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J. M. LYNCH ET AL

MACHINE FOR FEEDING HEADED BLANKS

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Fig. 1

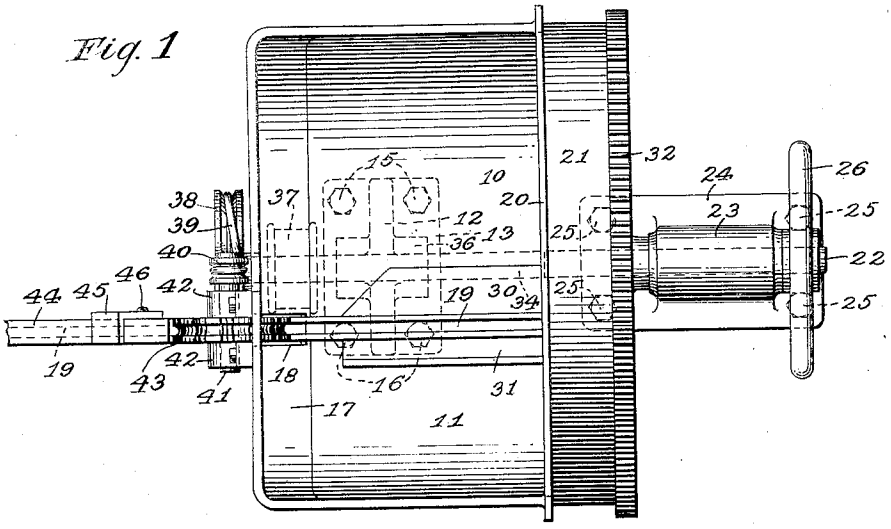
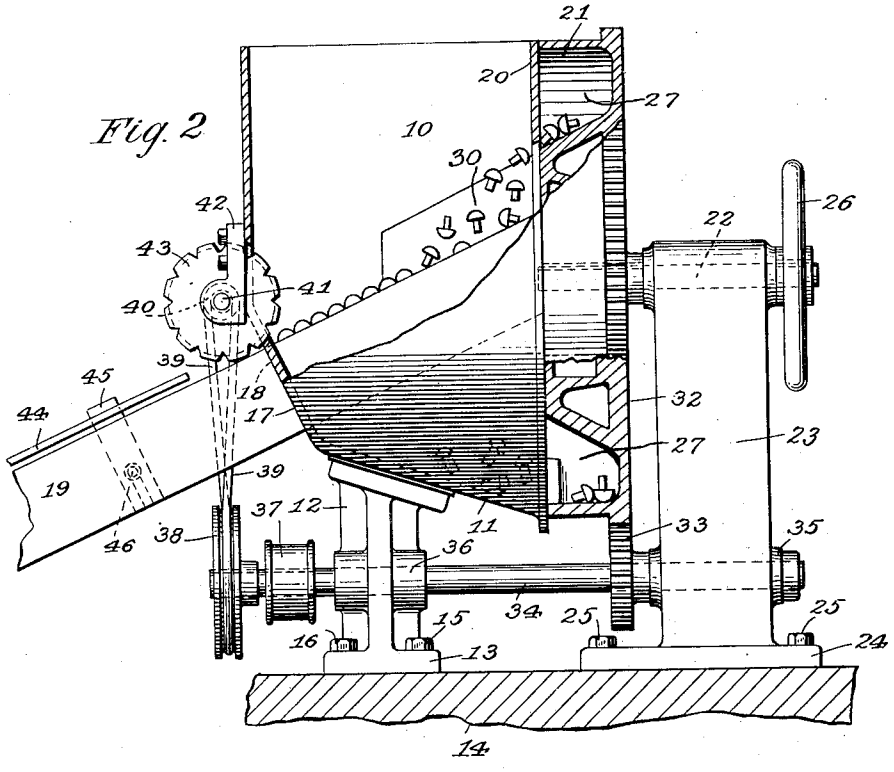



Fig. 2




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## MACHINE FOR FEEDING HEADED BLANKS.

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This invention relates to machines for automatically feeding headed blanks with their headed ends upward, and more particularly to a blank feeding machine in which a series of blanks are continuously fed upon an inclined chute from a rotary bucket wheel, which is mounted to rotate in a plane at right angles to the chute.

One object of the invention is to provide a device of the above nature which will be simple, cheap to manufacture, and very efficient and durable in use.

With these and other objects in view, there has been illustrated on the accompanying drawings one form in which the invention may be conveniently embodied in practice.

This invention is an improvement over the invention disclosed in Letters Patent #1,104,029 to Karl Weiss, granted July 21, 1914.

Fig. 1 is a top plan view of a blank feeding machine embodying the invention.

Fig. 2 is a side elevation of the same.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 generally indicates a hopper, said hopper being open at the top and rear, and having a conical bottom section 11. The bottom section 11 is adapted to be supported upon a hopper bracket 12, as clearly shown in Fig. 2, said bracket 12 being provided with a flanged base 13 secured to the platform 14 of the machine to which the blanks are to be fed, in any suitable manner, as by means of bolts 15 and 16.

The hopper is provided at the front with a vertical upper face below which is an inclined face 17 having a slot 18 through which an inclined U-shaped chute 19 is adapted to pass. The rear open face of the hopper 10 is substantially semi-circular in shape, and is provided with a peripheral flange 20 against which a rotary blank feeding bucket wheel 21 is adapted to fit. The bucket wheel 21 is mounted on a stud shaft 22 supported by a bearing standard 23. The standard 23 has a flat front section 24 secured to the base 13 by bolts 25. The rear end of the shaft 22 beyond the standard 23 is provided with a hand wheel 26 by means of which the bucket wheel 21 may be manually rotated whenever desired. The bucket wheel 21 is provided with a series of recesses or buckets 27 adjacent its periphery. Each of the buckets is closed at its top by the rim of the bucket wheel 21 and is provided with a flat rear section parallel to the plane of the bucket wheel. Each bucket 27 is provided at its forward end with a laterally inclined end wall adapted to deflect blanks toward the front of the bucket wheel. The buckets 27 are adapted to pick up blanks from the hopper 10 while the buckets are traveling upwardly, and to discharge the blanks into the chute 19 when traveling downwardly.

In order to assist in guiding the blanks into the chute, a guideway is provided, said guideway comprising a pair of diverging plates 30 and 31. The rear of the bucket wheel 21 is provided with an integral gear 32, said gear being driven by a pinion 33 mounted on a driving shaft 34. The shaft 34 is mounted in bearings 35 and 36 located on the bearing standard 23 and the hopper bracket 12 respectively. The driving shaft 34 in front of the bracket 12 is provided with a pulley 37 adapted to be driven by a suitable belt, not shown, and the end of said shaft 34 is provided with a pulley 38 upon which a belt 39 is wound. The belt 39 is adapted to drive a small pulley 40 mounted on a shaft 41 supported in a pair of brackets 42, the latter being connected to the front face 16 of the hopper.

A "kicker" or blank-rejecting wheel 43 is also mounted on said shaft 41, and is adapted to be positioned slightly above the chute 19 at the point where said chute passes through said hopper. The wheel 43 has a notched groove in its circumference which just receives the heads of blanks which lie in proper position in the chute 19 and permits them to slide down freely. The blank-rejecting wheel 43 is adapted to rotate counter clockwise as viewed in Fig. 2, and will remove from the chute any of the blanks which are not in proper position, and will return them to the hopper. In order to prevent the properly positioned blanks which pass under the "kicker" wheel from being accidently jolted out of the chute by the vibration of the machine, a cover rail 44 is provided, said cover rail being secured to said chute by angle brackets 45 and screws 46.

One advantage of the present invention lies in the fact that the bucket wheel is located at the end of the chute and at right angles thereto. By means of this construction, the blanks will be permitted to travel a long distance in the chute within the hopper. The headed blanks are thus given a greater opportunity to

right themselves in the chute, and as a consequence, a smaller percentage of blanks will have to be thrown back into the hopper by the "kicker" wheel. It will be evident from the above that the machine may be speeded up, thereby enabling a greater production to be achieved. This construction also permits the feeding of longer blanks from a given size of hopper.

While there has been disclosed in this specification, one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure, but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a machine for feeding headed blanks, a hopper open at the rear side thereof, adapted to contain a quantity of blanks, an inclined chute extending through said hopper, a vertical blank feeding wheel at right angles to the plane of said chute closing the rear side of said hopper, said blank feeding wheel having a plurality of recesses having openings on the side only for automatically picking up blanks from said hopper and delivering them out of the plane of said wheel to said chute as said wheel is rotated, said blank feeding wheel being mounted on a shaft at the rear of said hopper, and a hand wheel on the end of said shaft for manually operating said feeding wheel.

2. In a machine for feeding headed blanks, a hopper open at the rear side thereof adapted to contain a quantity of blanks, an inclined chute extending through said hopper, a vertical blank feeding wheel at right angles to the plane of said chute closing the rear side of said hopper, said blank feeding wheel having a plurality of recesses for automatically picking up blanks from said hopper and delivering them to said chute as said wheel is rotated, said recesses having side openings for discharging said blanks in a direction parallel to said chute, and means for rotating said feeding wheel.

3. In a machine for feeding headed blanks, a hopper open at the rear side thereof adapted to contain a quantity of blanks, an inclined chute extending through said hopper, a vertical blank feeding wheel at right angles to the plane of said chute closing the rear side of said hopper, said blank feeding wheel having a plurality of recesses for automatically picking up blanks from said hopper and delivering them to said chute as said wheel is rotated, said recesses having side openings for discharging said blanks in a direction parallel to said chute, said blank feeding wheel being mounted on a shaft at the rear of said hopper, a hand wheel on the end of said shaft, and a rejecting wheel at the front of said hopper for throwing back into said hopper any blanks which may be improperly located in said chute.

4. In a machine for feeding headed blanks, a hopper open at the rear side thereof adapted to contain a quantity of blanks, an inclined chute extending through said hopper, a vertical blank feeding wheel at right angles to the plane of said chute closing the rear side of said hopper, said blank feeding wheel having a plurality of recesses for automatically picking up blanks from said hopper and delivering them to said chute as said wheel is rotated, said recesses having side openings for emptying said blanks upon said chute outwardly and in a direction parallel to said chute, a rejecting wheel at the front of said hopper for kicking back any blanks which may be improperly located in said chute, and a cover rail on said chute in front of said hopper for preventing loss of blanks from said chute.

In testimony whereof, we have affixed our signatures to this specification.

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