

# TURNING OUT TOY TRAINS BY THE CARLOAD

By HENRY F. WINDHAM

THE toy making business of America has been called "the little brother of the automobile industry." It has had the same remarkable type of

growth; it follows the same methods of manufacture, largely automatic in operation, and it depends, in some lines, chiefly upon the automobile industry's by-products for its raw materials.

Both industries employ untiring, accurate machines—grinding, stamping, twisting, whirling, boring, thumping—which swallow carloads of raw material at one end of the plant and roll out great boxes and crates of bright, new, flawless finished product at the other.

About these oily, humming mechanical creatures that pass the ever changing materials upon which they work from jaw to jaw, roll to roll, and drill to drill, hover the workers. Scarcely less deliberate and automatic than the machines they operate, these workers pick, straighten, and guide the products that are being formed and conveyed along the rolls, drills, and carrier belts.

In the world's largest toy train manufacturing plant the factory arrangement is a duplicate in principle of the Ford

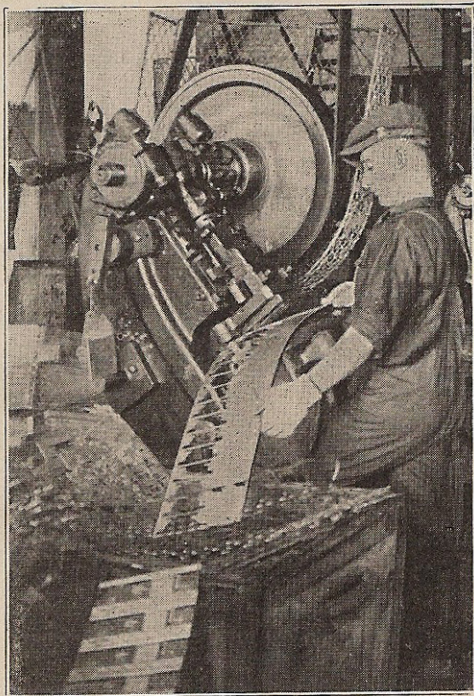
shops—but, of course, on a much smaller scale. The raw materials come to the receiving platform, are put on conveyors that carry them to the cutting rooms, go to the stamping machines, then to the shaping machines, next to the riveting

and fastening machines, and finally to the finishing rooms, where they are painted and enameled.

Trucks and elevators lastly transport them to the assembling department, where expert workers assemble the hundreds of thousands of parts into the five thousand complete trains a day that this plant manufactures. Even the processes of assembling are largely accomplished by automatic machinery.

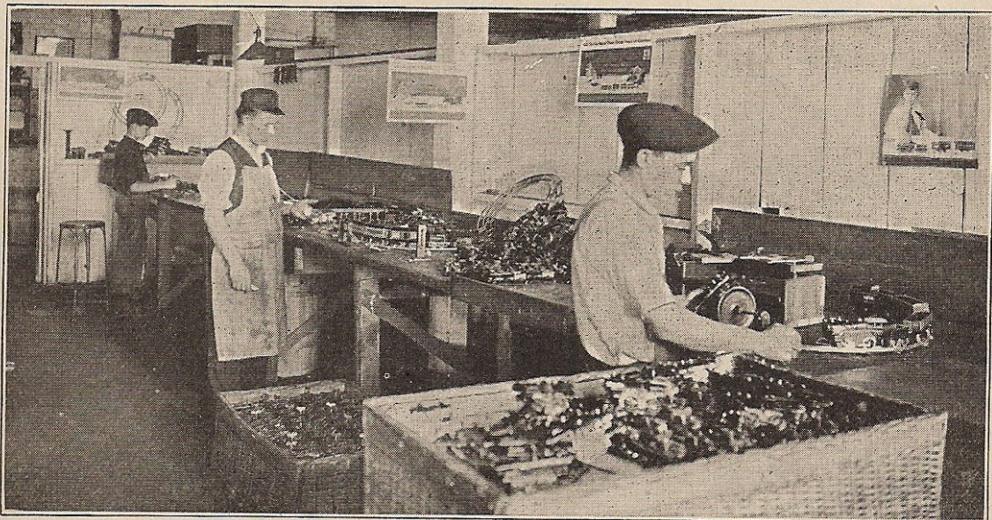
This train-making operation begins with big sheets

of steel which are cut into smaller sizes to fit the stamping machines. They are next sent through the lithographing rooms, and then put through the stamping and shaping machines that automatically form the cars. The fastening machines, whose work directly follows that of the shapers, at a single operation unite the sides, ends, and bottoms of the cars, and then drop them into big trucks that carry them to the assembling rooms for the attaching of tops and gears.



The Train of Cars That Delight the Boy on Christmas Morning Begins with a Big Sheet of Steel



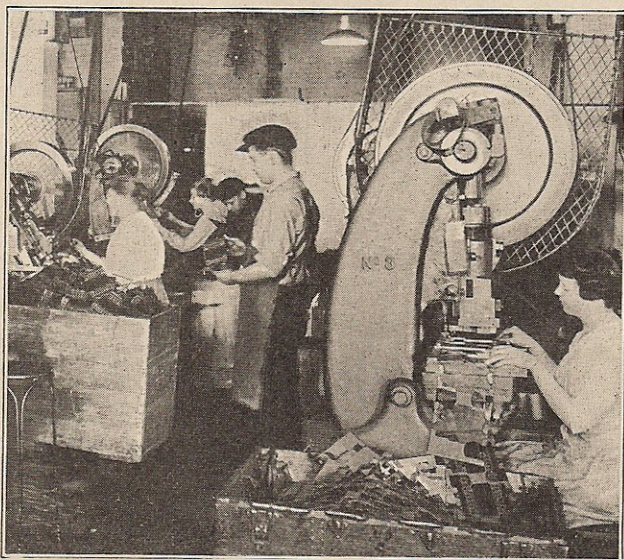


THE FINISHED LOCOMOTIVES ARE WOUND UP, RUN ON TRACKS, AND TIMED

From certain stamping operations slender strips of sheet steel are obtained and these are put through a machine which makes them into couplers for the cars, at the rate of forty thousand a day.

Close by are three whirling, clicking little machines. Into one end of these are fed long strips of sheet steel and tin, scrap or odd-sized metal from the automobile and can-making industries, while from long chutes at the other end steadystreams of shining, coin-like wheels clatter out into the big, box-shaped trucks that are placed there to receive them. Eighty thousand wheels are thus turned out daily. Originally it required three machines to fasten the two

parts of the wheels together—and only fifty thousand a day, at that, were made—but now one machine automatically performs this work. That is an example of how machinery is being perfected in the toy plants in this country.

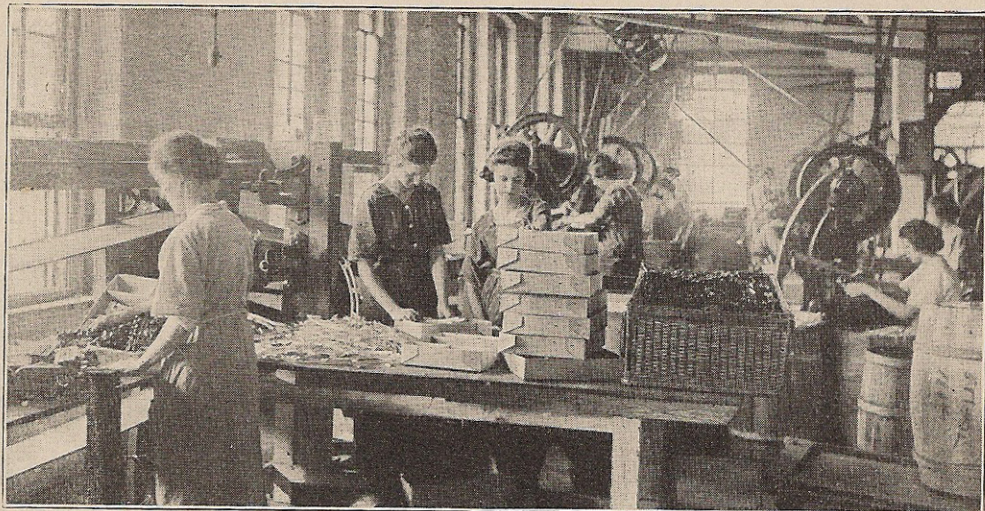


In a Series of Automatic Processes the Piece of Metal Passes Through Various Machines to Emerge as Parts to Be United by the Assemblers

Another great time and money saver is the "whirler." It rivets together the two sides of cast-iron locomotives. Formerly two ordinary riveting machines required a full day to perform less than this new device can accomplish between eight and twelve in

the morning. It does not strike the rivets flat, but whirls a flange on them instead, an operation not nearly so hard on the locomotives themselves.

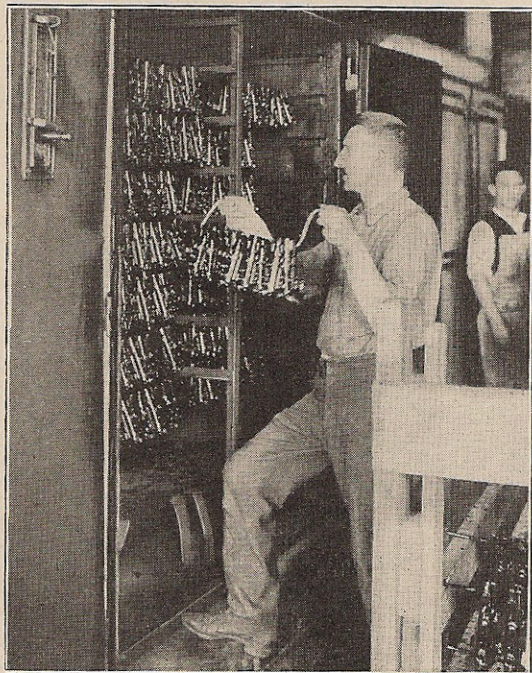




THE SEVEN STEPS REQUIRED TO TURN OUT THE TRACKS ARE BLENDED INTO A SINGLE OPERATION

On another floor of this miniature locomotive plant tracks for the little cars are turned out in a single progressive operation. Actually seven operations are necessary to make the track complete with its ties and joining pins, but they are all so blended by the three rows of humming machines that extend along the room from end to end as to amount to but one continuous process. A few years ago before America got its true stride in making toys, seven different machines were used for the last two of the several processes. Today it is done this way:

The raw sheets of metal—very often scrap material and odd sized pieces left over from other industries—go into the



The Locomotives Are Hung on Racks in the Enameling Ovens

blanking and, when desired, the curving—finally dropping the finished track on the conveyer belt which carries it to the packing tables.

To these tables come also the engines, the cars, and the boxes into which they are packed.

cutting machines, and as the strips come out on the other side they must pass on into the rolling machine. A man transfers them from the rolling machine into forming machines. From the pinning machine, which is their next stop, they glide into the jaws of the “finisher.” This finisher is the result of three years of planning and designing by these toy makers. In a single operation it does the clamping, piercing,