

Send coupon for illustrated brochures. See Your Travel Agent

GERMAN NATIONAL TOURIST OFFICE

B

500 Fifth Avenue, New York 10036 323 Geary Street, San Francisco 94102
11 S. LaSalle Street, Chicago 60603 1176 Sherbrooke Street W., Montreal, Can.

Please send me free and postpaid illustrated travel brochures.

Name

Street Address

City & State Zip Code



Anything
can happen
when you wear
Fame



FAME de CORDAY

An imported French perfume. To 40.00

©1967 FAMELINE COSMETICS, INC. - AVAILABLE IN LONDON

powder-water-mix jewelry kits contain asbestos. In addition, within the past couple of years two different thoracic surgeons have published articles in leading medical journals which advocate the sprinkling of asbestos on surgical incisions in order to promote the adhesion and healing of tissue. This is very bad advice. Why, Dr. William E. Smith, who conducts animal studies at Fairleigh Dickinson University, has readily induced mesotheliomas in hamsters by injections of asbestos fibres into their pleural cavities!"

Dr. Selikoff went on to say that he understands full well that asbestos is an extremely valuable material, and that it has become essential in modern industrial society. "We epidemiologists recognize and study its dangers so that we may devise ways of minimizing or avoiding them," he said. "Improvements in the practice of industrial hygiene are needed to eliminate unnecessary exposure among asbestos workers and men in other building trades, and awareness of the potential risks of environmental contamination is needed until our studies indicate just how far out into the general population the problem extends. All I can say is that the public should be made aware of the problem, and that no one, particularly children and young people, should be unduly exposed. After all, today's children are almost certainly inhaling more asbestos than their parents did, and we now know that if a person inhales significant amounts of asbestos dust, he carries a burden that will provide a latent potential for the development of cancer for the rest of his life. Here's an example I'll never forget. A couple of years ago, just after Cuyler Hammond, Jack Churg, and I published an article about asbestos and mesothelioma in the *New England Journal of Medicine*, I received a phone call from a doctor in Massachusetts who said that when he read the piece he immediately told his forty-three-year-old wife about it, because her sister had died of mesothelioma the year before. 'Imagine my horror,' this physician went on, 'when my wife proceeded to tell me that in 1943, while she and her sister were students in college, they had responded to a patriotic appeal and spent six weeks in a shipyard insulating pipes in destroyer escorts.'" Dr. Selikoff paused. "Two sisters with six weeks of exposure in 1943," he murmured. "Twenty-three years later, one of them dies of mesothelioma. And today, the other one—the doctor's wife—is being examined every few months to keep track of



Demi-lune handles

of gilded metal dress
this handsome small bag
by Block: black or brown
leather or plastic patent,
or in black alligator-
grain leather. 30.00

At all Lord & Taylor stores

**One of the 7
Wonderful Inns
of the world!**

Luxurious accommodations for 600
Year 'round resort activities
Write for Color Brochure & Weekend Plans

Cherry Hill Inn

Route 38 at Haddonfield Rd.
18 min. from downtown Phila.
N.J. Turnpike Exit 4 • Cherry Hill, N.J.
Reservations: (609) NO 2-7200

Café Carlyle

Currently
Appearing

BOBBY SHORT

Complete Dinner \$6.50
served to 9 p.m.
Entertainment from 9 p.m.
to 2 a.m. Cover \$3 p.p.
Minimum \$3 p.p.



HOTEL CARLYLE
MADISON AVE. AT 96TH ST.
NEW YORK • TEL. BR 4-1600

THE NEW YORKER

163

some suspicious-looking shadows on her X-rays."

AS I was arriving at the Environmental Sciences Laboratory one day, I happened to notice a newspaper clipping tacked up on a bulletin board near the entrance. The story, which was from the *Times* of September 2, 1967, started out as follows: "The scene looked wintry on Madison Avenue, between 57th and 58th Streets, yesterday. Flurries of what seemed to be snowflakes fell on the area from between the 25th and 30th floors of the General Motors Building, which is nearing completion on the site of the former Savoy Plaza Hotel." The article went on to say that residents of the neighborhood had complained to the contractor, and that one of the project engineers had explained that the white flakes were fallout from fireproofing material that was being sprayed on the structural steel girders, beams, and decks of the fifty-story skyscraper. According to the *Times*, the engineer would not identify the insulating material, which was being applied with spray guns, "because I don't want to read newspaper stories about how we are messing up city streets." He was also quoted as saying, "This is a job condition all over the city." The last paragraph of the article read, "The city's Buildings Department said that it had not received any complaints about the Madison Avenue 'snowfall.' The department said the use of tarpaulins was required for spraying operations in construction work to prevent inconvenience to neighborhoods."

Beneath the article was this typed notation: "Examined in our laboratory, the material was found to contain amorphous glass fibres (presumably 'rock wool'), and chrysotile asbestos. It is known that other sprayed insulation materials contain amosite asbestos plus rock wool, while still others contain asbestos fibres alone."

When I asked Dr. Schickoff about the bulletin-board items, he said that the mineralogist in the laboratory, Dr. Arthur M. Langer, had collected a sample of the material and identified its contents by means of electron diffraction and electron microscopy, and with the aid of the electron microprobe. Then he went to a shelf and took down a small glass jar that contained a grayish wad of fibrous-looking stuff, about the size of a half dollar. "This is the sample Dr. Langer brought back and analyzed," he told me. "It comes from a type of insulation material that is about twenty-five per cent asbestos."



Hunger is a Daily Diet

CARMENCITA B. DE LA CRUZ, FILIPINA, AGE 6. One of three children. Father TB . . . almost blind. Unable to work. Mother TB suspect. Washerwoman. Can work only occasionally. Earns about \$12.82 per month. House next to pig-sty is wooden platform covered by flattened rusty kerosene cans. Hole in roof serves as door. No furniture. Few kitchen utensils. Unimaginable privation. Children hungry, ragged. Parents frantic that they cannot feed, clothe, and shelter children adequately. Help to Carmenita means help to entire family.

Thousands of children as needy as Carmenita anxiously await "adoption" by you or your group. Choose a boy or girl from Greece, South Korea, Viet Nam, Hong Kong, the Philippines, Brazil, Colombia, Ecuador or Peru. A monthly cash grant helps provide primary school education for your Foster Child and his sisters and brothers. In addition, PLAN gives family counseling, medical care when called for, supplementary new clothing and household equipment. PLAN's emphasis on education helps its children to become self-supporting citizens. Since 1937, more than 110,000 children have "graduated" from PLAN's program. You receive a case history and photograph. Each month you write and receive a letter (original and translation). These letters will tell you how your "adoption" benefits the entire family. Soon, through the regular letters and PLAN progress reports, you and your child develop a warm, loving relationship.

CHECK YOUR CHARITY! We eagerly offer our financial statement upon request. You will see that your contribution truly benefits the child for whom it was intended.

PLAN is a non-political, non-profit, non-sectarian, independent relief organization, registered under No. VFA019 with the Advisory Committee on Voluntary Foreign Aid of the Agency for International Development.

© Foster Parents Plan, Inc. 1968

Foster Parents Plan, Inc.

352 PARK AVENUE SOUTH, NEW YORK, N.Y. 10010 - Founded 1937

PARTIAL LIST OF SPONSORS AND FOSTER PARENTS

Steve Allen
Mia Andrews
Sen. Paul H. Douglas
Helen Hayes
Conrad N. Hilton
Sen. Jacob K. Javits
Art Linkletter
Amb. & Mrs.
Henry Cabot Lodge
Garry Moore
Sen. William Proxmire
Dr. Howard A. Rusk
Mr. & Mrs.
Robert W. Schenck
Gov. & Mrs.
William W. Scranton
Sen. John G. Tower

FOSTER PARENTS PLAN, INC. NY-10-68
352 PARK AVENUE SOUTH, NEW YORK, N.Y. 10010
In Canada: P.O. Box 65, Stn. B, Montreal, Que.

A. I wish to become a foster parent of a needy child for one year or more. If possible, yes no occasionally
I will pay \$16 a month for one year or more (\$192 per year). Payment will be monthly (), quarterly (), semi-annually (), annually ().
I enclose herewith my first payment \$
B. I cannot "adopt" a child but I would like to help a child by contributing \$
Name
Address
City State Zip
Date Contributions are income tax deductible



Safe Fifth Avenue
Love our grey flannel with plenty of flap. A stand-up collar, a flare out of skirt with rounded patch pockets. And a belt that's high and handsome. Wool flannel bonded to acetate in 4 to 14 sizes, \$42. From our Young Elite® Dress Collections. Glad to fill mail or phone orders.

and in this tiny wad alone there are literally billions of fibres. Of course, the 'snowfall' those people saw and complained about was not what may have been hazardous. What may have been hazardous was what they couldn't see—an untold number of sub-microscopic and highly respirable particles. The 'snowfall' was a perfect example of how asbestos gets into the ambient air, and that engineer was right when he said it's a job condition all over the city. You'll see the same material floating down from many other building projects in town. It's sprayed on by men in the Plasterers and Cement Masons Union. Incidentally, as far as I know, no one has ever made a study of *their* health."

It was a blustery day, filled with intimations of the season's changing, and when I left the hospital I took a Fifth Avenue bus downtown. I sat by a window, and was looking idly out at people strolling along the sidewalks when the bus came to a stop in the upper Forties beside a dump truck parked in front of a small office building that was being gutted. Several workmen were carrying canvas sacks of refuse across the sidewalk and heaving them up to a tall, well-built Negro who stood in the rear of the truck, emptying the sacks at his feet. As he did, clouds of dust rose into the air around him. Some of it showered the window beside me. It appeared to be ordinary cement dust, but then I saw that the pile of debris on which the man was standing contained broken pieces of acoustical panelling and wallboard, both of which often contain asbestos, and lengths of pipe coated with crumbling white insulation material that looked very much like asbestos.

When I got off the bus, I walked west along Forty-fourth Street. Halfway down the block, I saw two workmen slide a large rectangular container from a pickup truck and carry it into a building. The container was full of white powder, some of which was being blown away by the wind, and the men's clothes were covered with white dust. When I looked into the truck, I saw half a dozen large paper sacks labelled "Fireproof Plaster." One of the workmen returned for his tools, and I asked him if the plaster contained asbestos. "Sure," he replied. "That's what makes it fireproof."

I walked on to the corner of Sixth Avenue, where a forty-four-story office building had been under construction for several months. During that period, I had passed the building nearly every day, but now, for the first time, I



This charming fountain in lead will make a lovely addition to any terrace or informal garden setting. Complete with recirculating pump available in oxidized lead patina or Pompeian green finish. 37" high, 20" diameter shell. \$375.00 F.O.B. New York City.

Send 25¢ in stamps or coins for 40 page Catalogue illustrating many other complete fountains and garden ornaments.

FLORENTINE CRAFTSMEN
650 654 FIRST AVE. (37th St.) NEW YORK, N.Y. 10016
Phone LExington 2-3925



EMILY SHAW'S INN
POUND RIDGE, N. Y.

Finest type of American Food and Cocktails
Merritt Parkway, exit 35, north on 137,
or Route 22 to Bedford Village.
John F. Shaw, Prop.
CLOSED MONDAYS - Pound Ridge 4-5779
VISIT OUR WALK IN WINE CELLAR

ABBE LANE
sets the world on desire
from October 2-October 22
Performances at 9:15 & 12:15
For reservations call
PLaza 9-3000
PERSIAN ROOM
AT THE PLAZA

THE NEW YORKER

165

looked up and scrutinized it carefully. About halfway up its side, I saw some tarpaulins billowing in the wind. Above the tarpaulins, the steel girders and beams were reddish brown; between the tarpaulins and the ground, however, they had been sprayed with asbestos insulation, which clung to them like gray frosting. Then, all at once, I saw wads of the same gray stuff falling out of the area that had been curtained off by the tarpaulins. Some of the pieces were carried away on the wind; others that were heavier came tumbling down around me. One fell on the sidewalk at my feet. I picked it up, crumbled it between my fingers, and saw dozens of tiny fibres float away. It was the same color and texture as the material that Dr. Selikoff had shown me half an hour before. The sidewalk was covered with it, and even as I stood there more of it came showering down. A woman hurrying to make the light with a friend brushed some off the sleeve of her coat, and said, "What the devil is this stuff?" I watched her cross the avenue, and saw asbestos insulation blowing over the pavement like thistle-down across a field. The wind was southerly, and most of the asbestos was travelling north, in the direction of Mount Sinai Hospital, where Dr. Selikoff and his associates are still following the trail Dr. Cooke set out on in 1924. But I was not thinking about Dr. Selikoff or the difficulties of epidemiology just then. I was thinking about the children who play in Central Park every day, and about all the other children who live in this city and breathe its air. ---PAUL BRODEUR

CRIES WE DOUBT EVER GOT
CRIED OUT, RAPTURE OR
NO RAPTURE

[From the *St. Moritz Courier*]

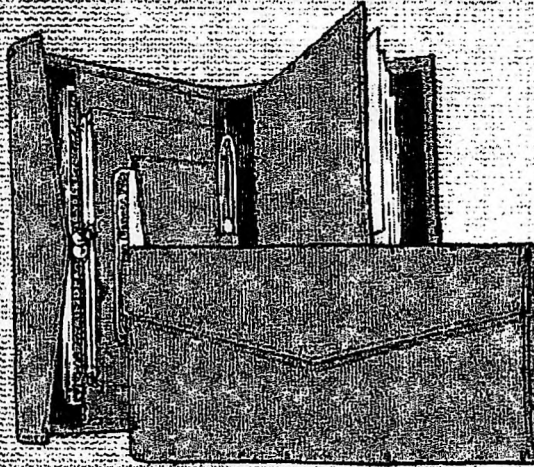
When GIOVANNI SEGANTINI first came up to the Engadine from Lake Como, he cried out, full of rapture:

"I bow before this earth which is hallowed by beauty; I kiss the grasses and the flowers under this blue vault of heaven, and while the birds sing and meet together for flight and the bees suck honey from the open blooms, I drink at these pure springs, where beauty is ever renewed, where love is renewed that gives life to all things."

Western observers believed Brezhnev's remarks would aid anti-American propaganda abroad while leaving the Kremlin free to deal with almost any future American President, except possibly Richard Nixon.—*Washington Post*.

Wait till he sees the New Nixon.

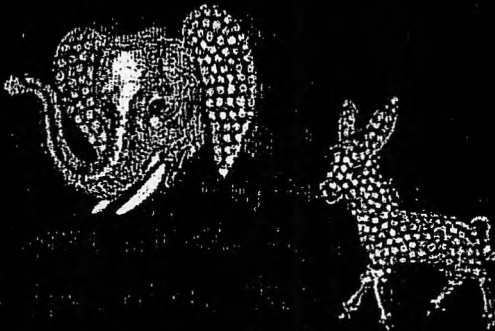
THE CARETAKER



The compact carry-all. Ready to work with a removable checkbook holder, 5" frame coin pocket, and credit card pocket. A 9-section vinyl card holder takes care of everything else. A swarm of honey kid colors, about \$12.50. At Himmelhoch Bros. & Co., Detroit; Frost Bros., San Antonio; B. Altman & Co., New York City and all branches. St. Thomas Inc., 31 Thomas Place, Governorsville, N.Y., and all other fine stores.

ST. THOMAS

St. Thomas Inc., 31 Thomas Place, Governorsville, N.Y., and all other fine stores.



Cast your vote
for fashion...with

CINIER

Two confident candidates from our exciting collection of original pin designs. Elephant, about \$15. Donkey, about \$17.50. At fine stores. Ciner Jewelers, 20 West 37th St., New York; and Paris.

Exhibit 8

INSULAG

Reg. U. S. Pat. Off.

A HIGHLY EFFICIENT INSULATING LAGGING

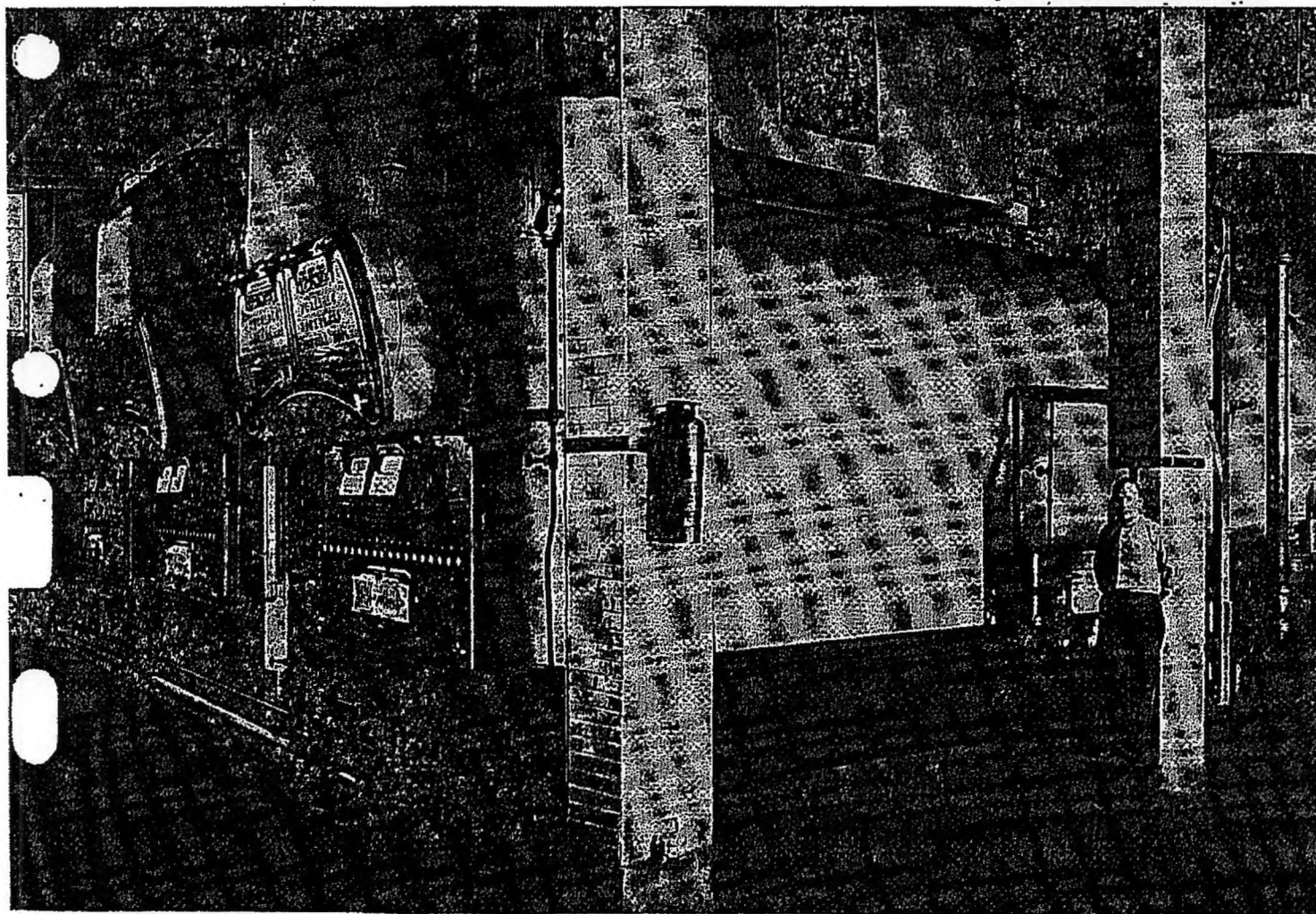
*With Air-setting Properties for a Wide Range
of Temperature Applications*

WATER RESISTANT—ECONOMICAL

Bulletin No. 332-F

A QUIGLEY PRODUCT

Fig. 1 — Three Boilers Insulated With INSULAG.



INSULAG is a superior refractory lagging, with unsurpassed insulating properties for use on high or low temperature equipment. It can be applied on hot or cold metal surfaces, and as a finishing coat for insulation.

INSULAG possesses at recommended temperatures exceptionally high refractory and insulating properties. **INSULAG** is used at operating temperatures at which other laggings fail.

Its unusual low heat storage and low thermal conductivity make **INSULAG** a most effective insulator for the control of temperatures. **INSULAG** permits reduction in thickness of heavy refractory walls and, in turn, decreases the heat capacity of the total structure. Fuel savings, constant temperatures and increased production result from its use.

INSULAG increases in thickness after application and retains this increased volume throughout its entire range of service temperatures. **INSULAG**, after it has set, does not dissolve or collapse from contact with water, oil or steam, which properties make it an outstanding product.

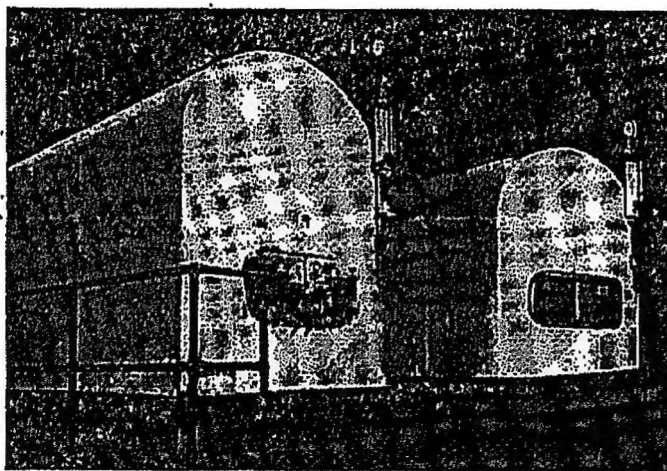


Fig. 2—Boilers Insulated With **INSULAG**.

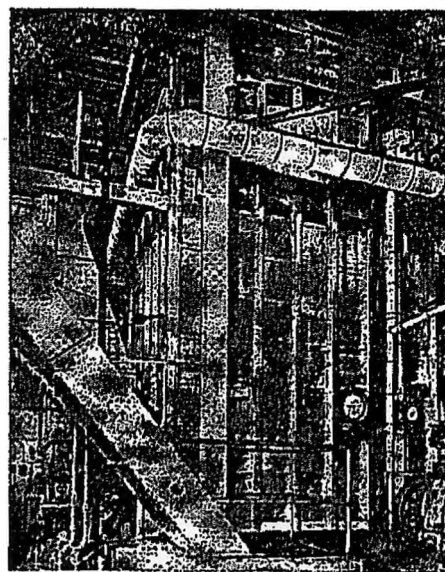


Fig. 3—Walls, Ducts, Ceilings, Drums of Large Boilers Insulated With **INSULAG**.

POWER PLANTS—**INSULAG** meets the engineer's demand for a suitable material for covering turbines, feed water heaters, hot liquid storage tanks, drums, smoke flues, stacks, pipes and flanges. It is also recommended as insulation in back of refractory tile of water wall boilers and outside fire brick walls in boiler furnace construction.

ON BOILER DRUMS—**INSULAG**, used on the boiler drums because it does not crack in service, can be walked on without destruction, and does not collapse due to steam leaks or water dripping on same.

FIRE-PROOFING—Bins, walls, roof structures, furnace rooms, columns, etc., may be protected against fire by applying **INSULAG** as a veneer coating. The fire retardant properties of **INSULAG** render it ideal for this purpose.

GENERAL USES—**INSULAG** has such a wide range of uses that it is indispensable as a plastic lagging in plants using fuel fired furnaces. It is "the lagging material of a thousand uses."

QUICK SUMMARY

1" equals 9" of fire brick in insulating value.

1/40 heat storage capacity of fire brick for same heat flow.

High mechanical strength.

Operating temperature 2180°F. interface.

Light weight—yet rugged and strong.

Sets quickly.

Adaptable—suitable for practically every lagging need.

Water resistant—steam, oil or water leaks do not destroy.

Expands—an inch applied is more than an inch when dried.

INSULAG is shipped in 50 lb. bags, net.

PROPERTIES OF **INSULAG** vs. FIRE BRICK

Heat Conductivity B.t.u./Sq. Ft./In. Thick/°F./per hour

MEAN TEMPERATURE	INSULAG	FIRE BRICK
500°F.	.56	8.15
1000°F.	.70	9.99
1500°F.	.84	
Approximate weight per cu. ft. applied.....	36 lbs.	130 lbs.
Heat storage per lb. per °F.....	.24 B.t.u.	.24 B.t.u.
Heat Storage for same insulating effect.....	1/40	1.

PROPERTIES OF INSULAG

LOW THERMAL CONDUCTIVITY—INSULAG retains practically constant insulating values throughout its service range, so that under varying conditions and temperature changes there is no appreciable loss of insulating efficiency. *One inch* of INSULAG has an insulating value equal to about *nine inches* of fire brick and has about $1/40$ the heat storage capacity of fire brick walls of equal heat flow. Therefore, relatively thin applications of INSULAG may be substituted for heavy masses of refractories; heat losses are reduced and furnace production is increased.

HIGH MECHANICAL STRENGTH—INSULAG is different. It develops high mechanical strength upon drying and successfully withstands shock, moderate abrasion and vibration. The impact of a hammer will cause a dent in INSULAG and may even crack it, but the blow will not cause it to break away readily from the equipment to which it was applied. This is most advantageous on drums, tanks, pipe lines and other equipment subject to rough usage.

HIGH TEMPERATURE LIMITS—INSULAG will withstand a wide range of applications for high temperature direct exposure and is recommended for interface temperatures up to 2200°F.

EXPANSION—INSULAG expands after application; physical shrinkage eliminated.

LIGHT WEIGHT—On the average, three pounds of INSULAG covers 1 square foot to a thickness of 1 inch. Varying conditions, methods of application, hard troweling, kinds of surfaces, variations in mixing, water content, and temperature of surfaces at time of application may require more material.

QUICK SETTING—INSULAG cold-sets firmly in 24 hours to 48 hours and in much less time when subjected to heat. The quick drying and setting characteristics of INSULAG permit troweling to a smooth finish suitable for painting.

ADAPTABILITY—INSULAG possesses properties necessary for "roughing" coat and "finishing" coat, or two coats by one application. The user of INSULAG does not find it necessary to carry in stock two or three different materials for the same job.

WATER RESISTANT—INSULAG, after setting, does not dissolve or collapse from contact with water, oil or steam. This is a decided advantage in plant maintenance. INSULAG is a superior product for insulating equipment exposed to the weather.

NON-INJURIOUS—INSULAG contains no mineral wool, or fine slag particles which are irritants to the hands or other parts of the body.

A feature of INSULAG which particularly appeals to many users is the beautiful, smooth, white surface of a trowelled finished job.

If desired an INSULAG trowelled finished job can be treated with Quigley TRIPLE-A Protective Coatings in white, black, colors or aluminum.

Various combinations of INSULAG with other INSULINE Products can be made for specific applications.

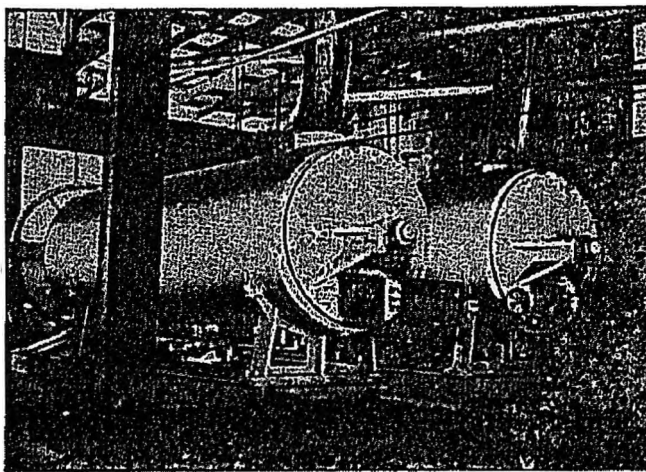


Fig. 4—Steam Drifters Coated With INSULAG. No Wrapping or Painting Necessary.

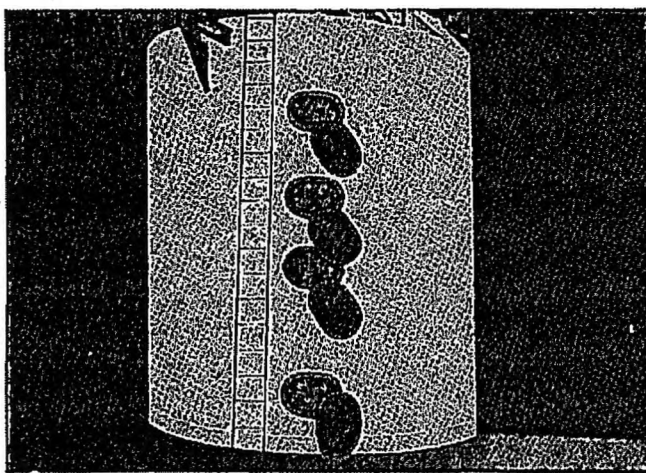


Fig. 5—Dorr Thickener (24 ft. diam. x 18 1/2 ft. high) Insulated With INSULAG.

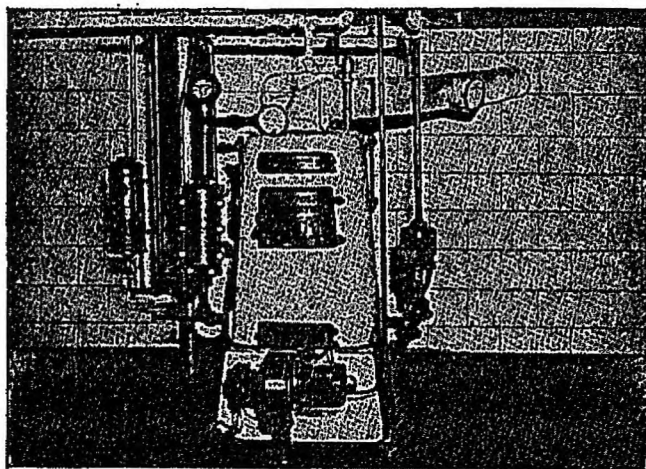
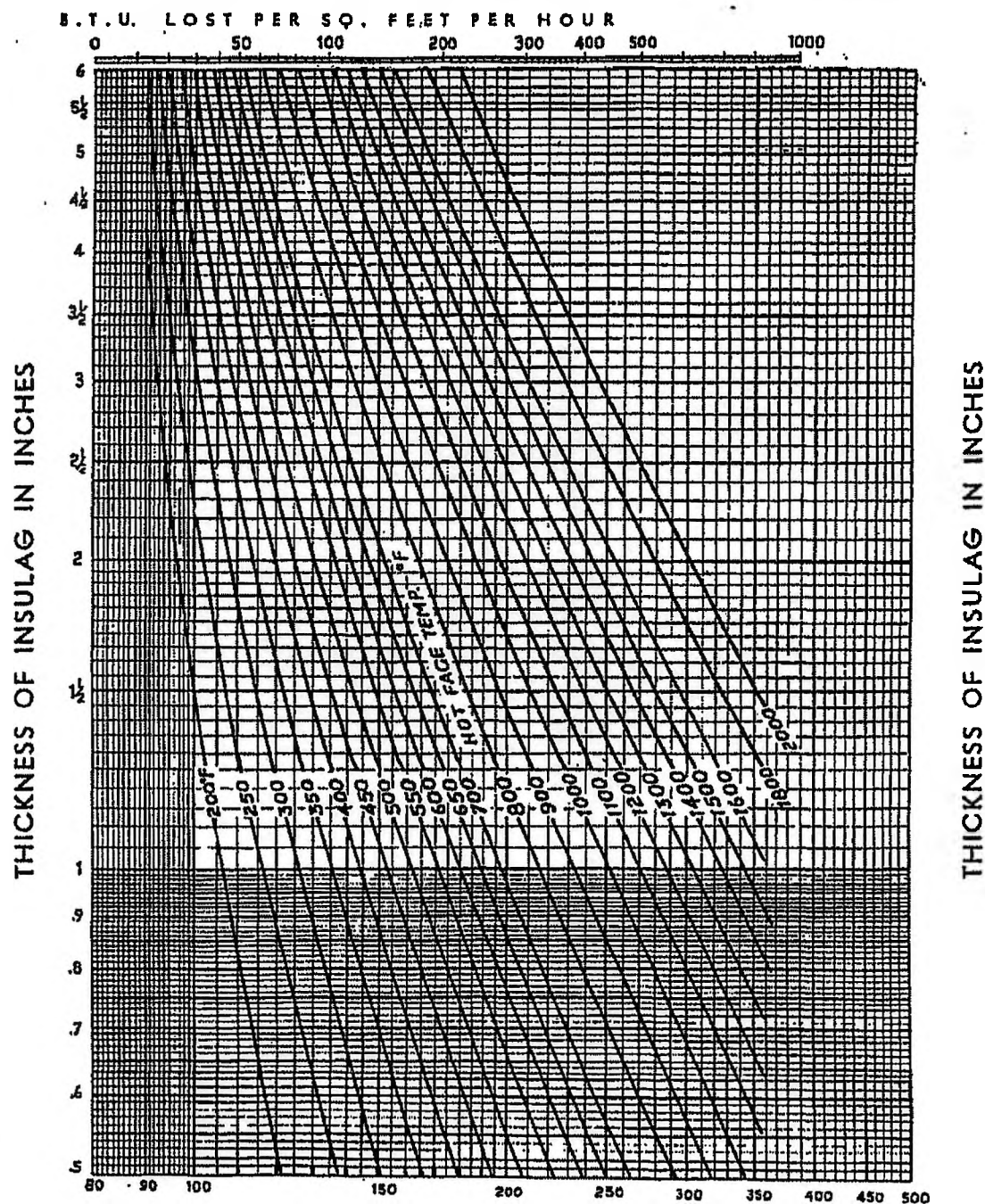


Fig. 6—Water Tank and Boiler Domestic Fuel Oil Burner Insulated With INSULAG.

INSULAG—THICKNESS IN INCHES REQUIRED FOR VARIOUS HOT FACE TEMPERATURES



How to Determine Heat Savings Effected by INSULAG.

Chart above indicates the heat loss through graduated combination thicknesses of INSULAG, as well as the temperature of the outside surface of the INSULAG at given temperature for the hot surface.

1. To determine the thickness of INSULAG required to give an outside surface temperature.
Example: Temperature of the hot surface is 500°F. What total thickness will give a temperature of about

180°F.? Follow 180°F. line upward until it meets 500°F. curve line. At this point follow horizontal line and read 2 in. Therefore a 2 in. thickness of INSULAG is required.

2. To determine the heat loss through given thickness of INSULAG or from outside face temperature.
Example: Similar conditions as that given under "1". From 180°F. at bottom of chart follow upward until you read 90 B. t. u.'s on the upper scale.



QUIGLEY COMPANY, INC.

Manufacturers of Refractories — Insulations

235 E. 42nd Street

New York, N.Y. 10017



Manufacturers of Refractories — Insulations

235 E. 42nd Street

New York, N.Y. 10017

WATER RESISTANT REFRACTORY LAGGING

INSULAG

INSULAG

A superior refractory lagging with unsurpassed insulating and sealing properties for use on high or low temperature equipment.

Can be applied on hot or cold metal surfaces.

Fuel savings, constant temperatures and increased production result from its use.

Increases in thickness after application and retains this increased volume throughout its entire range of service temperatures.

Does not collapse after it has set, from contact with water, oil or steam.

Is non-injurious as contains no mineral wool or fine slag particles which are irritants to the body.

Develops high mechanical strength upon drying and withstands shock, moderate abrasion and vibration.

Can be applied by gun in thin coats to effect a perfect seal.

Block insulation is effectively covered and protected.

Makes a good expansion jointing.

Has excellent insulating qualities.

Weight expanded 36 lbs. to a cubic foot.

Expands approximately $\frac{1}{2}$ " for each inch applied if installed immediately after mixing.

Has temperature range of 2200°F. limit for interface temperature.

3 lbs. usually covers one square foot 1" thick.

Sets firmly on cold set in 24 hours.

Can be applied by gun, grout or trowel.

Packed in 100 lb. multiwall, moisture-proof bags.

Proper instructions for use enclosed in each bag.

SPECIAL APPLICATIONS

$\frac{1}{4}$ " coating applied by Quigley C. O. Gun on new open hearth silica roofs—increases life by eliminating initial spalling.

$\frac{1}{2}$ " coating on brick-lined doors when new, prevents spalling.

Sealing Tuyers when banking Blast Furnaces.

Insulation and sealing Bustle Pipes.

Expansion Joints at jamb in Coke Ovens.

Insulating walls for comfort between furnaces in working areas of Reheat Furnaces.

When banking Blast Furnace seal Bosh usually by spraying.

Insulate outside of Reheat Furnace.

Cover block insulation on outside Stoves.

Spraying Annealing Oven interiors to seal cracks and spalling.

Sealing Regenerator chambers in Rolling Mills.

SUMMARY OF PROPERTIES

Temperature Range	2200°F. Interface
Setting Characteristics	Hydraulic Set
Application	By Gun, Grout or Trowel
Thermal Conductivity K factor in B.t.u./ sq. ft./inch thk./ hr./°F.	@ 500°F. .56 @ 1000°F. .70 @ 1500°F. .84
Spalling	Negligible
Weight	36# to a cubic foot
Coverage	3# covers 1 sq. ft. 1" thick
Packing	50# bags



Manufacturers of Refractories — Insulations

235 E. 42nd Street

New York, N.Y. 10017



Manufacturers of Refractories — Insulations — Paints

235 E. 42nd Street

New York, N.Y. 10017

INSULAG

WATER RESISTANT REFRACTORY LAGGING

**GREAT STRENGTH — QUICK SETTING — LIGHTWEIGHT — HIGH TEMPERATURE
EXPANDS — DOES NOT SHRINK — WATER & OIL RESISTANT — FIREPROOFING**

INSULAG

A superior refractory lagging with unsurpassed insulating and sealing properties for use on high or low temperature equipment.

Can be applied on hot or cold metal surfaces.

Fuel savings, constant temperatures and increased production result from its use.

Increases in thickness after application and retains this increased volume throughout its entire range of service temperatures.

Does not collapse after it has set, from contact with water, oil or steam.

Is non-injurious as contains no mineral wool or fine slag particles which are irritants to the body.

Develops high mechanical strength upon drying and withstands shock, moderate abrasion and vibration.

Can be applied by gun in thin coats to effect a perfect seal.

Block insulation is effectively covered and protected.

Makes a good expansion jointing.

Has excellent insulating qualities.

Weight expanded 36 lbs. to a cubic foot.

Expands approximately $\frac{1}{4}$ " for each inch applied if installed immediately after mixing.

Has temperature range of 2200°F. limit for interface temperature; 2000°F. direct flame.

3 lbs. usually covers one square foot 1" thick.

Sets firmly on cold set in 24 hours.

Can be applied by gun, grout or trowel.

Packed in 50 lb. multiwall, moisture-proof bags.

Proper instructions printed on each bag.

HOW TO MIX and APPLY INSULAG

Mix INSULAG and water (50# bag Insulag to $3\frac{1}{2}$ gal. water — approx. 60% Insulag to 40% water) — to consistency of heavy plaster. Mixed INSULAG must be applied in 30 min. DO NOT MIX MORE than can be applied in 30 min. After INSULAG has been applied, do not trowel out air pockets that honeycomb INSULAG during bloating period. Use wet trowel about an hour later to smooth out. INSULAG trowels out smooth, hard and white. For reinforcing use 2x2 — 16 Ga. square mesh or metal lathe on 16" centers, well secured. Can be applied with Trowel-Gun or grout. No weather proofing is necessary. INSULAG can be painted — no sizing is necessary. Quigley AAA Paints in aluminum and colors are available.

SUMMARY OF PROPERTIES

Temperature Range	2200°F. Interface
Setting Characteristics	Hydraulic Set
Application	By Gun, Grout or Trowel
Thermal Conductivity K factor in B.t.u./ sq. ft./inch thk./ hr./°F.	@ 500°F. .56 @ 1000°F. .70 @ 1500°F. .84
Spalling	Negligible
Weight	36# to a cubic foot
Coverage	3# covers 1 sq. ft. 1" thick
Packing	50# bags



Manufacturers of Refractories — Insulations — Paints

235 E. 42nd Street

New York, N.Y. 10017

INSULAG

REG. U. S. PAT. OFF.

FIREPROOFING CEMENT



INSULAG is a fire retardant, lightweight formulation, having a fire and water resistant smooth white surface.

INSULAG weighs only 40 pounds per cubic foot; $\frac{1}{3}$ rd the weight of concrete, common brick or other such fire proofing materials. Therefore, excessive loads are not added to existing structures, or those under design.

INSULAG was subjected to exhaustive fire-proofing tests by a nationally recognized research laboratory and large oil refinery. Their reports proved **INSULAG** is capable of withstanding THERMAL SHOCK without spalling or destruction when 100 lb. per square inch water pressure was played on it by hose, with nozzle, at all distances, and at all temperatures up to 2000°F.

INSULAG is the ideal fireproof protection for Structural Columns, Beams, Channels and Angles, LP Gas Tanks, Oil Tanks, Tower Skirts, Pipe Line Supports and All Exposed Steel in Oil Refineries, Steel and Chemical Plants.

INSULAG is regularly used as a Refractory Insulation by all types of industries, inside and outside of furnaces and boiler settings, for temperatures up to 2200°F. It is also used for many types of insulations inside and outside of buildings, regardless of climate and without weather proofing.

INSULAG is the only material required for a fire-proofing and water resistant insulating job.

BE ASSURED OF YOUR FIREPROOFING BY USING INSULAG

PROPERTIES OF INSULAG A FIREPROOFING CEMENT

LOW THERMAL CONDUCTIVITY—1" has insulating value of 9" Firebrick

HIGH MECHANICAL STRENGTH—Withstands vibration—Moderate Abrasion

HIGH TEMPERATURE LIMITS—2200°F.

LIGHT WEIGHT—Trowelled: 40 lbs. per cu. ft.
Gunned: Approx. 45 lbs. per cu. ft.

QUICK SETTING—(2-24 hours) Depending upon temperature and atmospheric conditions

NON-INJURIOUS—Contains no mineral wool.

WATER RESISTANT—After setting does not dissolve or collapse in contact with water, steam or oil.
Does not require water-proofing.

ADAPTABILITY—Roughed or scratched, Coat and Finish Coat with one product **INSULAG**. Trowels to a hard smooth, white finished surface.



QUIGLEY COMPANY, INC.

Manufacturers of Refractories — Insulations

235 E. 42nd Street

New York, N.Y. 10017

INSULAG FOR FIRE PROOFING

Where to Use

ACID PLANTS—

Structural Steel for Absorption—Glover—Lussac
Towers and Tanks

CHEMICAL PLANTS—

Structural Steel for Heaters—Chemical Units—
Still and Tanks

COAL COLLIERIES AND MINES—

COPPER—LEAD—ZINC MINES—

Structural Steel—Bins—Underground Timber
Supports

GLASS PLANTS—

Structural Steel—Melt Room

LUMBER MILLS—

Structural Steel—Fuel Bin—Burner—Dry Kilns

OIL REFINERIES—NATURAL GASOLINE PLANTS—

CARBON PLANTS—ASPHALT PLANTS—

Structural Steel—Vessel Skirts—Pipe Stanchions—
Supporting Steel of Towers—Heaters—Crackers—
Tanks—Gas Absorbers—Evaporators—Decar-
bonizing Units

PAINT MANUFACTURERS—

Structural Steel—Storage Tanks—Warehouse—
Varnish Plants

PAPER MILLS—

Structural Steel—Recovery Furnace Room—Stock
Rooms

STEEL MILLS—

Structural Steel Supports—
Blast Furnace—Conveyors—Scrubbers—Stoves
By-Products Plant—Distillation Unit
Coke Oven Plant—Pusher—Quenching Equip-
ment.
Stock Piles—Conveyors—Coke—Coal

SMELTERS—

Structural Steel Supports
Anode Furnace Room
Converter—Platform Struts
Refinery—Pouring Platform
Reverberatory

WAREHOUSES—Inflammables—

Structural Steel

How to Use

INSULAG A FIREPROOFING CEMENT

REINFORCEMENT or SUPPORT for STRUCTURAL STEEL

Use flat expanded diamond mesh, with metal spacers or

Use high rib lath or other suitable reinforcements, all to have corner beads.

On larger surfaces, weld on studs, to which attach square mesh welded fabric with opening of not less than 2"x2".

INSTALLATION

Can be Cast—Trowelled or Gunned by using above conventional methods of reinforcements.

MIXING

For Cast or Trowelled installations, add sufficient water to make a smooth easy-working mixture. Use clean, fresh water at 60-65°F. An average mixture takes about ten and one-half (10½) gallons of water to a one hundred (100) pound bag. Mix only quantity that can be applied within twenty (20) minutes.

For Gun Applications use minimum air pressure and maximum quantity of clean fresh water at 60°F., but no higher than 90°F., that permits placement without slump.

APPLICATION

A one and three quarters (1¾) inch thickness is required for a three (3) hour fire resisting rating. Apply by either Cast—Trowel or Gun method.

A one and one eighth (1⅛) to one and one quarter (1¼) inch thickness of mixed INSULAG which will bloat to one and five eighth (1⅝) to one and three quarters (1¾) inch. Allow to set. If a smooth finish is required, SCRATCH or ROUGHEN this surface before applying the one eighth (⅛) inch finishing coat.

If the original application has dried, same should be moistened prior to applying the finished coat. For the finish coat, INSULAG should be mixed with water, allowed to bloat and remixed. This finished coat should be trowelled smooth.

Additional Fire Resistance Rating can be secured by increasing thickness of INSULAG.