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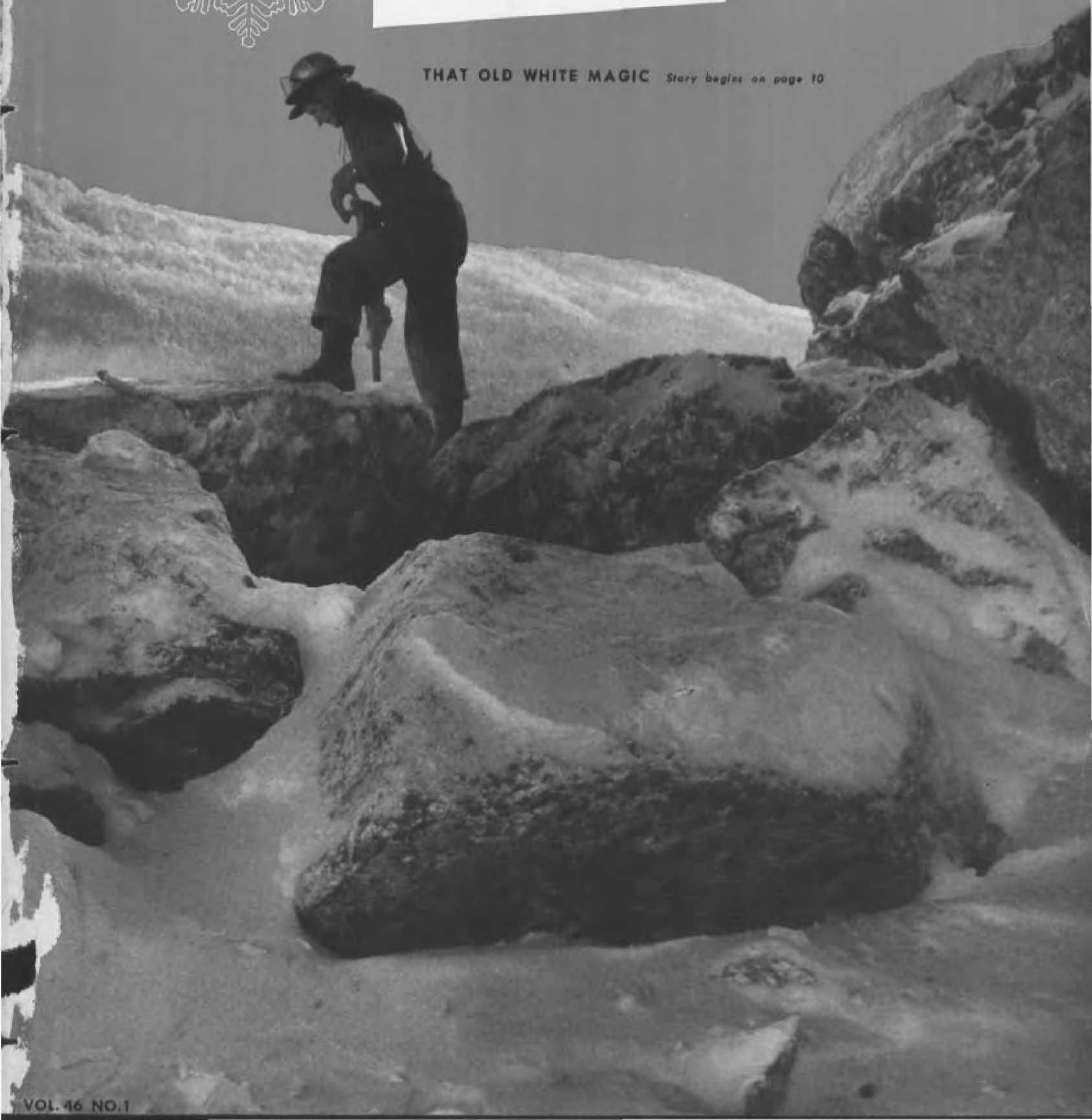
DOCUMENT DESCRIPTION: Company magazine with article on asbestos usage, nothing about dangers [That Old White Magic, Pgs. 10-14]

JANUARY 1955



HARVESTER WORLD

THAT OLD WHITE MAGIC *Story begins on page 10*



At International Harvester's Fort Wayne Works.

talented teen-agers become

BOSSSES FOR A DAY



HARRY WHITE, top executive of a Junior Achievement firm, occupies chair of Fort Wayne Works Manager Hugo Weissbrodt in midmorning conference with A. D. Bishop, assistant works manager, J. E. Relim, general superintendent, and C. J. Dillon, traffic manager. Twenty-one Fort Wayne teen-agers took over management's chores for the day.

TWENTY-ONE TEEN-AGERS recently "took over" for a day the positions of a like number of management men at Harvester's Fort Wayne motor truck works. "Today, you're the wheels," they were told as they arrived at the plant in the half-light of 8:00 a.m. Although the day was part of their Christmas-New Year vacation from school, all but a few of the expected number appeared.

It wasn't the first time high-school students have filled grownups' roles for a day, but it is doubtful whether any group of youngsters was ever better qualified by experience to handle the responsibilities of their brief assignments. As executives, em-

ployees and share owners in two Fort Wayne Junior Achievement companies, the boys and girls came to their jobs with valuable experience. They had helped to organize a company along corporate lines. They had chosen and designed products for manufacture, purchased materials, devised job methods, planned production. They had run machinery in the manufacture of their products and had worked on their own assembly lines. As salesmen, they had taken their products to market, sold them at prices they themselves had set.

Ranging in age from 15 to 17, the youngsters represented two JA firms: Plast-O-Matic company, manufacturers of plastic

calendar pad holders, and Wood company, producers of shadow box wall shelves. Plast-O-Matic is sponsored by Fort Wayne Works, while Wood company gets its guidance from the IH Motor Truck Service Parts Department. Each Harvester operation furnishes four advisors who are present during working hours to give business, production and sales counsel.

Awed by the size and relative complexity of the big truck plant, the Achievers could, nevertheless, understand and even speak the language of many of the jobs to which they were assigned. In answer to a question about Plast-O-Matic production volume, 16-year-old Morse Sanderson said: "We

DAILY TRUCK PRODUCTION

A LINE	HOUR	8	9	10	11	12	1:30	2:30	3:30	4:30
SCHEDULE		10	20	30	40	50	60	70	80	90
OFF LINE		10	20	30	40	50	60	70	80	90
DOLL UP OK		1	2	3	4	5	6	7	8	9
B LINE										
SCHEDULE		10	20	30	40	50	60	70	80	90
OFF LINE		10	20	30	40	50	60	70	80	90
DOLL UP OK		1	2	3	4	5	6	7	8	9
TOT. OK'D %		22	26	30	34	38	42	46	50	54
DAILY BUILT		82	82	82	82	82	82	82	82	82
A LINE		65	65	65	65	65	65	65	65	65
B LINE		147	147	147	147	147	147	147	147	147
TOTAL BUILT		100	100	100	100	100	100	100	100	100

DARK-EYED MARILYN HOBSON, 16, learn how Assistant Works Manager A. D. Bishop keeps advised of truck production throughout day as she takes over job of posting status as of 9 a.m.



H. A. HERMAN, motor truck district sales manager, and **R. Morse Sanderson,** Plast-O-Matic company sales manager, share problems. "For the most part," young Sanderson is saying, "our sales are ahead of production." Herman's reply: "If we were doing that well, we'd be terrific!"



ACHIEVERS WERE impressed with vastness of Fort Wayne Works compared with their own "plant" in downtown JA Center. Wood company Officers **Nancy Hobson** and **Ken Rodenbeck** visit Harvester's **Bill Fawley** in the huge drafting room in Works Engineering Department.



B LINE assemblers take starting cue from 17-year-old **Charles Botton**, who turns on power to begin line's production. Achievers know the value of power in production, as centers are equipped with saws and drill presses to increase production capacity. Charles is Plast-O-Matic production manager.



LINDA SCHWAN gets line management eye-view of truck assembly operations as a heavy engine is dropped into chassis of military truck. Linda says manufacture of plastic calendar pads also follows assembly line pattern—in a less complex way.

JUNIOR ACHIEVERS who must face buying public with products they build, make careful inspection of finished article as it leaves assembly line. Wood company's **Robert Douglas** (at wheel) and **Sandra Behrens, Plast-O-Matic** designers, find counterpart of this procedure at Fort Wayne.



SEVENTEEN-YEAR-OLD **Judy Winkler,** Wood company secretary, learns it takes about \$450,000 and 4,600 checks to pay Fort Wayne employees. Wood company pay rate is 15 cents per hour for two-hour work "week." For some, JA company paychecks are first checks they ever received.

BOSSSES FOR A DAY



FOREMAN'S OFFICE is nerve center of production department. Amid hum of machinery, Terry Neuhaus gets feel of running Fort Wayne's front axle machining department as he confers with E. G. Sonner, general foreman.



MARY HAMRICK of Wood company dons guard cap and checks traffic through plant's busy main gate. Mary's father, Al Hamrick, is head inspector in Fort Wayne machine shop. In her first year in JA, Mary plans to continue as long as she is eligible. Age limit is 17.



JOHN BAKER, who shouldered Ray Emley's responsibilities as truck plant's superintendent of machining, takes time to inspect Works' fire fighting equipment, a specially rigged International. John is production manager of Wood company.

IN CHAIRS normally occupied by Fort Wayne Works management men in conference, officers and employees of two JA companies hold meeting at start of "JA Day at Harvester" program. Teen-agers were assigned to managerial posts at the plant for a day. Larry White of Plast-O-Matic company, flanked by other officers of both firms, presides at meeting. Operating cost efficiency chart in background is large-scale portrayal of problem JA companies face, too.





WOOD COMPANY SALES Manager Dan Meehan, Jr., 16, calls on IH truck customer Tom Sayles, whose firm, O-I-M Transit corporation, has fleet of 49 Internationals serving Ohio, Indiana and Michigan. Close relationship of IH manufacturing and sales helped Achievers compare Fort Wayne operations with their own firms, where even closer relationship exists.



ASSISTANT WORKS MANAGER A. D. Bishop (holding stock certificate) is share owner in both JA companies sponsored by IH at Fort Wayne. The five shares he owns in each firm is maximum allowed any one investor. Shares cost 50 cents.



MRS. RAY HOBSON paid \$1.50 retail price for shadow box wall shelves, product of Wood company, her daughter's firm. Manufacture involves exacting power saw operation, since shelves are held together without nails or screws.



LEILA SNYDER checks Plast-O-Matic company's finished product inventory. Product is plastic desk calendar pad holder. Heating, bending, filing, drilling and assembly are steps in manufacture. With pad, unit retails for \$2.60. Sales are good.

first ordered material for 90 units, but we've already sold more than 80. Sales are going so well that we've increased material orders to cover 150 units." It wasn't difficult for Morse to visualize such things as the effect on Fort Wayne Works of big demand for the new cab-over-engine Internationals.

Speaking for Wood company, Sales Manager Dan Meehan said his firm's production had been hampered when a power saw acted up and cutting tolerances were lost. But he held high hopes for big production increases in 1955. "Since cutting is our major problem," Dan said, "we're going to solve it by working extra hours without pay so that more of our regular working hours can be devoted to assembly."

Dan, who hopes someday to become a sales engineer, came up with the idea of merchandising his firm's shadow boxes through established retail outlets, got permission for salesmen to market them in a large chain grocery. Now he has worked out an arrangement with Fort Wayne's leading department store to act as dealer for the product. Wood company's wholesale price to the store will be one-third less than retail. "Ours isn't a demand product," Dan said. "People won't buy it on the run. But sales have been good, just the same." Dan's ready grasp of problems facing IH salesmen was understandable.

The companies regularly operate two hours per week, pay wages according to

rates agreed upon by all employees and based on their estimate of ability to pay. Of the two, Plast-O-Matic wage rates are higher (by 5 cents per hour). More conservative, Wood company officials say they set lower rates to help insure share owner 10% dividend and give each employee a year-end bonus.

Two years old in Fort Wayne, Junior Achievement Incorporated now has 26 companies in operation sponsored by 17 different business and industrial firms. More than 400 high-school students man the 26 companies whose current stock issue is well in excess of 6,000 shares. Harvester operations in Fort Wayne have supported JA activities both years.



A POWERFUL new Farmall coars into view to cap 30 years of leadership in the tractor industry.

The story
behind
a model change

NEW TRACTORS NEW CONCEPTS



AUTOMOBILE OWNERS, for weeks now, have been hearing about wrap-around windshields, new styling and increased horsepower on 1955 car models. At the same time, those car owners who are also tractor owners have been getting their first introduction to a new line of Farmall tractors. The coincidence calls attention to contrasts in model change problems in the two industries.

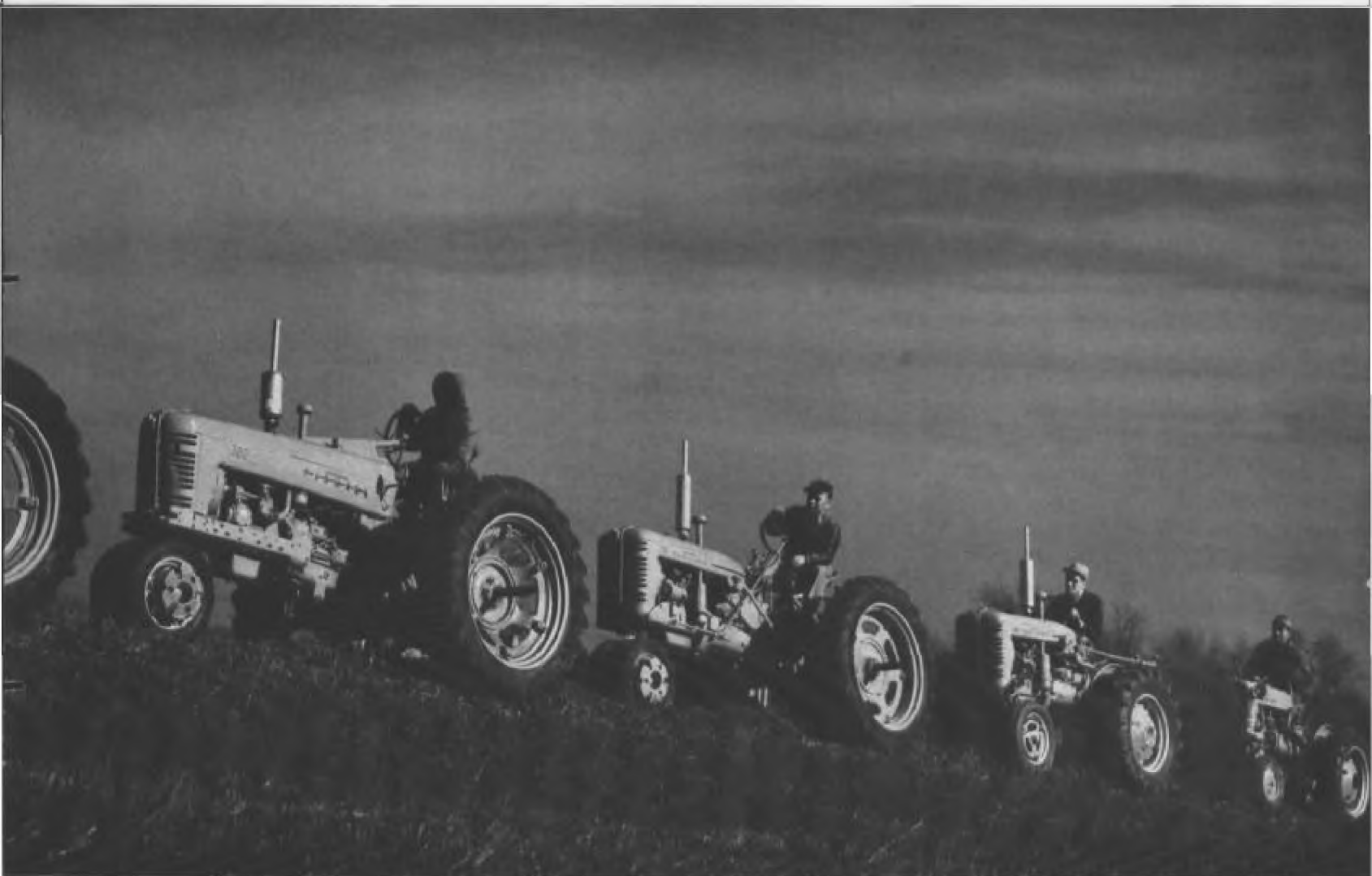
Car owners have come to share the foregone conclusion that a new model strays new only a few months. Less than a year after most new cars are purchased, a com-

plete new line, hailed as the best ever, outdates them. The tractor owner is also getting used to quicker changes. But the appearance of new tractor models has been less regular and less frequent than in the automotive industry. This is partly because the same man who will buy a new car for its heavier chrome trim or sleeker lines will not trade in his old tractor for the same reasons—and those reasons alone.

The man who buys a tractor is out, first, to buy a power plant. It's the same thing he used to get in a crew of hired hands and a stable of work horses. But by 1900 he had

farm tools which were beginning to outstrip the power of men and animals to operate them. During World War I the horse faltered openly as a source of power for farm work before the world's increased demand for food. In addition, farm manpower, which had been declining for years, was even more severely drained by the war. Generally speaking, the only mechanical power available to farmers up to that time appeared in the form of huge, ungainly tractors, built along the lines of the steam traction engine and suited only for field crop operations on the largest acreages.

1970: New Farmalls—400, 300, 200, 100 and Cub—present a solid front of power. The top-of-the-line 400 has 51 belt and 45 drawbar horsepower.



The need for practical mechanical power in agriculture was never greater than it was in 1924, when the first Farmall tractor was sold.

The world's first successful all-purpose tractor, the Farmall revolutionized farm methods. Its light weight gave farmers a power advantage they had never known before. For the first time, they had mechanical power for row-crop work, power they could maneuver in any field, power that wouldn't bog down. For the first time, horses and mules were on their way to permanent pasture so far as farm work was concerned.

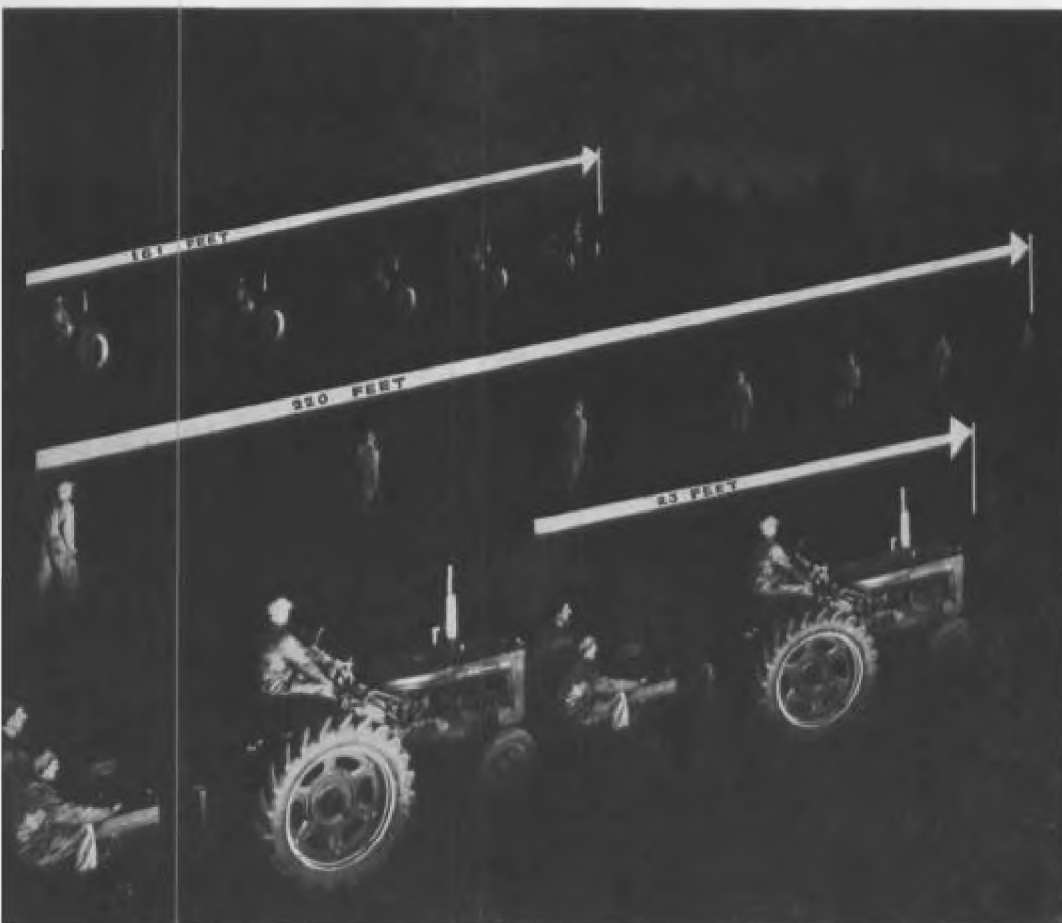
An antique by present standards, the 1924 Farmall still bears a striking resemblance to tractors of today. Its high rear drive wheels, arched rear axle for crop clearance and small front wheels set close together for row-crop work are the basic design of most farm tractors on the market today.

But basic design was not the only durable feature of the Farmall. Farmers found the tractor just wouldn't wear out. The first Farmall sold will still do all the work it did when it was new. And passing years have proved this true not only of the Farmall line

but of tractors, generally. This has set the direction—as well as tempo—of 30 years of change. The only tractor that would sell was one that would *outwork* its predecessors.

So it isn't surprising that lines and general shape of the Farmall have remained constant enough to make its silhouette as much a trademark as its name. Changes in its outline have come only when they would aid the tractor's ability to work. Most radical change in the Farmall look appeared in 1939 when engineers dropped the weight of its former heavy frame and slimmed the tractor down to its crankshaft

ONE-MINUTE CAMERA EXPOSURE tells the story of new Hydra-Creeper attachment available with Farmall 200. During 60-second period, the 200 with Creeper in operation (foreground) travels only 23 feet while man walking at normal gait covers 220 feet and Farmall 400 in low gear goes 161 feet. Creeper provides slow speed necessary for transplanting without stallouts or power loss.



Slowest tractor ever built

Tractors don't break records for high speeds. Most farm work requires comparatively low speeds—low, that is, by jet age standards. And some jobs—like transplanting tobacco, vegetables and flower bulbs—must be done at a snail's pace. So tobacco farmers and nurserymen have been needing a tractor that would barely move along without losing power and stalling out. This need for slower than slow motion gets its answer from Farmall in the form of a new tractor attachment called Hydra-Creeper. Available with the new Farmall 200, the unit uses the tractor's hydraulic pump to drive a hydraulic motor. This, in turn, drives the tractor's rear wheels through the power take-off shaft. Using Hydra-Creeper, the farmer gets full horsepower at speeds as low as 23 feet per minute, about one-twelfth the normal walking speed of a man. Hydra-Creeper is another example of increased power flexibility offered by Farmall.

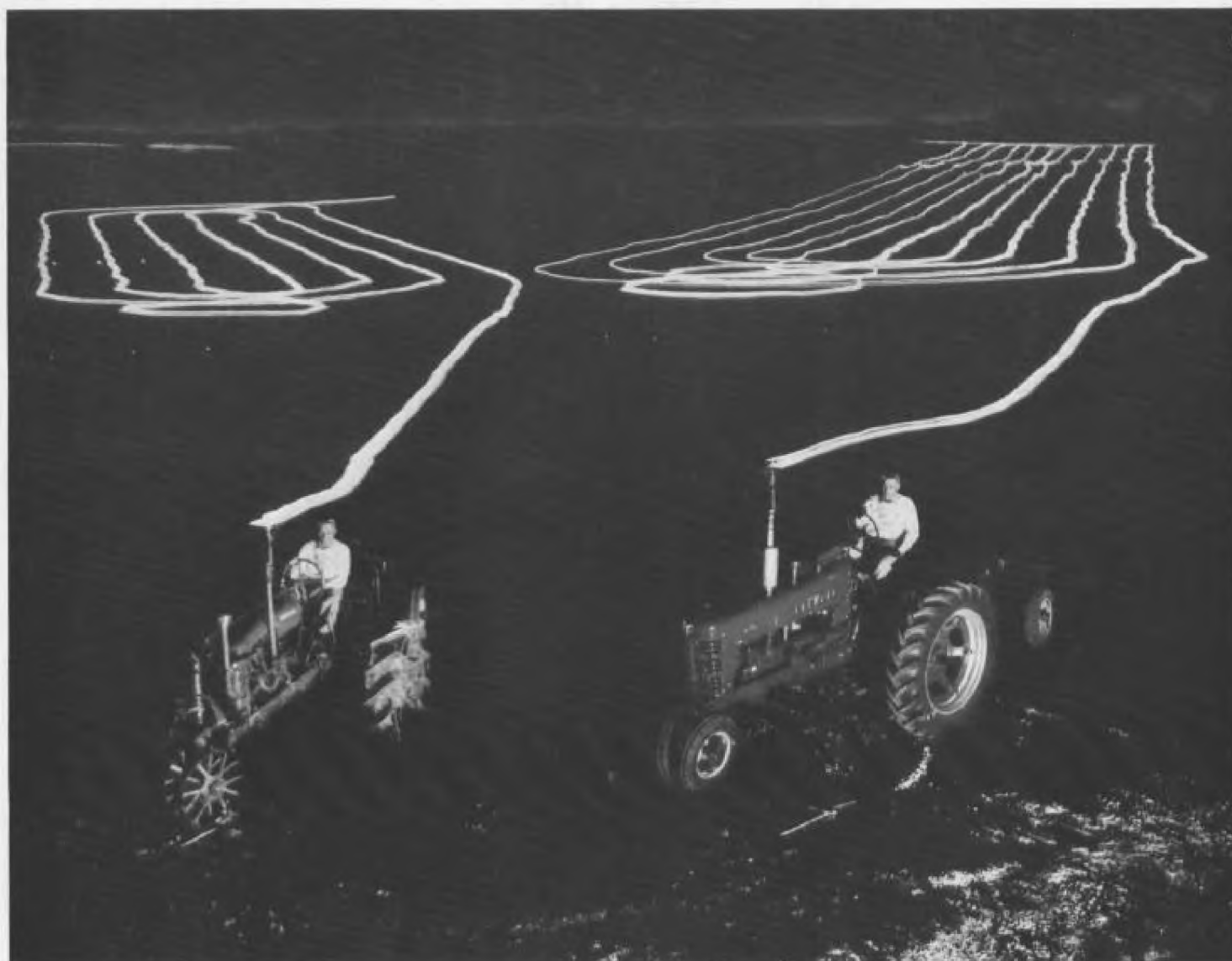
housing as the main structural member. The change provided better use of power through decreased weight, cleaned up the tractor's lines. In defining the crankshaft, it also expressed the Farmall's power in its appearance.

The '30s also saw the beginning of size variation in the Farmall line. One, two and three plow models were available in 1933. And when the streamlined Farmall appeared in 1939, it offered four sizes—A, B, H and M, in ascending order—for the farmer's selection. So the Farmall line became tailored to acreage and the farmer's special needs. The Farmall Cub, on sale for the first time in 1947, provided a fifth variation in size, aimed at part-time and truck farmers.

At the climax of 30 years of leadership in the farm implement industry, the 1955 line of Farmalls supplies more power for work, more kinds of power and better control of it than farmers have ever had. Power to pull and push, belt power and power take-off to run the mechanism of implements, hydraulic power to control them—all are improved in Harvester's new line of tractors. And to the new Farmall, IH has added a fifth power: electricity, generated from the tractor engine to operate implements, power portable tools and even light a farmhouse in case of emergency.

FROM POWER to aid the farmer in his work, it was only a step to the idea of making it easier for the operator to use that power. For example, in the new Farmall, simply by flipping a convenient lever the operator can (1) decrease speed and increase pull power when hard spots in the soil demand it, (2) sink a plow in the ground to desired depth, (3) lift a corn planter or cultivator and carry it while turning at the end of a row, (4) run the mechanism of a hay baler, corn picker or harvester-thresher, (5) lift 1,840 pounds to a height of 10 feet. Back break has largely disappeared from farming. Moderate finger exercise has replaced it.

Today's Farmall farmer can also hitch or switch attached implements without leaving the seat of the tractor. He can steer with little effort. He can reach all controls without bending or stretching, and one glance can take in all gauge readings, day or night. He can stand or sit at the wheel more comfortably, start the engine with the turn of a key. He can even light a cigarette without



TRACED IN LIGHT, the plowing pattern of a Farmall 400 is three and one-quarter times the size of the pattern made by a 1924 Farmall in the same length of time.

a match. The dinner bell is about all there is to call him from the tractor platform.

Tractor appearance is coming in for its share of attention, too. Without sacrificing its distinctive cur-of-jib, the new Farmall makes a better appearance with new lines, stainless steel emblems instead of decals, and a new grille which carries the family relationship through the five models.

Growing emphasis on comfort and convenience for the driver and on styling and general appearance could make tractor model changes more frequent in the future. Still, the tractor's special purpose must

continue to set some limits on change—as it has in the past. Tractors are built, first, for work. And they can't work alone. They must have implements designed and built to use their power. Since it takes a real improvement in this ability to work to make a wholly new tractor, an equally big change is required in implement attachments to make fullest use of the tractor. This is an obstacle for the customer as well as the engineer.

But in spite of such obstacles and limitations, the Farmall's future is certain to follow a course of continuing change and improvement. Increasing population means

more mouths to feed, assures the farmer of a growing market. Census figures also show that farms and farmers are becoming steadily less numerous while acreage under production is increasing. More work and less manpower adds up to this: the farmer must continue to demand and use all the mechanical power available. His major crops require a high degree of mechanization. And the farmer himself—well-educated and efficiency-minded—is certain to welcome tractor improvements which will help him to earn better profits and provide him with additional leisure to lead a better life.

From the cold face of a New England mountain,
men and machines extract

Photos by
JOHN LEWIS STAGE

THAT OLD WHITE MAGIC

THERE IS AN OLD, and probably true, story of how Charlemagne, King of the Franks from 768 to 814 A.D., averted a war by means of a magic tablecloth.

The Saracen hordes were threatening an invasion of his empire when the King invited his enemies to a peace conference. A huge banquet was prepared to welcome the ambassadors from Arabia. Upon completion of the feasting, Charlemagne took the tablecloth, stained with wine and grease, and cast it into a roaring fireplace. The bearded envoys were idly amused at this wanton destruction of valuable cloth by the obviously rich king. But a few minutes later, when Charlemagne withdrew the tablecloth from the fire, cleansed of its stains but unharmed by the flames, their amusement turned to fear. They returned to their ruler and advised him to avoid war with a king who could summon to his aid the powers of magic.

The tablecloth, of course, had been woven of rare asbestos. Asbestos is actually a rock, but with an unusual fibrous structure that allows it to be handled like the more common textiles of wool, cotton or silk. Being a mineral instead of vegetable or



PILED HIGH with burlap bags of cottonlike asbestos, blue Internationals roll past a wintry Vermont landscape. Nation's richest asbestos deposit is in rugged Belvidere mountain in northern Vermont.

VERMONT ASBESTOS, "The Silk of the Mineral Kingdom," is a physical paradox, being both fibrous and crystalline. Known as "slip fiber," asbestos is found in green serpentine rock.



THIS ONE mill, running 24 hours a day at the base of Belvidere mountain in northern Vermont, produces most of the asbestos used in the U. S. As daylight breaks on a January morning, the temperature is 34 degrees below zero.



BY NOON, the warmest part of the day, the thermometer reads an even zero.



animal, asbestos is not harmed by fire, water or acid.

Scattered through history are stories of this wonderful fiber. The Romans used it for funeral garments of kings, so that at cremation the ashes of the royalty would not be lost in the ashes of the fire. The Greeks used the material for wicks in the lamps that burned "eternally" in their temples. Marco Polo writes of seeing textiles that resisted fire while traveling through Siberia.

The early history of asbestos, when it was rare and commonly thought to be magic, ends in 1887 when huge deposits were discovered near Thetford and Coleraine, in the Province of Quebec. Five years later, in 1892, a woodsman's ax skidded off a log, split a rock, and another important deposit was discovered on rugged Belvidere moun-

tain near the village of Hyde Park in northern Vermont. A mine was opened, but production of asbestos was small until the late 1930s, when the Ruberoid company took over the holdings.

In the late 1940s, a new, much richer deposit was found on the south side of the mountain. Heavy-duty trucks, bulldozers and giant power shovels were brought in to core out the ore and transport it to the world's most modern efficient asbestos mill, which was being built on the site. This mill, designed and built by the mining engineers, contains so many revolutionary ideas of ore separation that the Ruberoid company prohibits interior photography of the mill itself. This one mill, working 24 hours a day in the heat of summer and biting 30-degree-below-zero temperatures of Vermont's winter, turns out a high per-

centage of all U. S. asbestos production.

The official record of low temperature in this rugged Vermont mountain country, just 20 miles below the Canadian border, is 54 degrees below zero. Average winters bring temperatures of 35 degrees below, with four to five feet of snow on the level. But the work goes on at Belvidere mountain. Blue International trucks, piled high with butlap bags of cottonlike asbestos, follow the fence line that marks the roads into town and the warehouse. Four Internationals, with school bus bodies, roam the sparsely settled countryside within a 15-mile radius, bringing in workers from the little settlements and isolated farmhouses. Bulldozers work the quarry. A road-grader, powered with an International engine, fights to keep the drifting snow back off the roads. A little red TD-6 grinds through

THAT OLD WHITE MAGIC

HIGH UP above the face of the quarry on the side of Belvidere mountain, John K. Stewart, mining engineer, supervises the loading of a charge.



STUNG OUT along the pattern of holes drilled for the blast, the crew loads the explosive and strings Primacord. Each blast is carefully planned to bring down the most ore per pound of explosive, and leave a high, straight, workable face.



TWENTY-TWO thousand pounds of high explosive dislodge some 100,000 tons of ore. Rock and pipe blow 500 feet into the air, and even at the camera position some 3,000 feet away, smaller particles thudded into the snow.

the bush of the mountain, pulling snow sleds loaded with drilling equipment.

It is laborious and cold work, a fit challenge for tough Vermont men and rugged equipment. Ham Kinney, maintenance foreman, who supervises all motor maintenance for the mine, likes to talk about the winters, when, he says, "even the ice feels warm to the touch."

"Metal, rubber and liquids do strange and unexpected things at those temperatures. A machined part, built to stand a certain stress at normal winter temperatures, may unexpectedly shear at one-tenth the load when it is 30 degrees colder. Experience is the best teacher, and I've been working with Internationals for 17 years. All trucks are cold-blooded when it's January in Vermont, but when we get those Internationals going down the road, they just go and go.

"Consequently, we do the obvious and simple thing—we keep our trucks moving 24 hours a day, some 1,940 miles a week. Because they don't get a chance to really cool off, we use plain old alcohol in the radiators and 30-weight oil both summer and winter."

ASBESTOS, with its fibrous, crystalline structure, is found in serpentine rock—a heavy, dark-green, mottled rock that is quite common but generally useless. Here and there, however, the mysterious subsurface cycles of heat, pressure, cooling and time have combined in the right proportions to convert serpentine into a fibrous





THE ROADWAY between young mountains of crushed ore and waste is kept open of drifting snow by an International-powered road grader.

BETWEEN SHIFTS an International school bus is gassed up. Buses are used to bring in mine and mill workers from the sparsely settled countryside.



CALVIN WESTOVER, truck driver, finds the snow an exciting challenge to his driving skills, likes to tell of times he by-passed drifted roads by driving across windswept pastures.



LEAVING THE MILL at the base of Belvidere mountain, an International L-170, loaded with butlap bags of asbestos, heads for town and warehouse. Each truck makes three round trips per shift.



ACROSS THE snow-covered, wind-swept Vermont landscape the Internationals of Rubetoid roll with their loads of asbestos.



THAT OLD WHITE MAGIC

MORGAN POTTER, assistant mine manager, is a top executive, but comes to work in heavy woodsman clothing.



A T-6 hauls drilling equipment for exploration party through the brush.



LEWIS JORDAN uses a magnetometer to locate ore bodies below the surface. Geologist Jordan spends most of his time out in the bush, using snowshoes to tramp over the five-foot snow.



structure—asbestos. Fiber lengths vary from extremely short to some 12 inches. The longer fibers are rare and most valuable, for they can easily be spun into yarn and then into cloth. The other grades are used in such products as asbestos electrical insulation, shingles, asbestos paper, cement, tile and a host of office building materials.

Vermont asbestos comes from large open quarries. The rock is blasted off the face of Belvidere mountain with charges that con-

tain as much as 22,000 pounds of explosives. Gigantic power shovels load the ore into trucks that transport the ore to the crusher. Dried in large kilns, the ore in successive operations is crushed smaller and smaller, each time passing under a powerful suction hood much like a vacuum cleaner, which picks up the asbestos fibers loosened by the crushing.

Asbestos, rare and almost priceless just a few decades ago, is now within the eco-

nomie reach of everyday America. There are, however, still many uses for the material that have not been discovered or exploited. Indestructible paper, for example, has long been the dream of those who would preserve old documents and valuable records for posterity. For several years, an asbestos paper that easily passes the hottest flame tests has been in existence but, unfortunately, all the available inks burn away, leaving the sheets blank.



SHOW BUSINESS and big business are no longer worlds apart. In more and more cases they are working hand in glove.

A manufacturing firm with a new line of products to sell begins the effort by whipping up enthusiasm among its sales organization. And it does it with showmanship.

In 1953, U. S. industry spent an estimated three billion dollars on sales meetings and conventions. In some 20,000 instances, professionals were called in to plan, produce or direct the shows.

Industry shows may not be as lavish as Broadway productions—though some of them are—but they are as polished and as smartly paced. Entertainment and "hard sell" are expertly interwoven.

During the 1954 calendar year, International Harvester brought out new industrial power products, a new refrigeration line and a new farm tractor line. To fire up its selling force, it went to the footlights each time with a professional presentation.

Mountain peaks in Arizona provided a breath-taking backdrop for the industrial

A new brand of show business

INDUSTRY IN THE FOOTLIGHTS



PAY-OFF for the long rehearsal hours: a smooch Chicago show. Some 300 Harvester men from Central and Northwest regions assembled to preview 1955 refrigeration line. Subsequent shows were held in other cities.



THE TEAM of DeBetti (above) and Coty produced and directed four IH shows during 1954, including the huge industrial power roundup on the Arizona desert last March.



SHOW GIRLS Toni Thurston and Hilda Henke contributed beauty and sparkle. Non-pros in the cast were IH refrigeration sales executives.



AS REHEARSALS proceed, the salesmen-turned-actors warm up to the jobs . . . but Rehearsal Director John Dexter keeps pleading for more fire.



ACTOR'S-EYE VIEW of rehearsal audience. Seated at table with opened script is Rehearsal Director Alan Fishburn. Regional refrigerator spokesman in background awaits his turn on platform.

TOP: A SERIOUS-MINDED young executive gets his first look at refrigeration script, discovers for the first time what he's in for. CENTER: Memorizing scripts proved to be difficult job; most of the men became adept at improvising.



THE MERITS of Harvester's year 'round air conditioner—which heats as well as cools—receive an inspired reading here. Skits and musical parodies were also used.



HIS OWN REHEARSAL struggle behind him, this fellow enjoyed watching others squirm. Sales executives from each IH region were recruited to extoll the 1955 freezer, refrigerator and air conditioner lines.

PROS IN THE CAST took the dress rehearsal songs in stride; the businessmen found them discouraging. Dress rehearsal was first occasion when all the elements of the show were pieced together.



NEW LYRICS, written to college fight songs, get show off to a biting, spirited start. Girls had to learn nearly forty college songs, including parodies.

power roundup in March. Spacious armories in selected U. S. cities provided arena space for the Farmall tractor show in December. Hotel ballrooms in Chicago, New York, Boca Raton, St. Louis and Los Angeles housed the refrigeration show in November.

To capture the heartaches and the humor of an industrial show in the making, Photographer Harry Williams was on hand in late October as Harvester's refrigeration presentation took shape. IH had assembled a hybrid cast, partly professional, partly amateur. The amateurs were Harvester sales executives for the most part, long on enthusiasm but short on stage experience. Welding the pros and the non-pros into a cohesive unit, in seven days' time, was the task confronting Executive Producer Curt Dechert and Producer-Director Arnold Cory on Monday morning, October 25. The accompanying photos record their progress.



TO DRAMATIZE salient features of new refrigeration line, theatrical devices were used wherever possible. Water was added to prove refrigerator door was airtight. Duck was added for laughs.

PRODUCT SPECIALIST Ben Derr was one executive who didn't need dramatic training. He preached product with a thrilling bell-ring.



FAST-PACED SING, by the girls directs attention to virtues of air conditioner as illustrated on chart. Fast tempo keeps businessman jumping to finger each slogan on cue.



BROOKS MCCORMICK (left) is new IH director of manufacturing. His career with company includes varied U. S. experience in both manufacturing and sales. He has returned to parent company after serving as top executive of British subsidiary since 1952.

NEW DIRECTOR of IH foreign operations, Charles D. Roice (below) was formerly president of Canadian subsidiary. With Harvester since 1924, Roice is veteran of U. S. sales and IH foreign manufacturing operations. Previous overseas service included executive posts in Australia, Europe.



new responsibilities for McCormick, Roice

MAJOR CHANGES in International Harvester's executive organization have brought Brooks McCormick and Charles D. Roice back to the General Office in Chicago. Both men returned from outstanding service with the company outside the United States. In addition to new and heavier responsibilities, the changes involved an ocean voyage for both men and a return to the scene of previous positions with IH.

Brooks McCormick, managing director of International Harvester Company of Great Britain, Ltd., since 1952, came back to become director of manufacturing for the parent company in the U. S. Among his first duties was a program of visitation to several U. S. plants where he had formerly held a variety of positions. Charles D. Roice, in his new position as director of foreign operations, returned after four years in which he served as senior vice president and then president of International Harvester Company of Canada, Ltd. Among his first duties was a tour of IH European operations

where he had previously served as assistant director general and, in Great Britain, as managing director. Roice's new responsibilities cover all of Harvester's world-wide foreign operations.

In the places they revisited, both men found conditions greatly changed. When McCormick left for England in August 1951, IH business was running at the highest level in history. For the first time, sales volume was passing the billion-dollar mark. Product demand, employment and production were near an all-time peak. It was to a considerably different set of circumstances that McCormick returned in 1954. IH production and employment had undergone curtailment, sales volume was lower, salesmen faced a tougher test before livelier competition. But new product development held out great hope for early improvement in the situation. And in the few weeks since McCormick's return, these new products—paced by a new line of Farmall tractors—have already begun to

find a market and to restore many IH plants to a rising level of activity.

When he returned to Europe after a five-year absence, Roice, on the other hand, walked into a scene which, in some respects, looked like a boom. He had been there last in 1949 at the end of a four-year tour of duty when the postwar rehabilitation and expansion of IH European facilities was getting under way. On his return trip, he found a stronger economy and growing abundance which contrasted sharply with the situation in 1949, when even such necessities as food and fuel were in short supply in some countries. In Germany, France, Sweden and England, Roice found new or modernized IH factories. Production and employment were much higher than he had known them before. Harvester's investment in Europe had been doubled, sales volume had increased by \$26,000,000 annually. New confidence and enthusiasm were much in evidence in the Europe of 1954 to which Roice returned.

DURING WINTER months, Colorado A & M crews measure the depth of snow in the mountains and check the moisture content. The two factors help to forecast the agricultural story for the following summer. BELOW: Nerve center for Colorado's agriculture activities is the Ag. building on the Fort Collins campus.

CAMPUS IN THE ROCKIES

To serve its rural constituents,
Colorado A & M must cope with
plains, peaks and brawling rivers

COLORADO, THE 38TH STATE, is the Centennial State. It was admitted to the Union on the one hundredth anniversary of the signing of the Declaration of Independence. But before statehood was granted, members of the territorial legislature made provision for a land-grant college.

Those early legislators respected the plains, the crags and the mountain peaks. They appreciated that, while the topography and geography were romantic and overpowering, they could present agricultural problems as stubborn and defiant as a grizzly bear.

The state straddles the Continental Divide. Within its borders are 51 Rocky Mountain peaks exceeding 14,000 feet. More than 1,500 peaks are higher than 10,000 feet. In the spring, melting snow trickles down the mountainsides. The waterfall begins in tiny streams that sometimes grow into brawling rivers. On some of the lower mountains are high-altitude growing areas. In many valleys, natural or

AS IS the case on many campuses, the steps of the Union Building at Colorado A & M are a popular point of rendezvous. Modern structure houses dining and recreational facilities.

By MERCEDES J. HURST Photos by KOSTI RUOHOMAA—Black Star

ON A BRIGHT November day, International Harvester equipment moves across a college farm field, helping to prepare the soil for next year's crops.



A & M's newly developed grass seeder can be used for reseeding abandoned cropland and renovating depleted rangelands. R. D. Barmington (right) is acting head of Mechanical Engineering.

man-made lakes catch and store some of the coveted water supply.

Even though 250 valuable minerals have been found in Colorado's depths, one of the great underground wealths of the state today is its water supply to help grow alfalfa, wheat, fruits, vegetables, sugar beets and grass.

Serving every growing area in the state is Colorado's Agriculture and Mechanical college, the land-grant school for which provision was made by the territorial legislature. It is the pulse of agriculture in Colorado.

Ordinarily Ft. Collins, about 60 miles north of Denver, is considered the home of Colorado A & M. The 160-acre campus there does house the administrative offices, most of the classrooms and some of the laboratories, but by no means does the Ft. Collins campus cover the work done by the school. The school owns approximately 11,000 acres throughout the state. It maintains four experimental areas and seven branch stations, each representing unique growing and moisture conditions. Some of them are across the mountains far from Ft. Collins. Through these outlying stations Colorado A & M is constantly in touch with growing areas whether they are in the plains or at an altitude of 8,000 feet. They know the crops whether they be fruits, grains, or grazing lands for the tremendous herds of sheep and cattle. Through its Extension Service, Colorado A & M meets with rural people in every area. Research then steps in to wrestle with any problems brought to light at these meetings. In the classrooms the future agricultural leaders learn from current field studies as well as from textbooks.

High peaks of the Rockies form a backdrop to the Ft. Collins campus, while the foothills extend almost to the back doors of classrooms. In the near foothills is Horsetooth Reservoir, a man-made lake six miles long. Two miles further back and higher are 1,670 college acres used for an Animal Husbandry Range, a Forestry and Range Management Reseeding Range. Streets leading from the front campus vein out through the Cache la Poudre valley and lead to other college-owned experimental farms and the great eastern plains.

COLORADO'S scientific approach to agricultural problems has benefited individual farmers and ranchers as well as the economy

of the state. The school has attained international recognition.

Students from 41 states, the District of Columbia, two territories and 23 foreign countries are registered. This year's enrollment approaches 4,000. President W. E. Morgan points out that because of the rapid growth of the school, noontime and evening classes may have to be held in the near future to accommodate the students.

The diversity of Colorado's agriculture, the growing demand for research, and a rapidly expanding student body are today's major problems at Colorado A and M. The college has taken a leading role in the past development of the state. Its future role may well be determined by appropriations granted for expansion in line with its increased responsibilities.

According to the president, much of the future of Colorado's agriculture depends upon improvement of crops and livestock and the advancement of the engineering and mechanical skills in rural areas.

Take irrigation. Today, nearly five percent of the total area is under irrigation. And it has been estimated that income from Colorado's irrigated lands could be doubled if participating farmers would apply the most practical practices now available.

Two of the secrets for the success of irrigation are the amount of water available and its intelligent use. The snow-capped mountains pretty much control the supply for both surface and ground waters. Men look to the mountains in the fall, hoping for an early and abundant and moist snow. The school works with government agencies throughout the winter, measuring the depth of the snow of the mountains and ascertaining its moisture content. These two factors foretell much of the agricultural story for the following summer.

While nature governs the amount of moisture, Colorado A & M and government bodies direct its intelligent use. And the amount of water may not be as important as the time of its availability for crop production. As a means of storing water for drouth periods, artificial lakes and dams have been built in plateau areas. The Big Thompson Dam project has made much greater water supplies available to areas previously too dry. It catches water on the western side of the Continental Divide and tunnels it through miles of granite mountains to the thirsty eastern plains.

Irrigation studies at Colorado A & M reach into many departments of the college.



COLORADO A & M's president, Dr. W. E. Morgan, believes that the responsibility for meeting the cost of educating the current generation of young people falls on the present generation of adults.



WHILE THE office of Dr. S. S. Wheeler, dean of the agricultural college is a busy one, the Dean is likely to be found at the feed pens on an experimental farm or counseling with college or industrial leaders.



TWO OF Colorado's highly respected agricultural leaders are Mrs. Clara Anderson, state home demonstration agent, and J. E. Morrison, director of extension.



THE HYDRAULIC laboratory, where irrigation devices are developed and tested, is a natural backdrop for W. E. Code, associate engineer, and D. F. Peterson of Irrigation Engineering.

HORSEPLAY at Colorado A & M is literally that. Polo, the sport of kings, is also the pastime of many of the students, a number of whom bring their own ponies to school.



SMALL WOODEN horses serve as miniature models for pack outfitting. In an area where riding the trails is a popular pastime and a tourist attraction, the pack is important. Colorado A & M even has a course for dude ranchers.

CAMPUS IN THE ROCKIES

TYPICAL EXAMPLE of expansion on Ft. Collins campus is Green Hall, the men's dormitory. Building was financed on a self-liquidating basis without cost to state.



SUGAR BEETS comprise another big source of income to Colorado farmers. After the sugar has been extracted, sugar beet tops and the beet pulp make good cattle rations. Below: harvest on the Baca Grant farm.



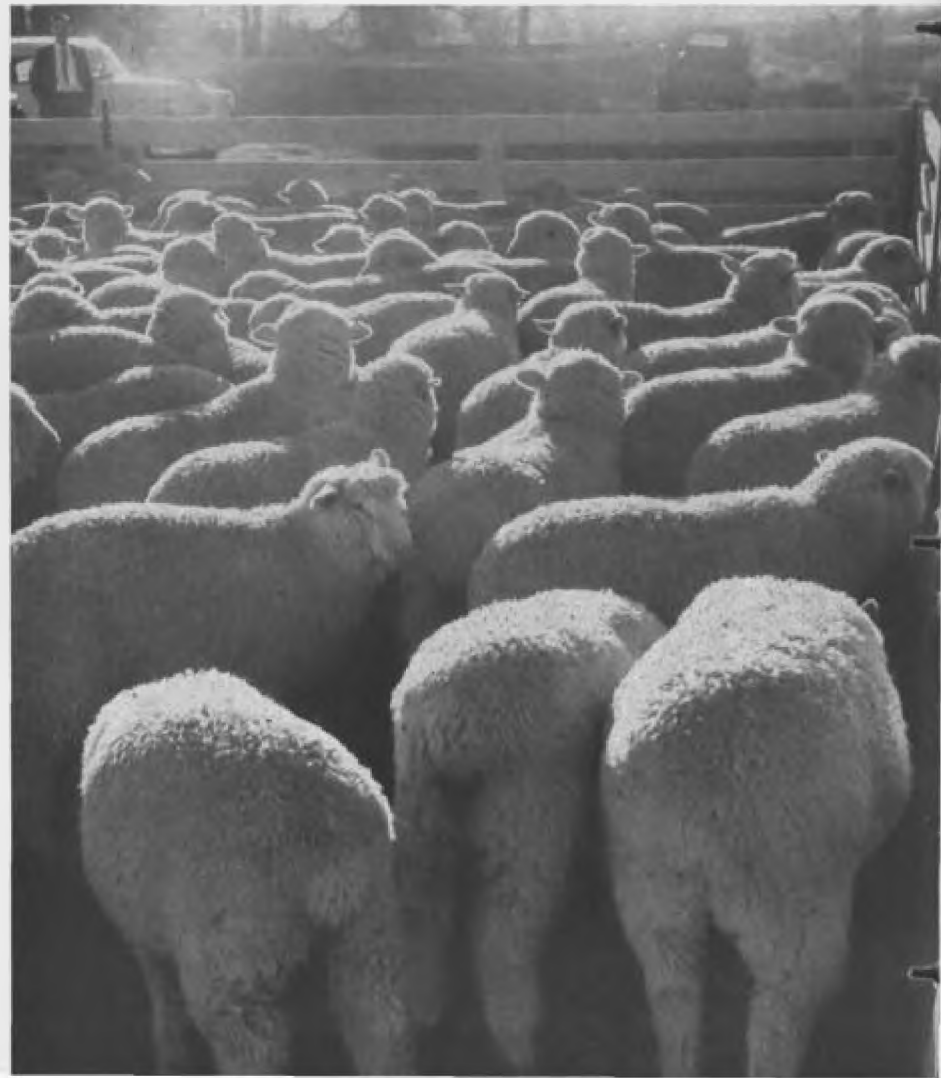
IN COLORADO, as elsewhere, square dancing retains its age-old appeal. Swinging out in their calicos and silks are merry members of the Haylofters club.



STOCK PRIZE OF cattle and sheep are a familiar sight on the campus of Colorado A & M and throughout the state. A standing sun backlights the woolly outlines of a college flock.



THE CATTLE areas are pretty much a man's world, but not entirely. Goats like Marilyn Kay Rice, a freshman from Anderson, Indiana, perform as credibly as their male classmates.



WENDEL MYLLIS Malander and Bobby Kirschbaum watch, Miss Norma Walker, acting head of the Department of Art in the School of Home Economics, adjusts threads on a loom.



TYPICAL OF A & M's efforts to cope with nature is this high-altitude test kitchen in the School of Home Economics. It is a unique laboratory among U. S. colleges and universities.



IN THE FRIGID Oval on the campus, the R. O. T. C. drills under the watchful eye of Major MacGovern. The school also has an R. O. T. C. Air Force unit.



What types of beets, alfalfa, wheat, grasses and other plantings will sprout and grow best before the dry season comes? Which types can be harvested earliest? Can better types be developed? Which crops better conserve soil? Which crops should, or should not, be planted in specific areas? These questions and others are closely allied with irrigation.

To get the important livestock story, we wanted first to see Dr. S. S. Wheeler, dean of the college and director of the experiment stations. It is difficult to find the Dean "at home" in his office. He's on the go constantly, meeting with ranchers, farmers and research groups.

In response to one of our phone calls, his secretary told us that the Dean had just left for the feed pens on one of the college's farms. That's where we found him, leaning against a fence, looking at a flock of sheep that had just been brought from the grazing plains for winter feeding.

Dean Wheeler explained that livestock and livestock products are the greatest source of agricultural income in the state. In 1952 they amounted to \$355 million dollars. The college reckons with the breeding, the feeding and the care of the tremendous cattle and sheep herds. It works in every phase of animal husbandry. Naturally, it is interested in grazing grasses and the winter feeds. It has made exhaustive studies on the locally produced crops as livestock feed. These studies have brought additional

wealth to Colorado's farmers. The illustration Dean Wheeler used was sugar beets. Now, not only the beet tops but also the pulp that remains after the sugar has been extracted make good rations.

Recently a special research foundation was established by the Colorado's Cattle-men's Association, industrial organizations and stockmen in cooperation with the college. Annually it is expected to save thousands of dollars for Colorado's ranchers. The Foundation has been named in honor of Dr. Floyd Cross, dean of the School of Veterinary Medicine, for his services and those of the veterinary school to the state's livestock industry.

Not all of the school's veterinary work is research. An animal hospital provides care for sick animals and training for veterinary internes. Privately owned, as well as college animals, big or small, can get hospital care. As in hospitals for humans, case histories are taken, charts are kept in aluminum tablets, diet kitchens prepare special foods, drug rooms look like pharmacies, and one of the operating rooms has a glass-enclosed balcony. Only three things are missing in the animal hospital: no private rooms, no flowers and no visitors. Visitors disturb the patients, a resident physician told us.

Being a woman, I was interested in the college courses that did not pertain to cattle or sheep, or crops, even though some foods at the school are enrolled in those subjects.

Colorado A & M is the only college or university having a high-altitude test kitchen. Dr. Ferne Bowman, acting dean of the School of Home Economics, explained the simulated air pressures that can be created in the laboratory, and she gave us recipes for cooking at different altitudes. She showed us a chart which explained why Aunt Martha's wedding cake recipe that was such a hit in Chicago, Memphis or Atlanta would never work in high altitudes.

Nature made Colorado an unusual state. Colorado A & M provides broad programs to cope with nature.



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CAMPUS IN THE ROCKIES Story begins on page 19.



AT A & M's modern hospital for animals, a large patient is hoisted into position for emergency surgery. Privately owned, as well as college animals, can get hospital care.



WHILE STUDENTS watch from glass-enclosed balcony, college veterinarians prepare for an operation in the small-animal surgery section of the hospital.



IN MEDICAL school surroundings, future veterinarians listen to lectures. The animal hospital itself has many of the trappings and facilities usually reserved for hospitals for humans.

