

Johns-Manville
NEWS
PICTORIAL

OCTOBER 1, 1945

In This Issue:

"NOW IT CAN BE TOLD!"

Inside Facts and Pictures of the J-M Operated Kansas Ordnance Plant.

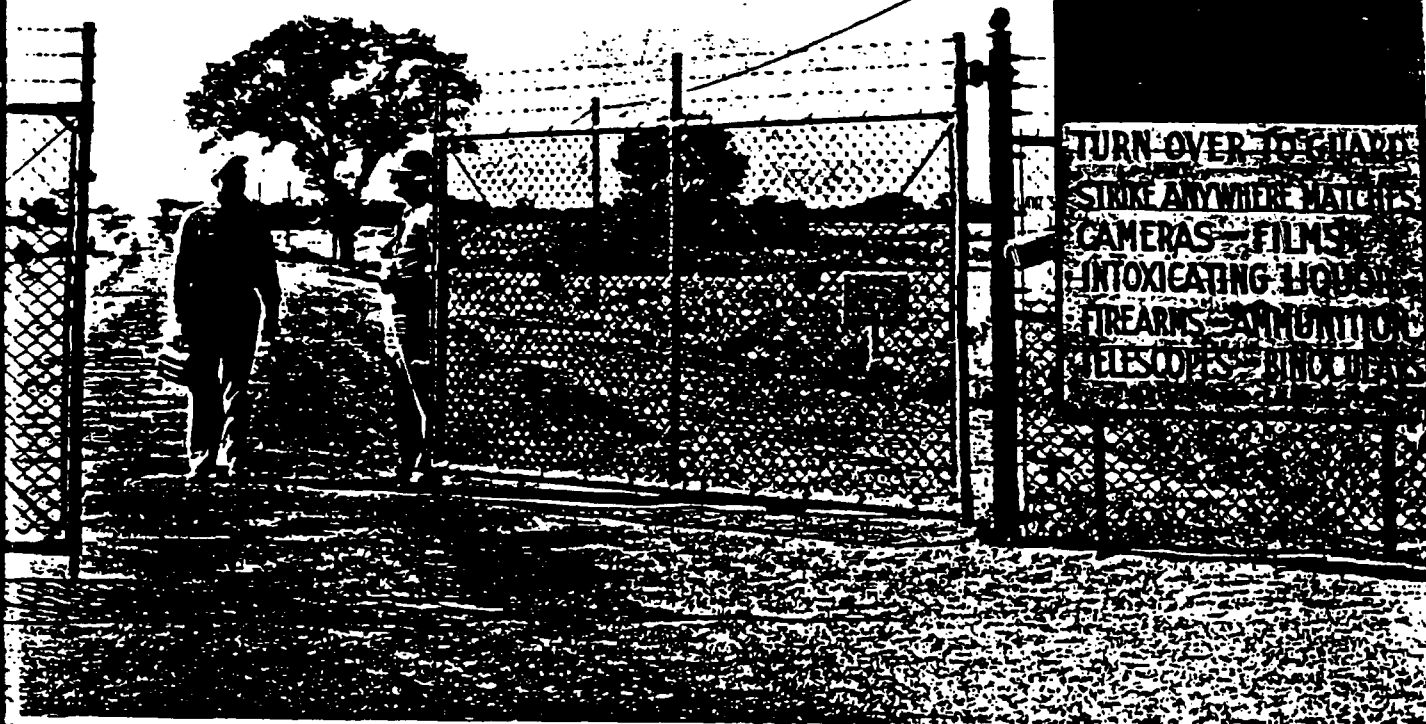
**JOURNEY'S END
AT KOP**

See Page 12

DEFENDANT'S
EXHIBIT

OF-36

PLAINTIFF'S
EXHIBIT
K-1467



"HOW JOHNS-MANVILLE WENT TO WAR"

Read The Story of J-M's War Participation, Beginning on Page 3 of This Issue

FAREWELL TO ARMS

In this issue, NEWS PICTORIAL, speaking for Johns-Manville, bids farewell to World War II.

We do not mean we shall forget the war nor the lessons it has taught. We will long remember the tragic mistakes that brought about this most terrible of conflicts and we shall never forget the lessons of cooperation which we learned while winning it. We will always remember and appreciate those gallant men and women of America who unselfishly sacrificed in order to win the final victory. Eternally we shall pay the fullest measure of honor and homage to the courageous Johns-Manville men who made the supreme sacrifice in order that our ideals, principles, and our way of living might endure.

Johns-Manville's war record, with respect to its war production, its home-front activities, and the achievements of its people in military service, is an enviable one. The major facts, figures, and high-spots of J-M's home-front war activities are set forth in this issue.

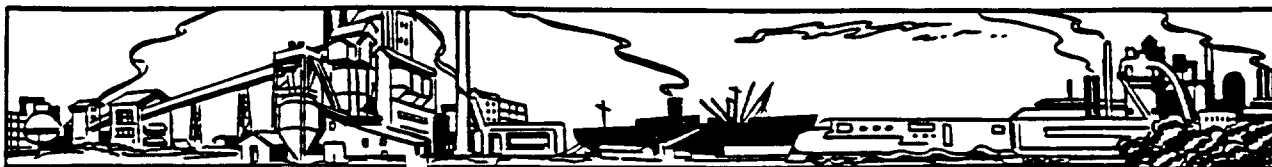
This issue then, is our farewell to World War II. There will be no expensive, gaudy books, or pamphlets published by Johns-Manville to pat itself on the back for its war job. There will be no gala banquets, parades, or any pomp and ceremony devoted to self-glorification for doing what was simply and plainly our patriotic duty.

The true, the complete, and the final story of the part which Johns-Manville and J-M men and women played in the war is written in the hearts and minds of all J-M people who served in the production lines and those who fought in the battle lines.

All of us had a job to do—and we did it.

Now with this issue of NEWS PICTORIAL, Johns-Manville says "Farewell To Arms." The war is over—and ahead of us lies another big job, an important part in achieving and assuring peace and prosperity in the years ahead.

HOW JOHNS-MANVILLE WENT TO WAR



Like a majority of American industries devoted to creating products for peace, Johns-Manville concentrated strictly on civilian markets after World War I passed into history.

J-M was still concentrating largely on peace-time production when the Jap sneak attack on Pearl Harbor literally blasted us into World War II. The miracle that took place in American industries from coast to coast came also to J-M. In a matter of days, Johns-Manville stood in the top brackets of manufacturers of implements of war.

If we at J-M had turned out guns, planes, and tanks it would have been easier to realize during the wearying war years how important our war contribution was. If we were directly engaged in the manufacture of weapons and explosives it would be easier to dramatize on these pages the vital part we played in making possible the final victory. Because of the nature of our business and our products, however, we of J-M were suppliers of parts and materials rather than manufacturers of war items in their final form. Nevertheless, few articles of war went into action for which Johns-Manville was not in some way responsible.

Clothing for the Fighting Man

Starting with the individual soldier or sailor, J-M supplied a variety of materials to the textile industry which enabled it to turn out the clothing necessary for our fighting men. In addition, our own textile facilities turned out special types of asbestos clothing for use by specialists in the fighting forces.



Next came the cantonments in which fighting men numbering 12,000,000 were housed during their training and while awaiting transport to the fighting fronts.

In addition to supplying building materials and roofing materials for barracks and other buildings on Army posts and Navy shore stations, Johns-Manville supplied Transite Pipe by the mile for the water supply systems. Tons of J-M products went into the heating systems and pumping systems at military installations. So, from the early days of the war, J-M contributed its share to the clothing and housing of Uncle Sam's fighting forces.

On the battlefield, either on land or sea, war is a thing of steel. Steel guns hurl steel projectiles at steel tanks. Steel is ships, tanks, guns, helmets, bayonets, propulsion machinery, boilers, planes, and practically everything else used in battle. Although J-M makes no steel, much of the steel production capacity of the United States is due in large part to the control of heat, and it is this control of heat to which J-M with its high temperature insulating materials contributed importantly. During World War I we could furnish insulating materials up to 1,000 degrees. In World War II our Supertex gave insulating protection for temperatures up to 1,900 degrees and our Insulating Refractory Brick up to 2,600 degrees.

J-M Products and Things of Steel

J-M materials which went in large quantities to the steel industry to help it produce for war were such items as Supertex, Insulating and Refractory Cements, Packings of all types including oil seals, valve stem and pump packings, and packing cups for presses. Other J-M products going to the steel industry were Refractory Cements for annealing furnaces, Built-Up Roofing, and Corrugated Transite to house building expansions. For the electrical needs of the steel industry we supplied Transite, Ebony, Trancell, Duxseal, Conduit, and Millboard. For cranes, hoists, car-dumpers and other such equipment we furnished various types of clutch facings and brake linings.

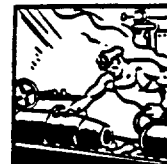
So—into every ton of the steel of battle went another important part of J-M's war contribution.

Not alone in the steel industry, but in many other industries, public buildings, and private residences, the control and saving of heat made possible by J-M insulating products played an important part in the nation's vital fuel conservation plan. It has been estimated that the heat economy made possible by J-M materials and industry alone was equal to 50 million tons of coal a year (about 8% of the country's output) or 390,000 barrels of oil a day.

The next big war activity in which Johns-Manville played an important role was the munitions industry. Anhydrous ammonia is the base of all munitions. There was not enough of this material actually for industrial requirements at the beginning of the war. The war made it imperative that many new plants for production of this important material be constructed immediately. Into their construction went a host of J-M products—both Building Materials and Power Products.

We Helped Increase Munitions Production

Similar demands for J-M materials were made for the construction of other plants making explosives or materials needed for the manufacture of explosives. Into smokeless powder plants went carloads of Corrugated Transite, Rock Cork, acid-proof flooring, Transite Pipe and all types of roofing. In TNT plants the demands were the same—these plants alone used nearly one and one-half million feet of Transite Pipe, one of the many J-M products in their construction.



In the nitroglycerine plants where we supplied a broad line of all products, one of the most interesting contributions resulted from the fact that nitroglycerine readily releases fumes. Consequently, buildings for its manufacture and storage have always been lined with sheet lead because this material did not absorb the fumes. The expansion of nitroglycerine plants, however, called for more sheet lead than could possibly be spared from more essential war uses. Johns-Manville went to work on the problem and developed a special board which proved satisfactory in its non-absorption of fumes. War production of powerful nitroglycerine went ahead, thanks to a J-M product.

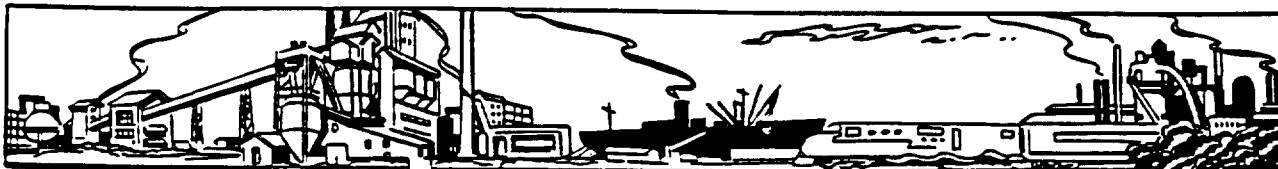
Another important J-M contribution to the munitions industry was the development of a special pump packing to be used in pumps used for concentrated acids used in the manufacture of high explosives. Ordinary packings when soaked with a concentrated nitric acid become explosive and have to be replaced frequently as well as shielded in the event they explode while the pump is running. By developing a special packing material, J-M eliminated the need both for frequent replacement and anti-explosion shields.

Our Part in the Atomic Bomb

A special article in NEWS PICTORIAL has already described, within the limits of censorship, Johns-Manville's part in the development and production of the atomic bomb. Briefly, we supplied carload quantities of building materials for the construction of the atomic bomb plants as well as large quantities of Power Products used in the actual bomb-producing process. Several hundred tons of standard Super-Cel filter powder were supplied to the "Manhattan Project." All in all, more than 40 different J-M products went into the atomic bomb project.



(Continued on next page)



HOW JOHNS-MANVILLE WENT TO WAR—Continued from page 3

J-M's 180 Destroyers



Johns-Manville's Transite Pipe, in a sense, supplied the U. S. Navy with 180 destroyers. It works out this way—were Transite Pipe in quantity not available, there would have been no choice but to use metal pipe. The metal needed to make this pipe for all installations where Transite was used would have been sufficient to build 180 destroyers. For instance, Transite Pipe was used by the Army in 26 of their munition plants, 14 ordnance plants, 6 U. S. Arsenals, 4 shell-loading plants. The Navy used Transite Pipe at 21 munitions depots, 4 powder magazines, 2 ordnance plants, and 2 mine depots. In addition we furnished pipe in private powder plants, small arms, bag loading, bomber assembly, tank arsenals, the Alaska Highway, and in chemical, magnesium, copper, rubber, and oil plants. At the end of the war, shipments to Hawaii of Transite Pipe for use in the Pacific area totaled 500,000 feet.

Modern war is also a thing of gasoline and oil. The air armadas which swarmed over Germany and Japan burned thousands of gallons of high octane gasoline an hour—many more thousands of gallons than our oil industry was in a position to produce in the early days of the war. Special materials and substitute materials were badly needed and J-M came up with the answer in new products to make possible the greatly increased production of the high octane gasoline so badly needed.

Protection for the Big Inch

Remember when oil tankers were being sunk by the scores off the Atlantic Coast—when railroads were straining every facility to keep the all-important supply of oil rolling in tank cars from the oil fields to the Eastern ports? Then came the answer—two pipelines spanning half a continent—The Big Inch and the Little Big Inch with a combined capacity of 530,000 barrels of oil and oil products a day—a mighty project in which, too, Johns Manville made important contributions. In addition to supplying some 20 different products for use at the oil wells, J-M special pipe-wrapping machines applied protective layers of J-M asbestos felts to preserve the life of the pipelines. At the pumping stations, approximately every 40 miles along the pipelines, we furnished Transite products, shingles, flue pipe, home insulation, and packings.

At refineries where the oil was processed Johns-Manville supplied Rock Cork, Refractory Brick, special packings, Firetard Jacket, and various insulation products.

We Were In On the First Bounce

The construction of every Flying Fortress called for 1264 pounds of rubber. Into every medium tank went 1,750 pounds. A battleship required 15,000 pounds; and every gas mask used 1.8 pounds. So when Japan cut off 98% of our natural rubber supply early in the war we, in the United States, were in a bad way. A gigantic synthetic rubber industry had to be built and put into operation overnight.

Once more, without stinting on its production for other essential war uses, Johns-Manville came forth with critical products to make this construction possible. Practically the full line of J-M products were used in the construction and the operation of synthetic rubber plants throughout the country.



The Vital Metals

The J-M story is the same with respect to the metals vital to war—magnesium, aluminum, copper. We supplied tons of material for new construction of production facilities for these war essential metals. Our high-temperature insulations were key items in the production facilities. Copper wire for the Signal Corps, aluminum parts for aircraft, magnesium for incendiary bombs—all contained part of J-M's war effort.

Johns-Manville Afloat



World War II was also a war of shipping. American fighting men and all their fighting equipment went by ship to battle in the far corners of the world. American sailors fought German submarines and the Jap Navy in U. S. fighting ships. There were few American ships indeed which did not have several hundred pounds of J-M materials on which their fighting efficiency or cargo efficiency depended.

Our entire output of Marine and Marine Sheathing went directly into ships on war duty. We also developed a special rock wool for hull insulation of which we furnished 90,000,000 feet. In addition, we developed Marine Tape for pipe covering and provided 1,000 carloads of Magnesium and Superex pipe covering.

All types of packings were furnished for fittings, valves, pipes, steering engines, telemotors. We furnished brake-bands for deck hoists and winches; asbestos ebony for switchboards; acoustical treatment; all types of insulation for hull and cargo space together with machinery and engineering casings.

J-M products were used in quantity in all types of ships. Uncle Sam's submarines were equipped with a special packing on automatic control valves.

On land, a full line of J-M's automotive products were supplied for the manufacture of tanks, and other motorized fighting equipment.



J-M On Wings



Borne by the wings of the U. S. Army Air Forces, a large variety of J-M products put in a good many flying hours over enemy territory. Many planes were insulated with J-M materials both for acoustical purposes as well as flying comfort at high altitudes. A specially developed packing was used for turbo-superchargers. Millions of special gaskets, rings, and packings went into the thousands of engines which powered Uncle Sam's aerial offensive. In addition to all these materials used directly in the fighting planes, J-M furnished untold quantities of Building Materials and Power Products for use by the airplane companies which turned out the planes used in the war.

Celite In The Service

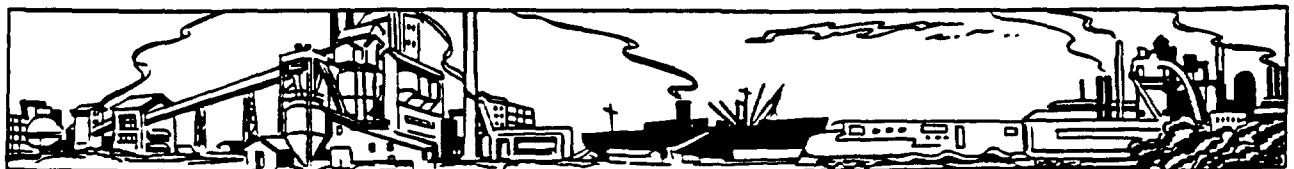
The Celite member of the Johns-Manville family saw its share of service in the war and made such a fine record that the Army-Navy "E" Award flag, with three stars, now flies over the Lompoc mine and factory. Vast quantities of filter powders were shipped to practically all battle fronts to facilitate the production of adequate supplies of pure fresh drinking water for both our own troops and those of our Allies. A real advance in the efficiency of the reciprocating engines of our escort carriers was made when Sorbo-Cel was developed for the purification of condenser water. The boilers of our battleships, cruisers, destroyers, and carriers were insulated with Sil-O-Cel Super Brick. Practically all the cylindrical steel containers for acetylene gas used by the Navy and in maritime construction contained a porous filler made from Celite. Celite was also in great demand as a flattening agent for the camouflage paints used so extensively on fighting ships and army equipment. Lend-Lease, too, made heavy demands on Lompoc for filter powders for use by the British and the Russians.

Military Transportation

Since it was just as necessary to stop military transportation—the huge trucks and the little jeeps as it was to "keep 'em rolling," J-M friction materials went to war in a big way. Our manufacturing facilities for brake linings and other friction materials were taxed to their capacity. Similarly, the railroads of the country called on the Johns-Manville Transportation Department for materials that were vital to the transportation system of the country.

If every war use of every Johns-Manville product were merely listed it would fill many volumes with many pages like this. Briefly we have described and enumerated the highlights of J-M's war production.

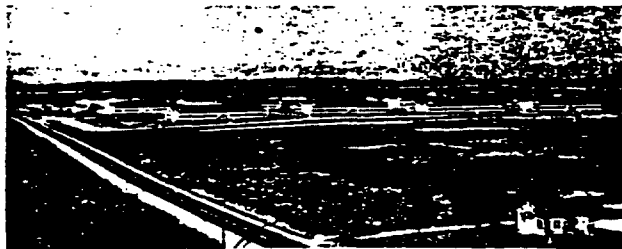
When war came, J-M went to war and it can safely be said that anyone who worked at any time during the war for J-M was a part, and a very important part, of the battle of production and the final United Nations Victory.



NOW IT CAN * * *

* * * BE TOLD!

THE STORY OF THE KANSAS ORDNANCE PLANT



The Administration Area at the Kansas Ordnance Plant

There have been times during the rigorous war years when it was exceedingly hard for Johns-Manville employees to think of themselves as being part of the war effort—as working in a war industry. What J-M production really meant to the war effort has been briefly described in the preceding pages. But these pages tell only part of the story. They hold no mention of one big Johns-Manville achievement of which we are all very proud even though few of us had a direct hand in it.

All of us knew about the Kansas Ordnance Plant at Parsons, Kansas. But there were few in J-M—even among top executives—who knew the whole story of what happened out there. Military secret means SECRET, and KOP remained a sort of shadow-brother in the J-M family.

Now, however, the war is over. There is no problem of military security. The story of the Kansas Ordnance Plant can be told.

Statistically Speaking

From April 14, 1942, when the first bomb was poured, until August 14, 1945, which saw the last of the KOP shells leave the production line, the record of this plant has been one upon which its staff may look with pride.

In the three years of its full scale operation, KOP contributed over a million tons of ammunition to the winning of the war. This spectacular figure represents a value of \$550 million and the wholehearted effort of 25,673 people.

The plant constructed by Kiewit-Condon & Paschen, Contractors, from plans by Consoer, Townsend, & Quinlan, and Battey & Childs, Architect Engineers, covered a territory of some 25 square miles—17,214 acres, to be exact. To facilitate communication of materials and personnel among the 745 buildings which comprised it required 122½ miles of road and 29½ miles of railroad track. Dormitories which housed as many as 502 people at one time were part of the equipment of the plant's personnel department. A cafeteria staffed and equipped to serve more than 1500 meals a day operated on a 24-hour, 7-day week basis for almost the whole time of the plant's existence.

In other words, statistically speaking, the Kansas Ordnance Plant was a big operation. In size it would almost compare favorably with all of J-M's regular factories put together. In achievement, it compares favorably with any plant in the country. Proof of this lies in the fact that KOP was the first ordnance plant in the country to win the Army-Navy "E" and later received the award four more times.

Historically Speaking

The cooperation of Johns-Manville's management staff and the staff assigned by the Army for the supervision of the plant's activities was largely responsible for the outstanding success of the effort at KOP which produced its record of achievement.

In the early part of 1941 the Government first discussed with Lewis H. Brown, J-M President the possibility of embarking on the KOP project. It was to be a sort of lend-lease affair, with Johns-Manville lending its managerial "know-how" to the Army Ordnance

Department as a contractor for management service. The plant would be under the supervision of Ordnance officers, and the body of the employees would be on Government payrolls.

Preliminary planning and surveying was carried on and on September 20, 1941, ground was broken for the first of the new buildings—the Administration Building. During the rest of that month construction was begun on other buildings and the railway system began to develop. The main rail line, designed to link the M.K.T. and San Francisco lines, was completed, by dint of day and night labor, on December 5. Thereafter work progressed on branch lines throughout the property at the rate of almost a mile a day.

Ironically, during most of the crucial period of construction, nature intervened to make this already difficult job even more difficult. The heaviest rains in years poured down almost steadily from September 20 until November 12—the longest period of good weather in all that time lasting for three days in early October.

But in spite of this tremendous handicap, construction went ahead on a 24-hour basis. Grading and excavating nearly came to a standstill as big motor shovels and cranes took turns pulling each other out of bogs caused by the seemingly endless downpour. But a plan was devised to keep construction work going by means of portable wooden roads which enabled trucks to carry supplies to those buildings sufficiently under way to permit continuance.

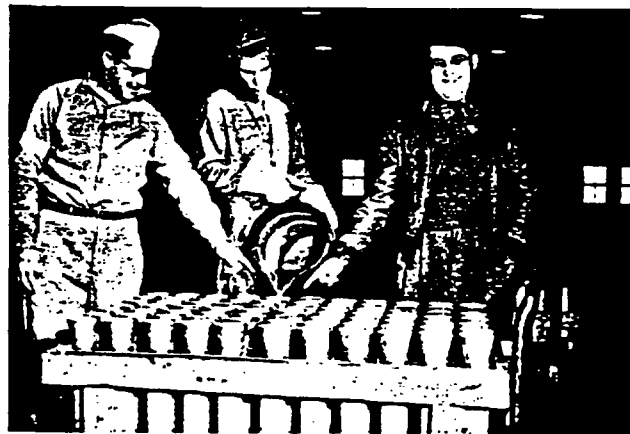
Exactly seven cents worth of Johns-Manville products were used in the construction and operation of the Kansas Ordnance Plant, and the Government was not billed for this. It happened by accident. An air compressor went out because of defective packing and rather than face a shut down in operations, the Operating Manager telephoned the Waukegan Plant of Johns-Manville and had a short length of J-M Rajah Packing sent to him by air mail. This was installed on the air compressor and production continued without delay.

The progress made in the face of such odds was remarkable, and this fact was commented on by General Brehon Somervell, who inspected operations on November 18.

After the declaration of war on December 8, work went ahead with all possible speed and on December 20, the Administration Building was first occupied by J-M Service Corporation personnel. Office equipment was sketchy, and for a while a good deal of paper work was gotten out from desks made of kegs, oil drums, and planks.

Building and organizing went on for the next few months with very little deviation from the normal. On March 1 equipment for the bomb line was installed and on April 1 operating personnel was employed for this line. This first large-scale production employment coincided with the date of the opening of a government trailer camp set up to relieve the housing shortage in Parsons, which had become an over-crowded boom town since the beginning of construction work on the plant.

(Continued on page 10)



The First 75-mm. Shell Comes Down the Line at KOP

INKWELL ITEMS

KAN ORD PLANT
EMPLOYMENT BLDG.

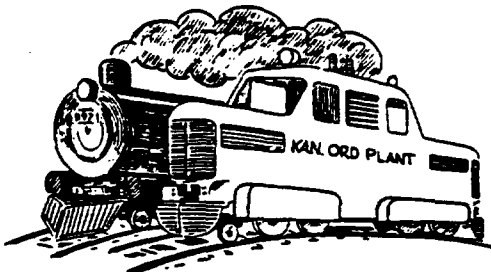


PERSONNEL

Total number of people hired	25,673
Plant in full operation—number of people working (7-14-42)	5,697
Maximum number of people working on any one day (1-26-43)	7,358
Number of people working on the last day (8-14-45)	4,858
Percentage of females on payroll at peak month of November, 1944	57.1%

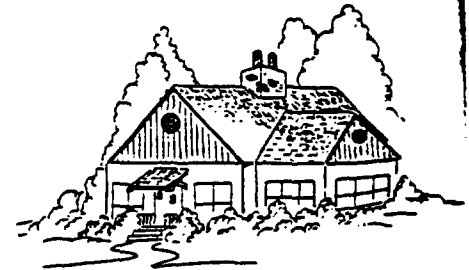


The total of explosives of Ordnance Plant equals 333.5 explosives would blow a hole from Parsons, Kansas to Topeka through.



The carloads of all types of material received at the plant since the first 250-lb. bomb was produced would make a train 375 miles long or one that would reach from New York City to Rochester, New York on the New York Central Railroad.

Ton miles hauled by rail	9,621,934
Ton miles hauled by truck	3,818,842
Grand total of ton miles	13,440,776



WATER USA

Number of Gallons of Water Used in the Peak Month of July, 1945
Total Gallons of Water Used up to September 1st, 1945

MATERIAL

BOARD FEET OF LUMBER USED	131,404,735
Number of 5 room houses that could be built	16,000
Total number of nails used	1,012,998,996

Enough nails laid end to end to reach one and a half times around the world.

COMPARATIVE LOADING COST

M20A1 BOOSTER

MAR 1944		MAR 1945	
INDUSTRY AVERAGE	KNOP ACTUAL	INDUSTRY AVERAGE	KNOP ACTUAL
\$0.4654	\$0.0971	\$0.04475	\$0.03520

COMPARISON ON PRODUCTS—M20A1 BOOSTER

MARCH 1944	
Average Cost of Industry	\$.1854 per booster
Kansas Ordnance Plant Cost	.0971 per booster
	.0883 Saving

MARCH 1945	
Average Cost of Industry	\$.04475 per booster
Kansas Ordnance Plant Cost	.03520 per booster
	.00955 Saving



COMPARATIVE LOADING COST

M20A1 BOOSTER

MAR 1944		MAR 1945	
INDUSTRY AVERAGE	KNOP ACTUAL	INDUSTRY AVERAGE	KNOP ACTUAL
\$0.4654	\$0.0971	\$0.04475	\$0.03520

COMPARISON ON PRODUCTS—M20A1 BOOSTER

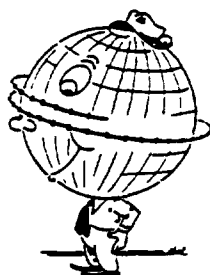
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Kansas Ordnance Plant Cost	.0971 per booster
	.0883 Saving

MARCH 1945	
Average Cost of Industry	\$.04475 per booster
Kansas Ordnance Plant Cost	.03520 per booster
	.00955 Saving

-A Review of KOP Records



all types handled at Kansas
00,000 pounds. This amount of
e entirely through the earth
ryo, large enough to drive an



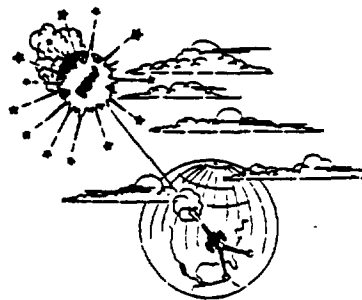
GE AT K.O.P.

27,281,780 Gallons
634,484,575 Gallons

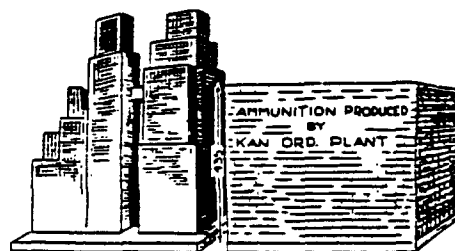
AL USED

Total feet of nails used 176,140,604
Total miles of nails used 33.359
Tons of nails used 2,090

ne-half times around the earth at the equator.



The total propellant charge used was 72,000,000 pounds. This is enough propellant to fire one 105-mm. projectile from the earth to the moon every day for two years, or to fire 700 projectiles from the earth to the moon.



PRODUCTION FACTS

If all the carloads of ammunition produced at the Kansas Ordnance Plant were placed in one pile it would cover a city block (300 feet x 300 feet) to a height of 435 feet.

LOADING COST

100-lb. BOMB

MAR. 1945

INDUSTRY AVERAGE KNOB ACTUAL



DUCTS—1000-lb. BOMB

\$35.955 per bomb
24.190 per bomb

11.765 Saving

\$12.76 per bomb

6.85 per bomb

5.91 Saving

COMPARATIVE LOADING COST

105-mm. SHELL

JAN. 1944

JULY 1945

INDUSTRY AVERAGE KNOB ACTUAL INDUSTRY AVERAGE KNOB ACTUAL



\$2.65 \$1.89 \$1.70 \$1.41

Comparison on Products—105-mm. Howitzer Shell

JANUARY 1944

Average Cost of Industry \$ 2.65 per shell

Kansas Ordnance Plant Cost 1.89 per shell

.76 Saving

JULY 1945

Average Cost of Industry \$ 1.695 per shell

Kansas Ordnance Plant Cost 1.410 per shell

.285 Saving

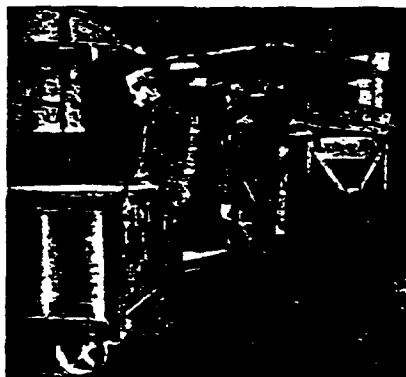
FROM BOX CAR TO BATTLEFRONT

The bombs dropped on Berlin and Tokyo by our Superfortresses were just bombs—big metal bullet-shaped things that exploded when they hit something. Likewise the shell fire that covered our troops during the invasion of Europe—big projectiles shot from oversized guns. Hardly anyone knows what went on between the time when those big shells were just empty, useless cases and the time when they were launched against the enemy as powerful weapons. The story of what went into making a high explosive shell out of an empty container is the story of what went on at KOP during the war. It is a dramatic story of a production line that played a major part in directing the tide of victory.

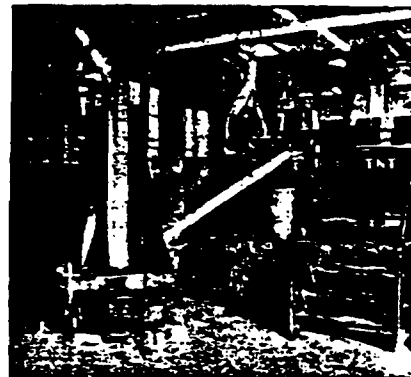
The pictures on these two pages cover every major production step in the loading and assembling of 105-mm. shells at KOP. In picture 1 empty shells arrive at the Plant and are unloaded. 2. Next, the inert shells are taken to the paint building to be placed in an industrial trailer which carries them along the assembly line. 3. Here the explosive—TNT—makes its appearance on the scene being prepared for a trip on the conveyor. 4. In the screening building, boxes of TNT are emptied and introduced to the screening process, which is viewed more clearly in picture 5, where the shaker screens are seen in action. The shakers are dust-controlled for safety. At left are receptacles for good TNT, which, after screening, is ready to be melted. 6. This is the melt building, where the accepted TNT is converted into liquid and mixed with flake TNT to obtain the proper consistency. It is poured into the melting unit from above, drawn off by the operator below and mixed with the flake from a chute. 7. After the explosive has been melted and mixed it is ready to be poured into shells through rubber tubes. Shells must first be vacuumed, which is the job of the woman at right. 8. The filled shell is allowed to cool, after which a cavity is melted out of the center. The unnecessary cooling funnels and splash trays are removed from the trailer at this point, as shown in picture 9. Samples are taken from each trailer for inspection, while the rest travel on to the drilling building. 10. Here are the sample shells being X-rayed for grading. In the dark room in picture 11 the X-rays are inspected. Shells from trailers whose sample indicates poor grade are all inspected and rejects screened out. 12. Another phase of the assembly process starts as fuses and boosters are made ready for incorporation into the loaded shell. Booster cavity surface is "faced off" with a steel drill in picture 13, after which it goes to the assembly line. 14. An almost completed projectile results from this operation, wherein the fuse and booster are inserted in the shell, which is then weighed and stenciled. A guard is placed on the fuse and the unit goes to the final assembly building. 15. The remaining step is the assembly of the charge which propels the shell. 16. Empty boxes are brought along the conveyor for packing the finished projectiles, and then marked by a stenciling machine. 17. Shells are placed in fibre containers which are taped shut and loaded into boxes. The actual packing is shown in picture 18. The lids are sealed and the boxes ready for shipment. 19. The ammunition is loaded into a car to start its one-way trip to one of the war fronts.



1. Empty shells are unloaded



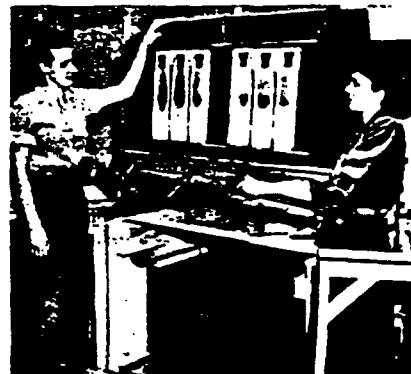
5. TNT in screening process



6. TNT melted and mixed



10. Sample shells are "X-rayed"



11. Shells are graded



15. Propellant charge assembly



16. Packing boxes on conveyor

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2. Shells placed on trailer



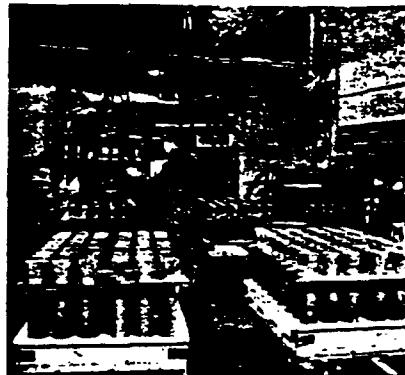
3. TNT is unpacked



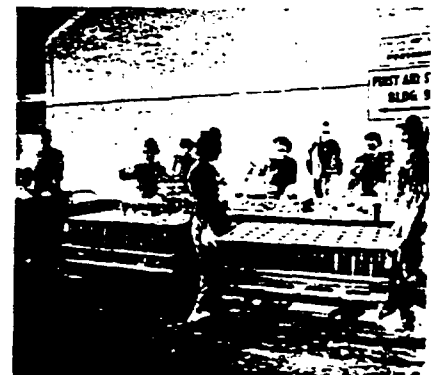
4. TNT emptied into hopper



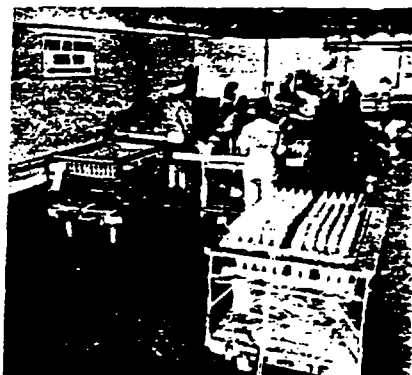
7. Shells filled with explosive



8. Core melted out of shell



9. Samples removed for inspection



12. Fuses and boosters assembled



13. Booster surface "faced off"



14. Shells weighed and finished



17. Finished projectiles are packed



18. Boxes ready for shipment



19. Finished product loaded on car

THE STORY OF THE KANSAS ORDNANCE PLANT—Continued from Page 5

Employees from all walks of life answered the call to arms issued from the plant. They came from Iola, Kansas, 54 miles to the north; from Coffeyville and Independence, 45 miles southwest; from Pittsburg, 35 miles east; from Parsons, 4 miles west, and some came from Joplin, Missouri, and Miami, Oklahoma. The average plant employee traveled 45 miles daily between home and plant and spent 12 hours' elapsed time from home for an 8-hour shift.

Among the superintendents of the eight production lines were a former manager of a Montgomery-Ward store, an automobile dealer, a shipping foreman, a grocery store clerk, a button maker, and a sewing machine salesman. All dropped their regular work to answer the call to war like the Minute Men of old, and in so doing brought to light talents and abilities which they were unable to exercise in their previous employment.

The various lines started operation in quick succession until July 14, 1942, when, with the opening of Line I for 75-mm. Howitzer shells, the Kansas Ordnance Plant was in full scale production.

The story of KOP now evolves into one of employee effort and achievement of long hours worked to get vital weapons out to the war fronts, of the activities of a large group of J-M people of whose existence regular J-M employees were only dimly aware. It becomes the story, not of a lot of highly impersonal buildings and machines being installed on a heretofore undeveloped site, but the story of what went on inside those buildings, and what came out of the machines.

The People Concerned

The J-M names connected with this story are fairly numerous. Those most familiar to other J-M people are the names of Mr. R. W. Lea, Mr. S. A. Williams and Mr. J. P. Kottcamp, who were in at the very inception. Another who made a major contribution to the original plans for KOP was Mr. Alexander Cromwell, who was made Operating Manager and who remained in that post until early 1944, when he went back to the West Coast, his original headquarters, and was succeeded by Clinton B. Burnett. Clint Burnett came from the Waukegan Factory in August, 1941, to supervise production planning and layout. He is one of the four men from J-M who opened and closed the plant.

The other three are F. Y. Kreimendahl, who came from GHQ's Industrial Engineering Department to become head of Industrial Engineering in Kansas, and who, since June of this year, has been Industrial Relations Manager; J. G. Clarkson, who left Manville's General Engineering Department to supervise equipment procurement and installation for the detonator and booster lines and to work as Line Engineer; and L. H. Price, another Manville man transferred to head the Scale and Instrument Department, and later to become Master Mechanic.

These are the men who stayed. Their contribution was great, but there were others—twenty-five others, to be exact—who also contributed in many important ways. Their names will be known to the people with whom they worked before they were called to Parsons, but lest they be forgotten because of their long absence from the Johns-Manville scene, they appear elsewhere in this issue of *NEWS PICTORIAL*.

There were men from the Army who were of great importance to the KOP project, too. Among these were Brig. General Levin Campbell, assistant Chief of Ordnance at the time of the building of KOP; Captain Karl M. Partee, who served as Construction Quartermaster in charge of all building operations; Lt. Colonel Otto M. Jank, first commanding officer of the plant, and his successors in that position, Lt. Colonel Ira A. Crump, Major I. T. Malmstrom, Lt. Colonel Kenneth M. Haber, and Lt. Colonel Philip E. Gruber.

Beside the men who came from other J-M locations and from the Army to set the production wheels at KOP in motion, there were thousands of employees on the Ordnance Department's payroll whose names would be unfamiliar to us. But the success with which they carried out their jobs and the many other contributions they made to the war effort are of a great deal of interest to everyone.

Pointing With Pride

One of the outstanding facts about this bomb and shell loading plant is that in its entire history there is not one blemish on the safety record. Working with explosives is always dangerous, and it is very much to the credit of KOP personnel that they were able to produce such tremendous quantities of large ammunition without mishap. To do this required an excellent safety program, and more than that, strict adherence to that program.

Keeping a steady flow of production meant that it was essential for workers to be on the job regularly. KOP had an excellent record on this score, as evidenced by the large membership of the KOP Regulars, an honor society for those maintaining regular attendance. A total of 3,702 workers qualified for membership—many of them facing considerable hardships in order to keep their records unbroken. It is interesting to note that women workers, of whom KOP had the largest percentage of any Ordnance plant in the country, were among the most conscientious about being at work regularly.

The record established at KOP for War Bond subscriptions was so meritorious that on October 8, 1942, the plant was awarded the Minute Man Flag. Thereafter, in every War Bond Drive, subscriptions rose to figures considerably above the organization's quota. The most outstanding record was made during the Seventh War Loan Drive, when cash subscriptions amounted to \$294,200 against a quota of \$200,000, while payroll deductions hit a high of \$416,725.

Johns-Manville management of the plant with the cooperation of the workers effected a saving in the cost of operation of close to \$6,000,000 notably through an improved system of training manpower and the invention of a multiple core melter, which saved around 5½ million manhours.

KOP'S Medical Report

One of the most interesting stories to come out of the Kansas Ordnance Plant's operations is the history of its Medical Division. Started literally on a shoe-string, the division was originally made up of one nurse and one doctor, who were in charge of an infirmary set up near the center of the working area. During the construction period, when there were between ten and twelve thousand employees, the strain of handling the flow of more than 100 patients daily made it necessary for the staff to be increased to one head nurse, four staff nurses, four orderlies, and a secretary, and a little later, to add one more doctor to the organization.

Most of this organization had been done on a temporary basis, but in January, 1942, the Medical Division was organized on a permanent basis. A 19-bed hospital was built, and as each new production line went into operation, a first aid station was set up for its use. The hospital was officially opened in May of 1942, at which time the infirmary was closed for good. A staff, which at its peak reached 123 members, had equipped the hospital to handle any case which might arise in the plant.

In close association with the Medical Division was the staff of the plant cafeteria, which began serving KOP on March 9, 1942. Dietitians on the hospital staff prepared the menus, and careful inspection of sanitary conditions was made regularly by the Medical Director. Ordnance Department inspectors also gave the cafeteria thorough examinations periodically, and it was a matter of great pride among the members of the staff at Parsons that the cafeteria was always given a superior rating.

Problems—Transportation and Manpower

A problem which caused considerable difficulty at the plant was that of employee transportation. Because of the lack of any public system, it became difficult to attract people who were without cars and who lived any distance from the plant. Even many who did have cars were restricted in their use by gas and tire rationing. However, the problem was finally solved by inducing some of the local automobile dealers to institute a bus service, which plan worked out very well. As many as 72 buses were operating for the benefit of the plant at one period, traveling approximately 5,650 miles per day.

As in all vital industries during the war, the shortage of labor at KOP became a serious problem. Labor was recruited from all parts of the surrounding country and by all possible methods. One of the most unique ideas developed along that line was the establishment of citizens' committees in neighboring towns. These committees were invited to make inspection tours of the plant, with the view that eye-witness reports on the essential work being done at KOP would lead to stimulated interest in working there.

So that's the story. Those are the facts. KOP is no longer producing anything—may never produce anything again. But the story of the Kansas Ordnance Plant is one that all J-M people should know.

Co-incident with the announcement that the Kansas Ordnance Plant would soon cease all operations, the Office of the Chief of Ordnance made public a letter which was dispatched to Lewis H. Brown, President of Johns-Manville Corporation. The letter follows:

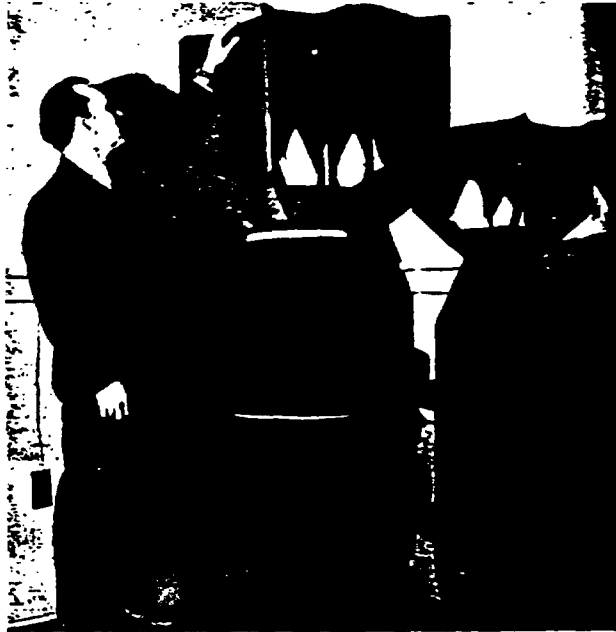
"Now that final victory has come, may I express to you, and through you, to all members of your company who have made such a great contribution to the success of the Ordnance program at the Kansas Ordnance Plant my sincere admiration and grateful appreciation for the great job you have done.

"Great has been the victory of our Armed Forces, but equally great in my judgment is the industrial victory in this nation over the combination of our enemies. To this victory you and your people have made a marked contribution, and I know that with me you are justly proud of what you all have done."

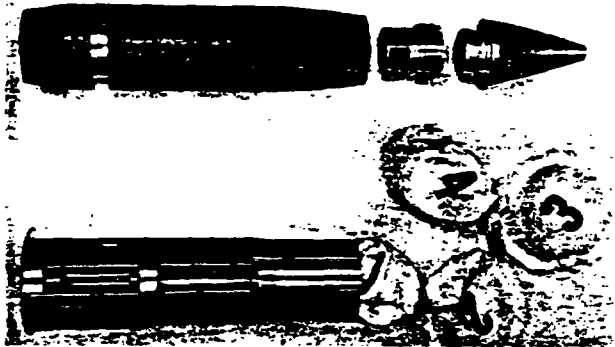
The letter was signed: L. H. Campbell, Jr., Lieutenant General, Chief of Ordnance.

KOP was Johns-Manville's most direct contribution to the war effort, and as such it stands a constant reminder of what industrial experience and the management "know-how" of American free enterprise can mean in a world where time and efficiency count for everything.

PRODUCT DISPLAY—KOP STYLE



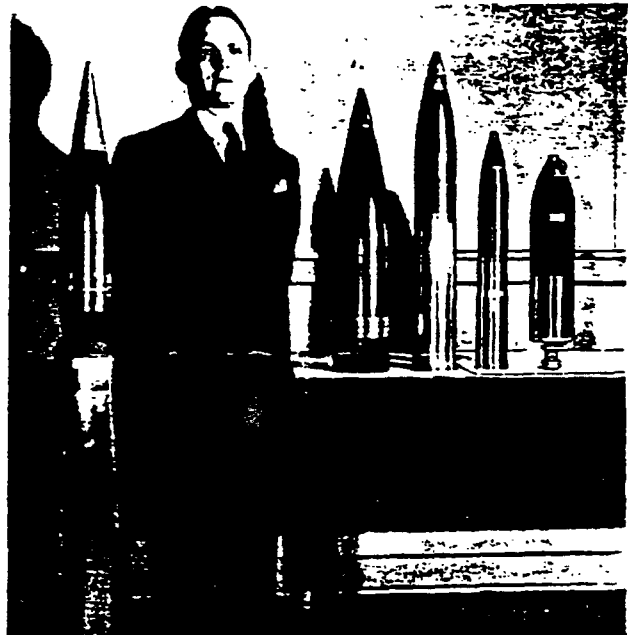
On display — 1,000-lb. bomb and 500-lb. bomb.



Disassembled 75-mm. shell, showing parts — fuse, booster, projectile, propellant powder (in bags), and cartridge case with primer.



Ready for final assembly—(left to right) a 500-lb., 1,000-lb., and a 250-lb. bomb.



Exhibition of (left to right) a 120-mm. anti-aircraft shell, 155-mm. Howitzer projectile, 105-mm. Howitzer shell, 75-mm. Howitzer shell, and a 4.2-calibre mortar shell.

OPERATING MANAGERS OF KANSAS ORDNANCE PLANT



Alexander Cromwell

An expert in production and development problems. Mr. Cromwell was named Production Manager of the J-M Service Corp., prime contractors for KOP, August 25, 1941. Prior to this, Mr. Cromwell had, for seven years, been Vice-President in charge of all Johns-Manville production operations on the Pacific Coast—a position to which he was recalled in February, 1944.

In 1920, Mr. Cromwell located in Los Angeles as a valuation and industrial engineer. Six years later, he joined the Celite Co. at Lompoc, California, which was later absorbed by J-M. In 1928, he was put in charge of Lompoc operations, a post he held until named to direct all J-M production operations on the Pacific Coast in 1934.

Mr. Burnett, who succeeded Mr. Cromwell as Operating Manager, joined KOP on August 13, 1941. Going there from the J-M Waukegan (Ill.) Plant where he had been serving as Manager of the Industrial Engineering Dept., he was originally assigned to the Parsons project to be in charge of production, planning, and layout. In this post, he was responsible for determining the number of necessary lines and operating units, personnel requirements, and the equipment and materials required for loading finished ammunition according to contract specifications. Mr. Burnett joined J-M October 20, 1931, as an Industrial Engineer; in 1937 he was made Manager of Waukegan's Industrial Engineering Dept.



Clinton B. Burnett

J-M MEN AT KOP

Key men selected from Johns-Manville Corporation comprised the nucleus of J-M Service Corporation, operator of the Kansas Ordnance Plant. In contributing their "know-how" as officials and executives, they saw the job through to a successful conclusion.

R. W. Lea was Chairman of the Board of J-M Service Corporation. He is Vice-President in charge of Finance, a director, and a member of the Officers Board of the J-M Corporation.

As President of J-M Service Corporation, S. A. Williams, together with Mr. Lea, was responsible for the general administration of KOP.

Alvin Brown, as Vice-President of the J-M Service Corporation, was responsible for the supervision of the administrative and financial departments. He is Assistant to R. W. Lea, and a member of the Officers Board of J-M Corporation.

As Vice-President of J-M Service Corporation, John P. Syme was responsible for the supervision of industrial and public relations activities. Mr. Syme was recently appointed Assistant to Lewis H. Brown, President of Johns-Manville Corporation.

J. L. Wood was Office Manager of J-M Service Corporation; is General Credit Manager of J-M.

J. P. Woodard, Factory Industrial Relations Manager was detailed to carry on industrial relations work at Parsons until a permanent department head could be found. Mr. Woodard is now Director of Industrial Relations for Johns-Manville.

J-M men who comprised the Management personnel of J-M Service Corporation were:—

RALPH E. CHAMBERLAIN—Assistant to Head of Vouchering Section.

J. G. CLARKSON—supervised equipment procurement and installation for the detonator and booster lines; later served as Line Engineer for those lines and is presently Line Engineer for Line I.

D. O. COLEMAN—Line Engineer for the primer and fuse lines.

S. F. CURTIS—Purchasing Agent.

D. C. DAVIDSON—Chief of Officer Service.

J. L. DURKIN—Chief of Authorization Section.

S. T. GEMAR—Manager of the Transportation and Stores Dept.

HENRY HEISE—one of three Night Superintendents of Operations; later assigned to Line II as Quality Control Supervisor.

K. R. HUNMAN—Cost Accountant.

FOLEY KENNEDY—prepared a work order system for the Engineering Department; later, Supervising Engineer.

J. T. KENNEY—Chief Engineer, succeeding G. S. Smith.

J. D. KNIPSCHER—Principal Accountant.

F. Y. KREIMENDAHL—Manager of Industrial Engineering Dept.



S. A. WILLIAMS



R. W. LEA

W. T. KYLE—designed and operated Tabulating Payroll system.

A. R. LUTHER—Chief Clerk on Office Manager's Staff; later Assistant Forms Control Supervisor.

C. D. MAXSON—Assistant to Office Manager; later, Disbursing Agent in charge of Finance Section.

BOYD MULDER—recruited personnel for operations; later, Manager of Personnel Section.

T. C. POND—Planner of layout and equipment for the ammonium nitrate plant; later, Manager of Inspection Department.

L. H. PRICE—Head of Scale and Instrument Department; later, Master Mechanic.

E. L. REYNOLDS—Head of Vouchering Section.

JOHN P. SCHOCK, JR.—Senior Clerk in Office Service; later, Assistant Superintendent of Building Service; still later, Assistant Mechanical Engineer.

ARTHUR J. SCHRADER—on staff of Office Manager as Principal Supervising Assistant; later, Chief of the Authorizations Section.

MARK SEIM—Installation of electrical equipment and requirements for the entire Plant; later, Assistant Chief Engineer.

GEORGE S. SMITH—Chief Engineer.

N. J. SUPERTY, JR.—General Accountant.

W. L. VAN DERBEEK—Chief Time Study Engineer in Industrial Engineering Department.

FIVE ARMY OFFICERS WHO CONTRIBUTED TO KOP'S SUCCESS STORY

No story of the amazing record of accomplishment at KOP would be complete without proper tribute to the five talented and conscientious commanding officers pictured below who were successively in charge of the Plant's operations and who contributed so much to its operational achievements.



1. Col. O. M. Isak



2. Lt. Col. I. A. Crump



3. Maj. I. T. Mahstrom



4. Lt. Col. K. M. Haber



5. Lt. Col. P. E. Gruber

JOURNEY'S END AT KOP

Completion of more than four years of successful operation of the Kansas Ordnance Plant for the U. S. War Department was celebrated with a banquet Friday evening, September 21, in the Plant cafeteria, attended by 160 persons. Johns-Manville Corporation, parent concern of J-M Service Corporation, Plant operator, was host.

Highlight of the affair was the awarding of a certificate for "Meritorious War Service" in recognition of "devotion to duty in time of National Emergency and for outstanding achievement in the production of munitions of war at the Kansas Ordnance Plant." This award, to 175 of the Plant personnel, 94 of whom were present, was made by the Board of Directors and the Management of Johns-Manville Corporation.

Alexander Cromwell, former "Operating" Manager of KOP, who has resumed his position as Vice-President in charge of J-M operations on the Pacific Coast, in his speech, praised the record the people of the KOP had made. "This whole operation, which we are bringing to an end tonight, will live as an example of what the American system of free enterprise can do," he said.

Clinton B. Burnett, present Manager of J-M Service, presided as toastmaster. At the close of the dinner he was given a standing ovation as an expression of appreciation for his leadership at the Plant after he took over the reins from Mr. Cromwell.

Lt. Col. Philip E. Gruber, Commanding Officer of KOP, expressed the appreciation and pride the U. S. Army Ordnance Department felt for KOP's record and its contribution to ordnance production technique. He described KOP as a "pioneer and leader" in the process of shell and bomb loading.

This, then, is the end—Journey's End at KOP—as so aptly illustrated by the photo on our front cover of the last KOP employee to leave the Plant's front gate for the last time.

DID J-M MAKE MONEY OUT OF THE WAR?

There has been a lot of talk about high profits during World War II.

Let's see what really did happen in Johns-Manville.

Sales averaged \$69 million a year in the pre-war years 1939-1941, and earnings were 8 cents in each dollar of sales.

Then with the war came greatly increased production. J-M hired more people and worked longer hours. More materials poured out of our mines and factories. Sales averaged \$106 million a year during the war years 1942-1944. But earnings decreased to 5 cents in each dollar.

During the war J-M's sales volume increased more than fifty per cent but the ratio of earnings to sales dropped more than one-third.

In the pre-war years J-M's annual earnings averaged \$5 1/2 million.

In the war years earnings averaged \$5 1/4 million.

The great accomplishments of J-M men and women during the war years were a contribution to victory—not to corporate profits.

What is happening now that the war is over?

In the third quarter of this year—July, August, and September—J-M sales were \$21 million and earnings were \$1 million. During the same quarter last year, sales were \$26 1/2 million and earnings were \$1 1/4 million.

Why are sales and earnings decreasing? Because we are feeling the effects of unsettled conditions caused by the war.

Our production is falling off not from lack of orders but because there are not enough people who want to go to work. Some reasons for this were outlined recently by Lewis H. Brown, J-M president, and are discussed on page 3 of this issue of NEWS PICTORIAL.

It all adds up to the fact that war is unprofitable, and that all of us can suffer from it for a long time to come if we don't get the reconversion job licked soon.

Here is what happened in Johns-Manville during the three war years 1942-44 compared with three pre-war years 1939-1941—

SALES WENT UP MORE THAN 50 PERCENT

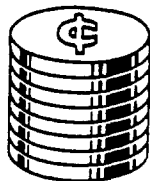
1939-41
AVERAGE

\$69 million

1942-44
AVERAGE

\$106 Million

BUT EARNINGS IN EACH DOLLAR OF SALES DROPPED MORE THAN ONE-THIRD



1939-41 Average
8 cents



1942-44 Average
5 cents

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THE EBORN & PETERS

ATTORNEYS AT LAW