D. C. SASSEMAN.

BUTTON FEEDING MECHANISM.

APPLICATION FILED JAN. 9, 1911.

1,126,091.

Patented Jan. 26, 1915.

2 SHEETS—SHEET 1.

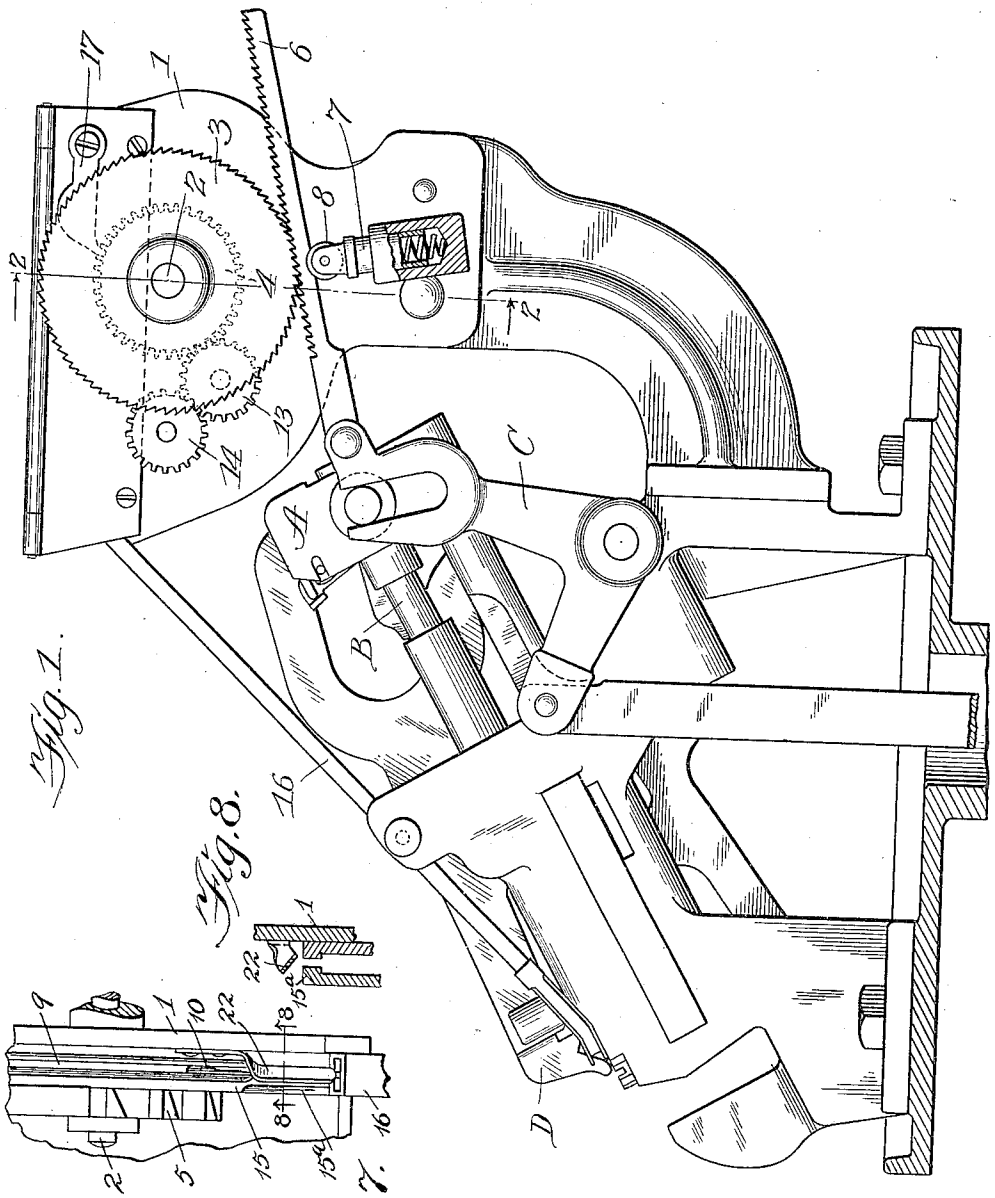


Fig. 7.

Fig. 8.

Witnesses:

P. J. Gathmann

Robt. H. Burton

Inventor:

David C. Sasseman.

By Burton & Burton

his Attorneys:

D. C. SASSEMAN.

BUTTON FEEDING MECHANISM.

APPLICATION FILED JAN. 9, 1911.

1,126,091.

Patented Jan. 26, 1915.

2 SHEETS—SHEET 2.

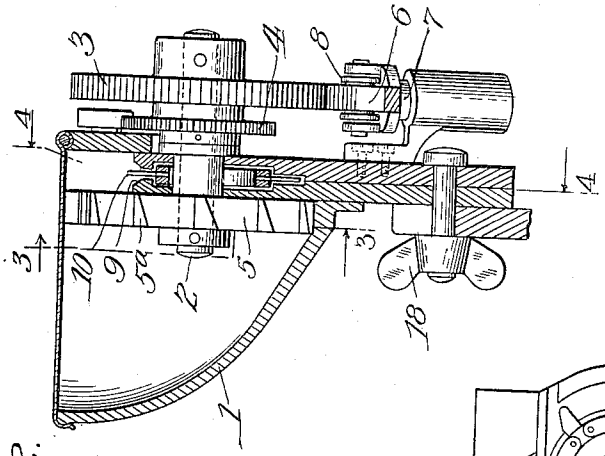


Fig. 2.

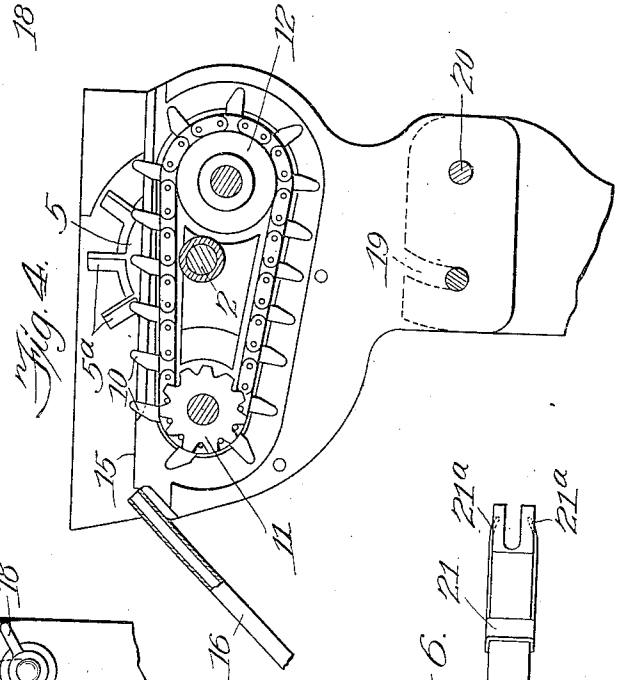


Fig. 4.

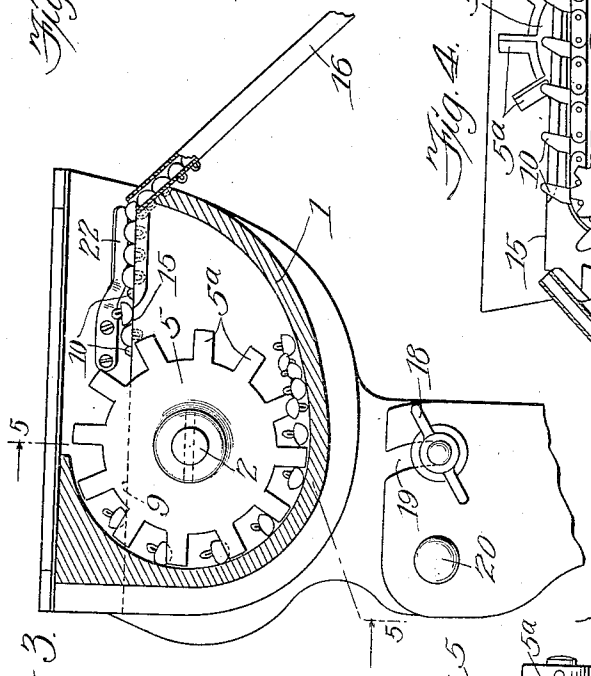


Fig. 3.

Fig. 6.

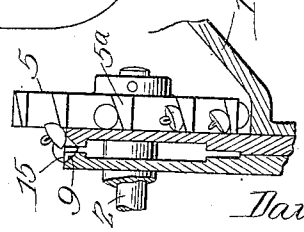


Fig. 5.

Witnesses:

P. J. Gathmann

Robt. N. Burton

Inventor:

David C. Sasseman

By Burton & Burton

His Attorneys:

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DAVID C. SASSEMAN, OF RIVER FOREST, ILLINOIS, ASSIGNOR TO F. H. SMITH MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

BUTTON-FEEDING MECHANISM.

1,126,091. Specification of Letters Patent. Patented Jan. 26, 1915.

Original application filed October 15, 1910, Serial No. 587,159. Divided and this application filed January 9, 1911. Serial No. 601,583.

To all whom it may concern:

Be it known that I, DAVID C. SASSEMAN, a citizen of the United States, residing at River Forest, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Button-Feeding Mechanism, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

This application is a division of my application, Serial No. 587,159, filed October 15, 1910, issued as Patent No. 1,020,058 dated March 12, 1912, and relates to feeding mechanism for buttons or similar irregularly shaped objects which are required to be fed to another mechanism in a particular position.

It relates to the features described and shown in the drawings as indicated in the claims.

In the drawings:—Figure 1 is a side elevation of a button-setting machine provided with a feeding device embodying this invention. Fig. 2 is a section at the line 2—2 on Fig. 1. Fig. 3 is a section at the line 3—3 on Fig. 2. Fig. 4 is a section at the line 4—4 on Fig. 2. Fig. 5 is a detail section as indicated at the line 5—5 on Fig. 3. Fig. 6 is a detail of a spring-detent applied to the button-delivering chute. Fig. 7 is a partial top plan view looking into the hopper on to the track and showing the inclined deflector-blade extending over the track. Fig. 8 is a detail section taken, as indicated, at line 8—8 on Fig. 7.

As shown in the drawings, this feeding mechanism is connected with a machine for attaching buttons to fabric or leather, ordinarily known as a button-setting machine. The feeding device is, however, applicable to many other mechanisms in which it is desired to feed buttons or similarly irregular objects from a container to the point at which such objects are to be operated upon.

The buttons are contained in the hopper, 1, through the flat side of which is journaled the shaft, 2, carrying outside the hopper a ratchet wheel, 3, and a spur gear, 4, and on the inner end the feeder wheel, 5, to which the shape of the bottom of the hopper closely conforms. As a part of the button-setting mechanism, there is shown a cross-head A, carrying a clenching plunger B, and actuated by movement of a bell-crank C, and a treadle connected thereto but not shown. Each return swing of the bell crank, C moves the rack-bar, 6, in a direction for rotating the wheel, 3, the said rack and wheel being yieldingly held in engagement by a spring-pressed plunger, 7, provided with an anti-friction roller, 8. By means of inclined blades, 5^a, radially projecting from the periphery of the wheel, 5, some of the buttons are delivered by each rotation of the wheel onto the V-shaped track, 9, formed in a horizontal ledge in the flat vertical wall of the hopper. Through a slot in the bottom of this track there project the dogs, 10, of a conveyer chain which runs over chain wheels, 11 and 12, the wheel, 11, being driven by the train consisting of the gears 4, 13 and 14, shown in Fig. 1, and moving simultaneously with the ratchet train and feeder wheel. By the dogs, 10, the buttons are fed forward toward the bridge, 15, leading to the chute, 16. It is found from experience that about fifty per cent. of the buttons are delivered upon the track, 9, in position to lodge with their eyes projecting into the slot. Since the chute, 16, is tubular in form and only of sufficient cross section to accommodate buttons having their eye loops lodged in this slot, those buttons not becoming so lodged cannot enter the chute and consequently pile up and roll off the track at the bridge, 15, which is made slotted but flat on top, or even slightly crowned or convex instead of V-shaped, so as to afford no guidance for the buttons except by engagement of their eyes with the slot; as shown in the drawings, this effect is obtained by beveling off the side of the track toward the hopper body, as indicated at 15^a in Figs. 3 and 8. Also, in the event that the chute, 16, should become completely filled, any excess feed of buttons would simply pile up on the bridge, 15, and drop back into the hopper. Reversal of the feed train is prevented by the dog, 17, engaging the teeth of the gear, 4. Fig. 3 shows a thumb nut, 18, and an upwardly-opening slot, 19, in the hopper-supporting bracket, by virtue of which the hopper can be readily swung about the pin, 20, and completely emptied when desired. The buttons having been delivered to the chute, 16, from the hopper, descend therein by gravity and are prevented from escaping at

the lower end by a spring detent, 21, clasped around the chute and having fingers, 21ª, projecting laterally into the chute just ahead of the lowest button, but which are snapped apart by said button as it is carried forward under the controller arm, D, or other forwarding means which might be provided.

In order to make absolutely certain the rejection of all buttons which do not reach the bridge, 15, with their eye-loops engaging the slots, a wiper blade, 22, may be mounted above this portion of the track in position to just clear all buttons properly lodged with their eyes in the slots, but to encounter and remove from the track any buttons otherwise lodged upon it. As indicated in Figs. 3, 7 and 8, this wiper blade, 22, is suspended over the track in an inclined plane, proximate or tangent to the path of the heads of properly lodged buttons; buttons lodging improperly on the side of the track toward the hopper, will roll down the beveled surface, 15ª, by gravity, and will be in no danger of entering the chute, 16, but buttons becoming improperly lodged on the other side of the track, might become wedged between the heads of properly lodged buttons except for the presence of the yielding wiper blade, 22, which will be forced aside by any buttons becoming thus lodged until the yielding spring pressure thus accumulated in the blade reacts to throw the improperly lodged button off the track entirely, and thus prevent the clogging of the feed mechanism.

I claim:—

1. A button-feeding mechanism comprising a hopper; a feeder wheel mounted for rotation within the hopper; a track for the buttons positioned to receive them from said feeder wheel; a conveyer chain having links formed with dogs and mounted for travel of said dogs along said track, the hopper having a delivery opening to which the track leads, and means for rotating the feeder wheel and driving said conveyer chain.

2. A button-feeding mechanism comprising a hopper; a feeder wheel mounted for rotation within the hopper; a slotted track for the buttons positioned to receive them from said feeder wheel; a sprocket wheel; a conveyer chain mounted to be driven thereby and having links formed with dogs which protrude through the slotted track, the hopper having a delivery opening to which said track leads, and means for rotating the feeder wheel and sprocket wheel.

3. A button-feeding mechanism comprising a hopper having a flat vertical wall, a feeder wheel mounted for rotation upon the flat wall of the hopper and within the same, the remaining walls of the hopper being sloped downwardly toward the feeder wheel, and the bottom of the hopper being conformed to the curve of said wheel at its ascending side, a track for the buttons formed in the top of the flat wall, radially projecting blades on the feeder wheel inclined downward toward the wall at the ascending side of the wheel, means for rotating the wheel, and means for advancing the buttons along the track.

4. A button-feeding mechanism comprising a hopper having a flat vertical wall, said wall being hollow, a sprocket wheel mounted for rotation within the hollow of the wall, a chain mounted to be driven by said sprocket wheel and having links formed with dogs, a channel in the top of the wall communicating with the hollow therein and into which channel the dogs of the chain protrude, a feeder wheel mounted for rotation within the hopper positioned to feed buttons into said channel, and means for rotating the feeder wheel and the sprocket wheel.

5. In a button-feeding mechanism, a track longitudinally slotted for engaging the downwardly-protruding eye loops of buttons, one portion of the track being formed with its top surface sloping downwardly away from the slot; means for advancing the buttons along said track, and a wiper blade suspended over said portion of the track in an inclined plane substantially tangent to the heads of properly lodged buttons adapted to yield laterally and to react toward the sloping side of the track for removing improperly lodged buttons therefrom.

6. A button-feeding mechanism comprising a hopper, and a feeder wheel mounted for rotation within said hopper and being composed of a hub portion and radial blades projecting therefrom, said hopper having a flat wall formed with a ledge designed to serve as a track for buttons, said feeder wheel being mounted against said flat wall with its axis of rotation perpendicular thereto, and its hub portion being tapered or inclined toward said wall for delivering on to the track the buttons which lodge between the blades of the wheel.

In testimony whereof, I have hereunto set my hand, at Chicago, Illinois, this 6th day of January, 1911.

DAVID C. SASSEMAN.

Witnesses:
ROBT. N. BURTON,
JEAN ELLIOTT.

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