G. THOLL.

MACHINE FOR ASSEMBLING LEATHER WASHERS.

APPLICATION FILED OCT. 13, 1913.

1,124,360. Patented Jan. 12, 1915.

Fig. 1.

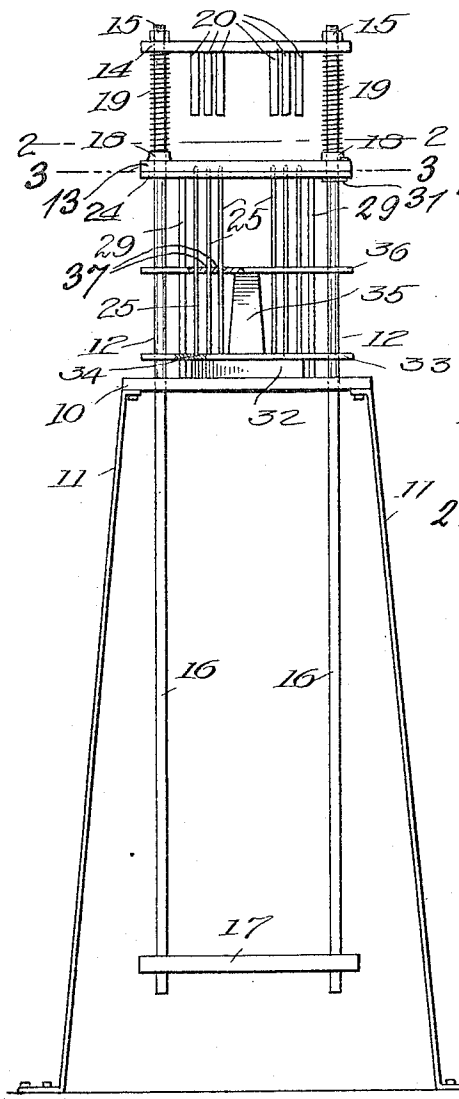


Fig. 2.

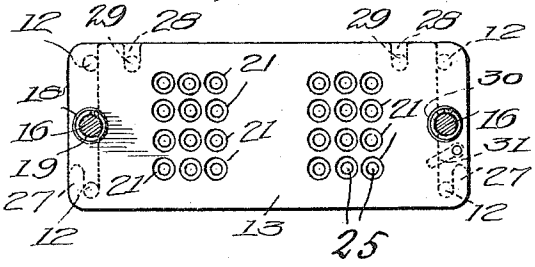


Fig. 3.

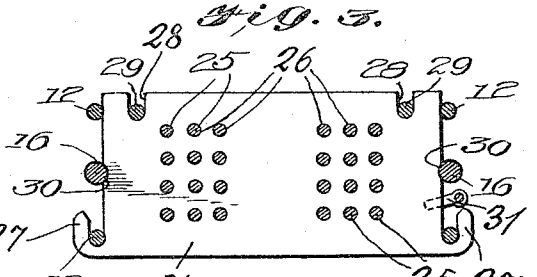
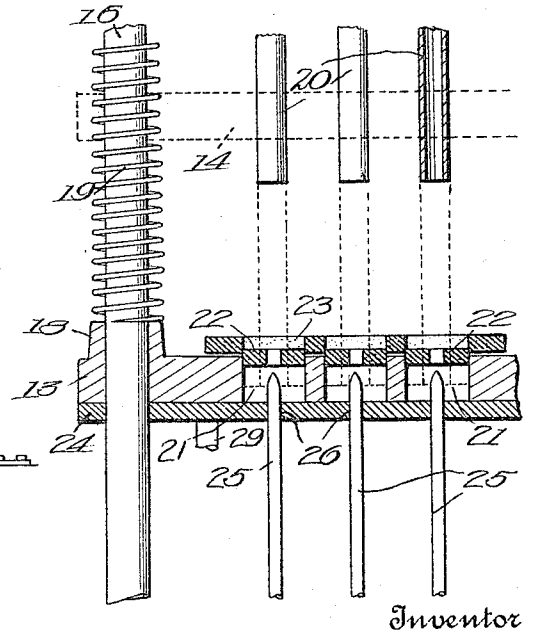


Fig. 4.



Witnesses

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MACHINE FOR ASSEMBLING LEATHER WASHERS.

1,124,360. Specification of Letters Patent. Patented Jan. 12, 1915.

Application filed October 13, 1913. Serial No. 794,905.

To all whom it may concern:

Be it known that I, GEORGE THOLL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Machines for Assembling Leather Washers, of which the following is a specification.

The machine which is the subject matter of the present application for patent is designed for assembling leather washers on a rod, the washers being strung one after the other on the rod as they are punched from a blank.

It is the object of the invention to provide a simple, easily operated, rapid and efficient machine of the kind stated, and to this end it consists in a novel combination and arrangement of parts to be hereinafter described and claimed, reference being had to the accompanying drawing, in which—

Figure 1 is an elevation of the machine, partly broken away; Figs. 2 and 3 are horizontal sections on the lines 2—2 and 3—3 of Fig. 1; Fig. 4 is a cross-section of a fragment of the die-plate and the parts cooperating therewith.

Referring specifically to the drawing, 10 denotes the bed of the machine, the same being mounted on legs 11. From the bed rise four upright standards 12 which support a die-plate 13 at their upper ends. Above the die-plate is located a vertically movable punch-carrier 14 made fast by bolts 15, or otherwise, to the upper ends of rods 16 rising from a treadle 17 located below the bed 10, and between the legs 11. The bed has guide apertures through which the rods 16 pass. The rods 16 also pass through apertured bosses 18 on the die-plate, at the ends thereof, and between these bosses and the punch-carrier, springs 19 are coiled around the rods to elevate the punch-carrier.

The punch-carrier 14 is a plate from the under side of which depend tubular punches 20. In the die-plate 13 are vertical apertures 21 to receive the washers 22 as they are punched out of the blank 23, said apertures, of course, being in vertical alinement with the punches. A plurality of punches and die apertures is provided, the same being arranged in two groups of twelve. Of course, this grouping, as well as the number of punches in the groups, may be varied as desired.

On the bottom of the die-plate is a plate 24 designed to support the upper ends of the rods 25 on which the washers 22 are to be strung. This plate 24 has apertures 26 which are of smaller diameter than the apertures 21 and are in vertical alinement with the centers thereof. The upper ends of the rods project through the apertures 26 into the apertures 21 at the center of the latter, said rods thus being in alinement with the center hole in the washers so that said washers may be strung or impaled on the rods.

The plate 24 is removably mounted against the bottom of the die-plate 13, its ends being provided with hooks 27 which engage around the standards 12. The rear edge of the plate 24 has notches 28 which take in standards 29 rising from the bed 10. End notches 30 in the plate 24 are provided, so that it may clear the rods 16. A latch 31 on the die-plate engages the plate 24, which latch, when disengaged, releases said plate and allows it to be dropped down.

On the bed 10 is removably mounted a block 32 which supports a plate 33 having top depressions 34 in which the lower ends of the rods 25 seat and are supported. On the plate 33 is removably mounted a block 35 which supports a plate 36 having apertures 37 through which the rods 25 pass, said plate being located below the plate 24, intermediate the ends of the rods 25. The apertures 26 and 37 and the depressions 34 are in vertical alinement and thus hold the rods 25 in upright position. The plates 33 and 36 are shaped similar to the plate 24 to engage the standards 12 and 29, whereby they are properly centered, and the ends of the plates are also notched similar to the plate 24 to clear the rods 16.

In operation, the blank 23 out of which the washers 22 have been partly stamped, is placed on the die-plate 13, the stamped out portions being pressed into the apertures 21. The treadle 17 is now pressed down, which lowers the punches 20 and brings them down on the stamped portions of the blank and punches out the same. The finished washers are pushed down in the apertures 21 by the punches, and as the upper ends of the rods 25 project into said apertures, the washers are impaled on the rods. After one or two washers have been impaled on each rod, the plate 24 may be released and allowed to drop down, as the rods will now

stand upright, and when enough washers have been impaled to reach the plate 36, the block 35 may be removed and said plate allowed to drop down. Removal of the filled rods 25 is readily effected by removing the block 32, which allows the plate 33 to drop down sufficiently to take the upper ends of the rods out of the apertures 21 and 26.

I claim:

1. The combination of a die-plate having apertures, a plate removably mounted against the under side of the die-plate and having apertures which are of smaller diameter than the die-plate apertures and in alinement with the centers thereof, rods supported at their upper ends in the apertures of the second-mentioned plate and projecting into the die-plate apertures, a removable support for the lower ends of the rods, and punches adapted to enter the die-plate apertures.

2. The combination of a die-plate having apertures, a plate removably mounted against the under side of the die-plate and having apertures which are of smaller diameter than the die-plate apertures and in alinement with the centers thereof, a latch carried by the die-plate and engageable with the second-mentioned plate for locking said plate against the die-plate, rods supported at their upper ends in the apertures of the second-mentioned plate and projecting into the die-plate apertures, a removable support for the lower ends of the rods, and punches adapted to enter the die-plate apertures.

3. The combination of a base, standards rising from the base, an apertured die-plate carried by the standards, an apertured plate removably mounted against the under side of the die-plate, the apertures of said plates being in alinement, and the apertures of the second-mentioned plate being of smaller diameter than the apertures of the die-plate, rods supported at their upper ends in the apertures of the second-mentioned plate and projecting into the die-plate apertures, a support removably mounted on the base, and a plate mounted on said support, said plate having top depressions in which the aforesaid rods seat.

4. The combination of a base, standards rising from the base, an apertured die-plate carried by the standards, an apertured plate removably mounted against the under side of the die-plate, the apertures of said plates being in alinement, and the apertures of the second-mentioned plate being of smaller diameter than the apertures of the die-plate, rods supported at their upper ends in the apertures of the second-mentioned plate and projecting into the die-plate apertures, a support removably mounted on the base, a plate mounted on said support, said plate having top depressions in which the aforesaid rods seat, a support mounted on the last-mentioned plate, and a plate mounted on said support and having apertures through which the rods pass, said plate being located intermediate the ends of the rods.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE THOLL.

Witnesses:
MARIE LAUPER,
H. T. BATCHELOR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."