

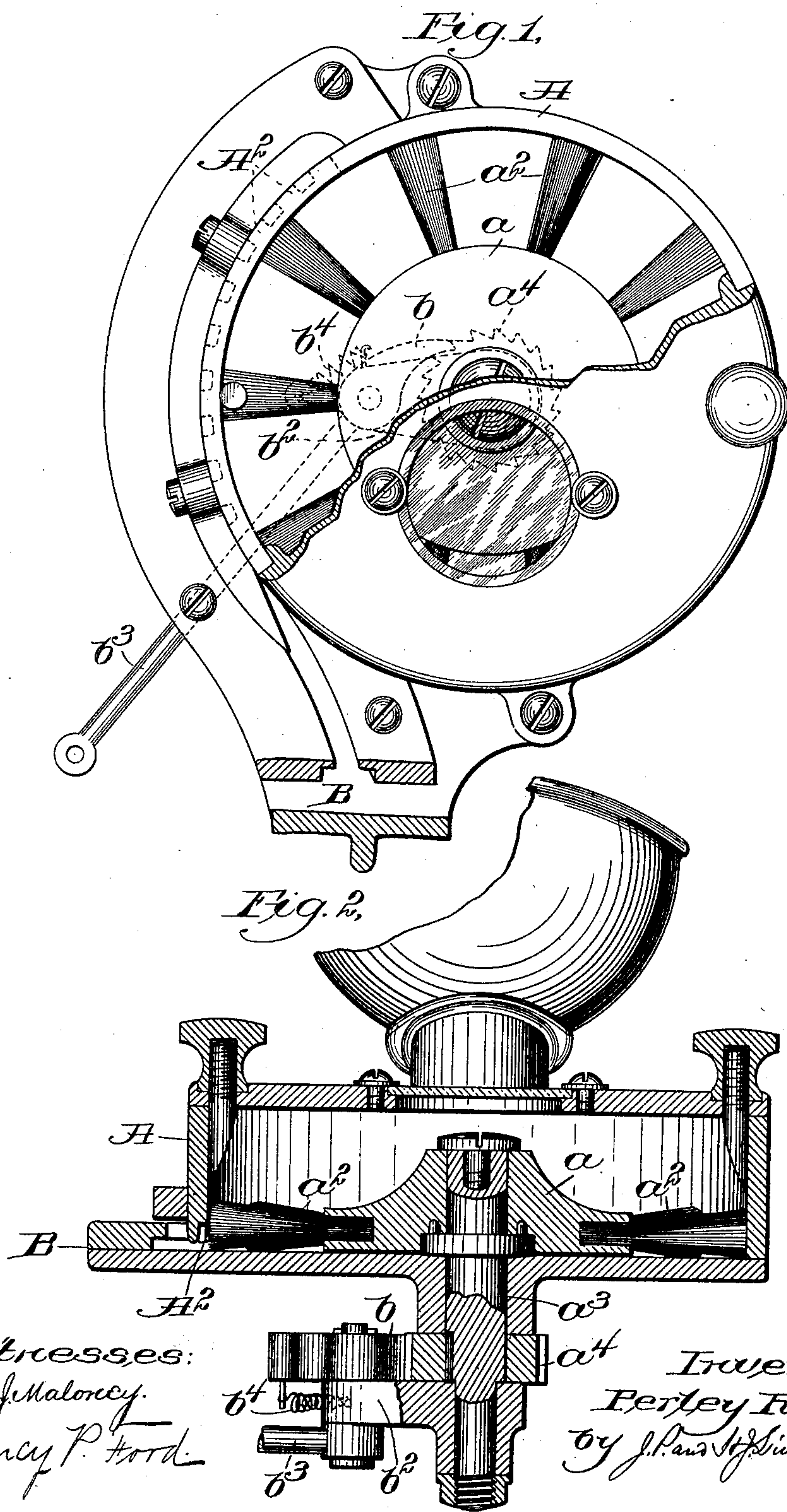
No. 668,916.

Patented Feb. 26, 1901.

P. R. GLASS.  
FASTENER FEEDING MECHANISM.

(Application filed June 18, 1900.)

(No Model.)





# UNITED STATES PATENT OFFICE.

PERLEY R. GLASS, OF QUINCY, MASSACHUSETTS.

## FASTENER-FEEDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 668,916, dated February 26, 1901.

Application filed June 18, 1900. Serial No. 20,732. (No model.)

*To all whom it may concern:*

Be it known that I, PERLEY R. GLASS, of Quincy, county of Norfolk, and State of Massachusetts, have invented an Improvement in Feeding Devices, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a machine for setting eyelets, rivets, or analogous articles and is embodied in an automatic feeding device of novel construction for supplying the operative parts of the machine with the articles upon which the machine operates.

The invention relates mainly to the agitating devices contained in the feed-hopper and is applicable to any feed-hopper of that class in which the articles pass out from the hopper through one or more openings into a feed-chute or other conducting device. Hoppers of this class are commonly somewhat inclined from a horizontal position in order to suit the necessary incline of the chute down which the articles are fed by gravity, and the articles in the hopper consequently gravitate toward the lower part thereof and have a tendency to heap up.

The feed-openings are commonly arranged along the side of the hopper, so that the articles to be operated upon are ejected into the inclined portion of the chute, and the hopper is provided with agitating devices, whereby the articles are carried along toward the openings through which the articles are ejected. In accordance with the present invention the agitating device comprises a number of radial members or brushes carried by a suitable rotatable hub within the hopper, and the said hub is arranged to have a step-by-step rotary movement and to be positively actuated in such a way as to travel substantially always in the same direction, so that at each forward movement of the said member one or more brushes pass through the mass of eyelets collected at the lowest point, carrying a number of said eyelets toward the openings. The rotary movement is intermittent, so that when the articles are carried up toward the openings they are given an opportunity to pass out through the said openings without being swept by, and, as herein shown, the rearward movement of the agitat-

ing member is not positively prevented by any part of the mechanism, so that when the hopper is nearly empty and the member not retarded by a mass of articles at the lower part of the hopper the agitating device is free to reciprocate to some extent, thereby carrying the articles which are between adjacent brushes back and forth across the openings, so that the hopper can be very nearly emptied. By such a construction the feeding of the articles is greatly facilitated, and, furthermore, the articles are not subjected to injury, as by being bruised or scratched, since they are carried along in one direction only instead of being continually swept back and forth, as in the feeding devices now commonly used.

Figure 1 is a plan view, partly in section, of a feeding device embodying the invention; and Fig. 2 is a vertical section thereof.

The hopper A, which may be of any suitable or usual shape or construction, is provided along a portion of the side thereof with openings A<sup>2</sup>, leading to the chute B, the said openings being so shaped as properly to position the articles passing out through the same. In practice the hopper and chute are inclined, so that the articles will gravitate down the chute after leaving the hopper, and the tendency of the articles in the hopper therefore is to gravitate toward the lower part of the said hopper and to heap up therein, and in order to keep presenting a number of articles to the openings the hopper is provided with radial engaging members or brushes a<sup>2</sup>, which extend laterally from the said hub toward the side of the hopper, adjacent to the bottom thereof, so as to sweep the articles nearest the bottom along the wall which is provided with the openings A<sup>2</sup>. In accordance with the invention the said hub a is arranged to have a step-by-step movement always in the same direction, the direction being such that the brushes in approaching the openings A<sup>2</sup> will approach the same from the lower portion of the hopper, where the articles naturally collect, it being obvious, therefore, that at each forward movement of the hub a a number of the articles will be swept out from under the mass and carried along past the openings. At the end of each movement, however, there is a slight



movement in the opposite direction, which materially aids in guiding the eyelets into the openings. To produce the movements described, the hub is shown as mounted on a shaft  $a^3$ , having a suitable bearing in the bottom of the hopper, the said shaft being provided with a ratchet  $a^4$ , which is arranged to be acted upon by a pawl  $b$ , carried on an oscillating arm  $b^2$ , suitably connected, as by a rod  $b^3$ , with some portion of the machine not herein shown. In an eyeleting-machine, for example, the hopper and chute are commonly mounted upon a reciprocating frame, and the member  $b^3$  in this instance may be connected with some stationary portion of the machine, so that at each movement of the feed-frame in one direction the pawl  $b$  will be moved back over the teeth of the ratchet  $a^4$ , the movement of the feed-frame in the opposite direction producing a partial rotation of the member  $a$ . The pawl is shown as held in contact with the teeth of the ratchet  $a^4$  by means of a spring  $b^4$ , and the rearward movement of the member  $a$  is not prevented except by the resistance of the articles in the hopper, so that the frictional hold of the pawl causes a slight movement of the agitating devices in the reverse direction as said pawl moves back preparatory to engaging another tooth.

In the operation of the device the agitating members, as described, intermittently move a considerable distance under the action of the pawl, the movements always being in the same direction—that is, from the mass of eyelets at the lower portion of the hopper toward the openings along the side wall of the hopper—there being, however, at the end of each

movement a slight movement in the opposite direction, so that the eyelets carried up have a chance to “settle,” so to speak, and pass through the openings into the feed-chute.

I claim—

1. The combination with a feed-hopper provided with lateral openings so shaped as to position the articles passing through; of an agitating device comprising a rotatable member within said hopper having lateral engaging portions or brushes extending toward the said openings; and means for producing a step-by-step rotary movement of said member mainly in the same direction and a slight movement in the opposite direction at the end of each step, as set forth.

2. The combination with a hopper the wall of which is provided with openings so shaped as to position the articles passing through; of an agitating device within said hopper to direct the articles toward said openings; a ratchet connected with said agitating device to produce a rotary movement thereof; a pawl cooperating with the teeth of said ratchet and held in contact therewith by means of a spring; and means for reciprocating the said pawl, whereby said agitating device is moved step by step in one direction and given a slight movement in the opposite direction at the end of each step, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PERLEY R. GLASS.

Witnesses:

HENRY J. LIVERMORE,  
NANCY P. FORD.