



## Oilers Play Vital Role In Textile Production

Somewhere not far from the dawn of man's sojourn upon earth, necessity became reason for invention. First, perhaps, came fire—with its power to bless or to destroy. Then, likely next in importance, the primitive citizen fashioned a crude circular disc and set it to revolving on an axis. He may not have understood all there was to know about his creation, but his invention represented a great step in the human march toward civilization.

The wheel—basis of complex machines—allowed its inventor to modify and transmit motion. With its introduction there came a baffling problem: How to reduce friction at points of contact between hub and axle.

Ere long, primitive ingenuity discovered that animal fats and

vegetable oils when applied to moving parts made a cart roll much easier. It cut down wear on parts. It silenced the squeak.

Did you ever stop to consider how great a contribution oil and grease have made to the world of mechanization? It's a romantic chronicle from that primitive day when man first learned to fight the battle against friction to the story of the oiler at Firestone.

The men and women who keep the intricate machinery rolling smoothly at the five-floor mill here are an indispensable go-between in the process of sending tire fabric and sales yarn products on their way to market.

**THE WORK** of keeping machines oiled requires plenty of technical "know-how."

The plant Mechanical Department orders oil and grease in the different viscosities, as required by the various jobs. A lubricant must stand the test of a minimum of internal cohesion, or "stickiness." It must be of sufficient body that it won't be squeezed out of place between bearings, gears and other moving parts. Good oil and grease must not absorb oxygen, must not become gummy nor corrode.

Whereas the earliest lubricants were vegetable and animal fats, oil and grease used commercially are derived from petroleum.

Oilers at Firestone know what grade to apply to the different types of bearings—ranging from delicate ball and roller mechanisms to the giant babbet-lined bearings of heavy power shaftings. They also know just the right amount to apply for the smoothest, cleanest operation of machinery on the go.

At Firestone, a two-man team has the special assignment of oiling and greasing all motors and overhead shafting bearings. This is the broad category of power transmission. In addition, these men—Wade Ledwell and Alva McCarter—see that miscellaneous equipment such as window fans, pumps and compressors are kept humming smoothly.

**ON THESE** jobs alone more than 900 gallons of oil and grease are applied in the course of an average year.

Besides the oiling done by these men during the first shift of every working day, there are oilers who operate in every major department where machinery and other moving-parts equipment are involved. For this extensive continuing project, the annual consumption of oil and grease is measured in barrels.

Annie Lunsford in Twisting, in her eleven years on the job, has dispensed hundreds of barrels of oil—figuring on the rate of some seven gallons a day.

Then, there is Avery W. Carpenter, who tends the bearings in Spinning. On his regular shift he takes care of around 36 spinning frames. For these, he puts out about six gallons of lubricant a day. By taking up where he leaves off from the day before, he is able to make the rounds of

**SMOOTHING THE WAY**—These four employees represent the many men and women who apply oil and grease to moving parts of machines and other equipment throughout the mill. Power-transmission oilers for the entire plant are Alva McCarter (left), and Wade Ledwell (at overhead motor). Avery Carpenter lubricates spindles from a mobile pump, as Annie Lunsford oils spooler bearings with a hand dispenser. High speed of spindles and spoolers require particular care in keeping them properly lubricated.

all spindles on the floor before the bearings grow thirsty.

Mr. Carpenter rides up and down the aisles on a small, foot-propelled cart which also carries his oil supply and applicator equipment.

**IN OTHER** major departments, a designated person is responsible for oiling. In Weaving, for example, a workman combines this job with other duties. Here—as in all other operations where materials are being processed—the kind of oiling affects the quality of the finished product. Oil mistakenly deposited on yarn or fabric can cause a defect in the product. As in the case of dyeing and gum-dipping, oil interferes with the processes.

In the Multi-State Nylon unit a special arrangement and schedule provide for a maintenance

man to do oiling of parts not associated with power transmission.

Outside the plant, all machinery and equipment is lubricated by operators as a routine part of their work. This includes the fork-lift trucks, hand trucks, woodworking machinery in the carpenter shops and a host of other pieces of equipment.

Plant Engineer W. G. Henson summarizes the part oil and grease have in the manufacturing operations here.

"In our age of machines, such commonplace things as oil and grease are easily taken for granted. Our experience has taught that proper lubrication means efficiency of production, reduction of wear on machines and equipment, and a higher quality product."

## Two New Plants In Operation

Two more Firestone manufacturing plants in foreign countries are now producing tires. The factories, put into operation in recent weeks, are in Havana, Cuba; and Manila, Philippine Islands.

J. E. Trainer, executive vice president, explains that the new construction was part of an overall expansion, construction and modernization program intended to fulfill products demands from all parts of the world in the years to come.

The plant in Havana will be producing passenger, truck and off-the-highway tires for Cuba's growing number of motor vehicles. A skeleton force of technicians and supervisors went from the Akron, Ohio plants of the Company to direct beginning operations.

About 300 Cubans are employed at the plant.

Arrangements for building of the Cuban facility were completed in April, 1956, following a conference between Harvey S.

Firestone, Jr., chairman, and Fulgencio Batista, president of Cuba. At that time, President Batista pointed out that it was the wish of his government that enough tires be produced within the country to meet domestic requirements of the 150,000 vehicles on the Island.

**THE MANILA** plant is the first to be set in operation by Firestone in the Far East. It will supply passenger and truck tires for Philippine automobile assembly plants, and replacement tires for retail outlets in the Philippines.

Mr. Trainer said that much of the raw material used in the making of tires in Manila will be purchased locally. Most of the 300 employees have been hired from Manila and vicinity.

A 2,500-acre rubber plantation is being developed near the new Manila factory. This acreage will supply raw materials for tires manufactured there.

Ever stop to think how U.S. Paper money presents the faces of great men in American history? Generally, the most widely-known persons' faces grace the bills of lower denomination, while bills of higher value have on them the pictures of less-known men.

Here is the list: Washington, \$1; Jefferson, \$2; Lincoln, \$5; Hamilton, \$10; Jackson, \$20; Grant, \$50; Franklin, \$100; McKinley, \$500; Cleveland, \$1,000; Madison, \$5,000; Chase, \$10,000.

