(No Model.)

3 Sheets—Sheet 1.

C. RADCLIFFE.

FEEDING DEVICE FOR BUTTON MACHINES, &c.

No. 535,996. Patented Mar. 19, 1895.

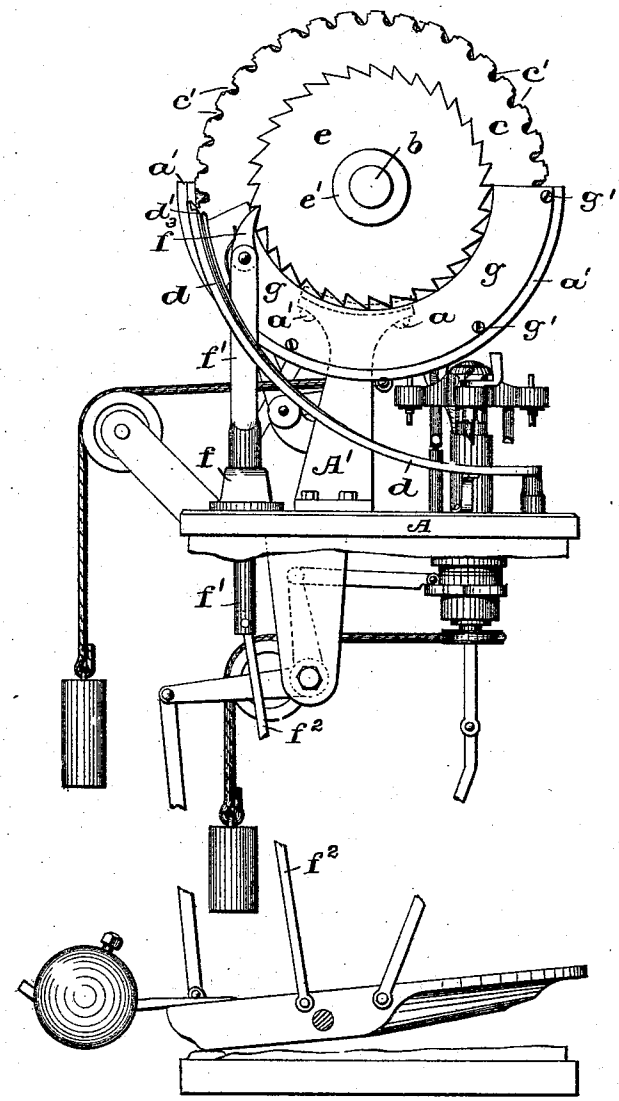

FIG. 1

WITNESSES:

B. Mortimer Truedell.

Wm. H. Canfield, Jr.

INVENTOR:

CHARLES RADCLIFFE.

BY Fred'k C. Fraentzel, ATT'Y.

(No Model.) 3 Sheets—Sheet 2.

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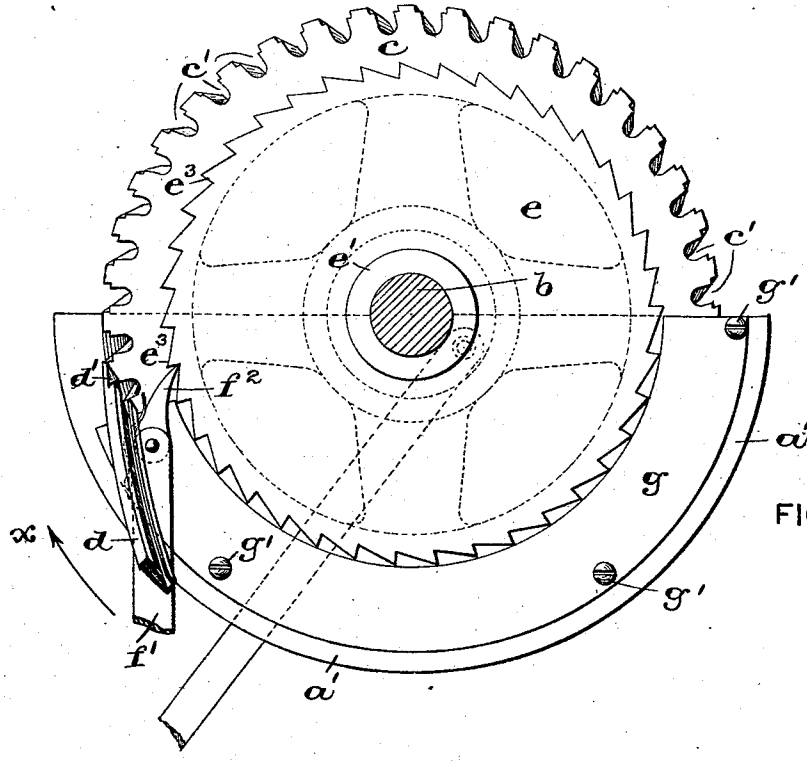

FIG. 2

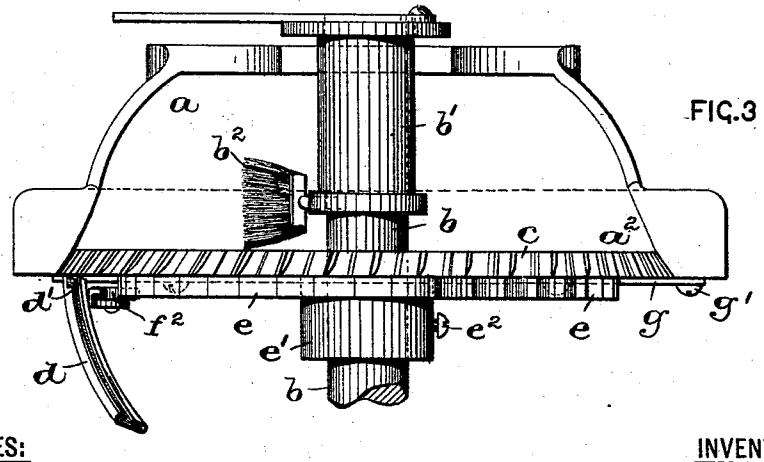

FIG. 3

WITNESSES:

B. Mortimer Crisdell.

Wm. H. Canfield, Jr.

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CHARLES RADCLIFFE.

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(No Model.) 3 Sheets—Sheet 3.

C. RADCLIFFE.

FEEDING DEVICE FOR BUTTON MACHINES, &c.

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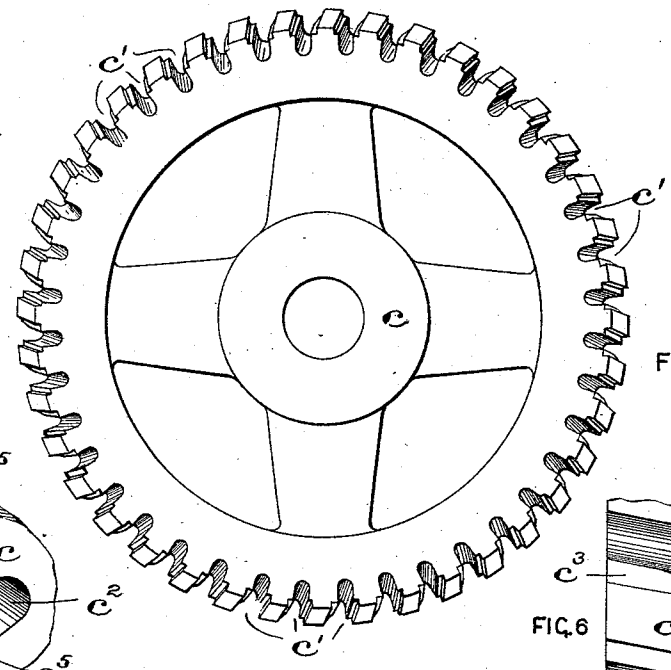

FIG. 4

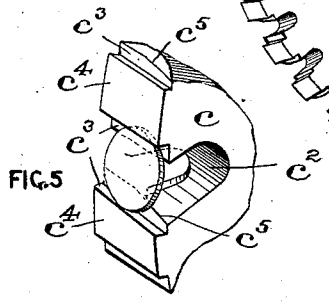

FIG. 5

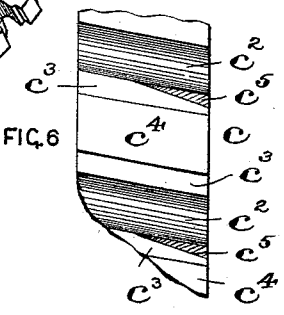

FIG. 6

WITNESSES:

B. Mortimer Brusdell

Wm. H. Caulfield, Jr.

INVENTOR:

CHARLES RADCLIFFE.

BY Fred'k C. Fraentzel, ATT'Y.

UNITED STATES PATENT OFFICE.

CHARLES RADCLIFFE, OF NEWARK, NEW JERSEY.

FEEDING DEVICE FOR BUTTON-MACHINES, &c.

SPECIFICATION forming part of Letters Patent No. 535,996, dated March 19, 1895.

Application filed October 9, 1894. Serial No. 525,353. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RADCLIFFE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Feeding Devices for Button or other Like Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My present invention relates to improvements in devices for automatically feeding the parts employed in the manufacture of buttons, or other small articles of a similar nature, to their proper positions on a piece of goods, previous to the forming of a complete button firmly attached to the material.

The invention therefore consists in the construction of the various parts of the mechanism and the combination of the devices employed, in the manner herein explained, with a view to the production of a cheaper, a more convenient, and a practically efficient feeding device, for the purposes stated.

The devices to be hereinafter more fully explained and described are intended for use more especially in connection with the button-attaching machines, claimed by me in my previous Letters Patent, Nos. 486,895 and 486,896, issued November 29, 1892; but the same may be used on any other machine for feeding parts or buttons or small articles of a like nature.

The invention is illustrated in the accompanying sheets of drawings, in which—

Figure 1 is a side view of a button-attaching machine, provided with a feeding device embodying the principles of my invention. Fig. 2 is a side view, on an enlarged scale, of my novel form of feeding device, and Fig. 3 is a top view of the same. Fig. 4 is a view of the opposite side of the feeding wheel used in connection with my improvement. Fig. 5 is a perspective view, and Fig. 6 a face view of the receiving portions of the wheel illustrated in said Fig. 4.

As has been stated the main purpose of my present invention is to provide an improved form of feeding device to be used in connection, more especially, with any construction of button machines, for feeding, either the back-plate with its post to be forced through the material, or the shell of the button, to that part of the machine, where said parts are secured to the cloth and firmly fastened together to produce the finished button.

With this object in view, A, in the above described drawings, designates any suitable stand or table provided with any form of operating mechanism, such as for example, of the construction illustrated in my former patent, No. 486,896. A′ is a standard secured in any convenient manner upon said table or support, to which is secured, by means of bolts or screws a, as indicated in dotted lines, in Fig. 1, or in any other well-known manner, a half-section or shell a' which is open on one end, as at a^2. On a shaft b, adapted to rotate in said shell is secured my novel form of back-plate or shell-feeding device c, which loosely fits in the contour of the open side a^2 of said shell a, thereby virtually closing said side, and while capable of a rotation therein, forms a pocket or hopper for the back-plates or shells of a button to be fed by means of said wheel c into a suitable chute or race-way d. The mechanism for producing a step-by-step movement of the said wheel c is similar to that described and illustrated in my previous patents herein-above mentioned. The same consists essentially of a toothed wheel e provided with a boss e', and a screw e^2 for securing the same to said shaft b. Arranged upon the table or support A is a tubular standard f, in which is adapted to move a post f', pivotally connected by means of a rod f^2 to the treadle of the machine. The upper end of said post f' is provided with a spring-actuated dog or jaw f^3, which is in normal contact with the teeth e^3 of the wheel e, and when working the treadle, said post f' moves upwardly, thereby causing the wheel e on the shaft b to move one tooth and bringing a back-plate or shell-receiving space c' on the wheel c, directly in front of the receiving end d' of the chute or race-way d, to drop the back-plate or shell into said chute. Of course it will be evident, that this means for operating said wheel is but one form of construction that may be used, and I may employ other

forms for performing the same result. The brushes b^2 arranged on a sleeve b' on said shaft, b, for sweeping the back-plates or shells in said receiving portions c' of the wheel c, may be of a construction similar to that described in my previous Letters Patent hereinabove mentioned, and may be operated in a like manner, and it will therefore not be necessary to further describe these parts.

As will be seen more especially from Figs. 4, 5 and 6, the shell or back-plate-feeding wheel c is provided in its periphery with a series of retaining portions c'. These consist essentially of a deep recess c^2 of any suitable depth or width to receive the post on said back-plate of the hub on the shell of the button and the recessed guide-portions c^3 directly back of the inclined faces c^4 of said receiving portions, to receive the edges of the back-plate, as will be seen from an inspection of Fig. 5. Said recessed portions are all angularly arranged with the flat sides of said wheel and to retain the back-plate or shell in its receiving-portion, during the rotation of said wheel c in the direction of the arrow x, see Fig. 2, the opposite side of the lower portion of said wheel is protected by a plate g secured to the shell a by means of screws g'. Said plate terminates directly beneath the receiving portion d' of the chute d. As will be noticed from said Figs. 5 and 6, the recessed part c^2 of the receiving portion c' of the wheel c, is provided with an inclined edge c^5, thereby considerably enlarging the opening of said recess c^2 as it comes in position in front of the receiving portion d' of the chute d and thereby enabling the quick discharge of said back-plate on the shell of a button into the chute. Owing to the inclination of the peripheral edge of said wheel c coming in contact with said plate g, the back-plates or shells of the buttons will readily place themselves in the proper positions in the receiving portions of said wheel.

The feeding wheel, as will be seen from Fig. 4, is made in the manner of a toothed wheel, having recessed parts c^2 into which the posts on the back-plates or the hubs of the shells arrange themselves and are properly fed to the delivery chute, the only change in the construction of the wheels intended for the feeding of different parts of buttons, being in the differences in the width and depth of the said recessed portions c^2. Otherwise, the construction of the wheels is alike in all respects. Owing to the arrangement and construction of the receiving-portions in said wheels, when a back-plate or shell endeavors to enter the recess in a wrong position, it cannot be held in position therein, being rejected and its place immediately occupied by another back-plate or shell, as the case may be.

It will be understood, that the receiving portion d' of the chute d, may be in communication with the wheel c at any suitable point, either at the top, or at the bottom or at any other point of the wheel, but preferably at the side, as shown in the accompanying drawings.

The receiving portions in the wheel c may be of other suitable configurations than those shown herein, to suit the shape of the article to be fed to other parts of the machine, the essential feature of my machine being a feeding wheel having an inclined peripheral surface with receiving portions in said inclined surface of any desirable shape.

Having thus described my invention, what I claim is—

1. In a button attaching or other like machine, the herein described feeding device consisting essentially of a wheel, as c, having receiving portions in its periphery, comprising therein recessed parts c^2, recessed guide portions c^3, and an inclined edge c^5 connected with one of said portions, substantially as and for the purposes set forth.

2. In a button attaching or other like machine, the herein described feeding device, consisting essentially of a vertically arranged wheel, as c, having an inclined peripheral surface, and receiving portions in said inclined peripheral surface, adapted to receive but one part to be delivered, at one time, substantially as and for the purposes set forth.

3. In a button attaching or other like machine, the herein described feeding device, consisting essentially of a wheel, as c, having an inclined peripheral surface, and receiving portions therein, comprising the recessed parts c^2, recessed guide portions c^3 and an inclined or beveled edge connected with one of said portions c^3, substantially as and for the purposes set forth.

4. The combination, in a machine for attaching buttons or the like, of a base or table, a standard thereon, a shell, as a, connected with said standard, a shaft, a back-plate or shell feeding wheel arranged on said shaft, said wheel having an angular periphery, receiving portions in the inclined surface thereof, adapted to receive but one part to be delivered, at one time, and a chute or race-way, all arranged as and for the purposes set forth.

5. The combination, in a machine for attaching buttons or the like, of a base or table, a standard thereon, a shell, as a, connected with said standard, a shaft, a back-plate or shell-feeding wheel arranged on said shaft, said wheel having an angular periphery, receiving portions in the inclined surface thereof, adapted to receive but one part to be delivered, at one time, and a chute or race-way, and mechanism on said shaft for causing a rotary movement of said feeding device, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 5th day of October, 1894.

CHARLES RADCLIFFE.

Witnesses:
FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.