

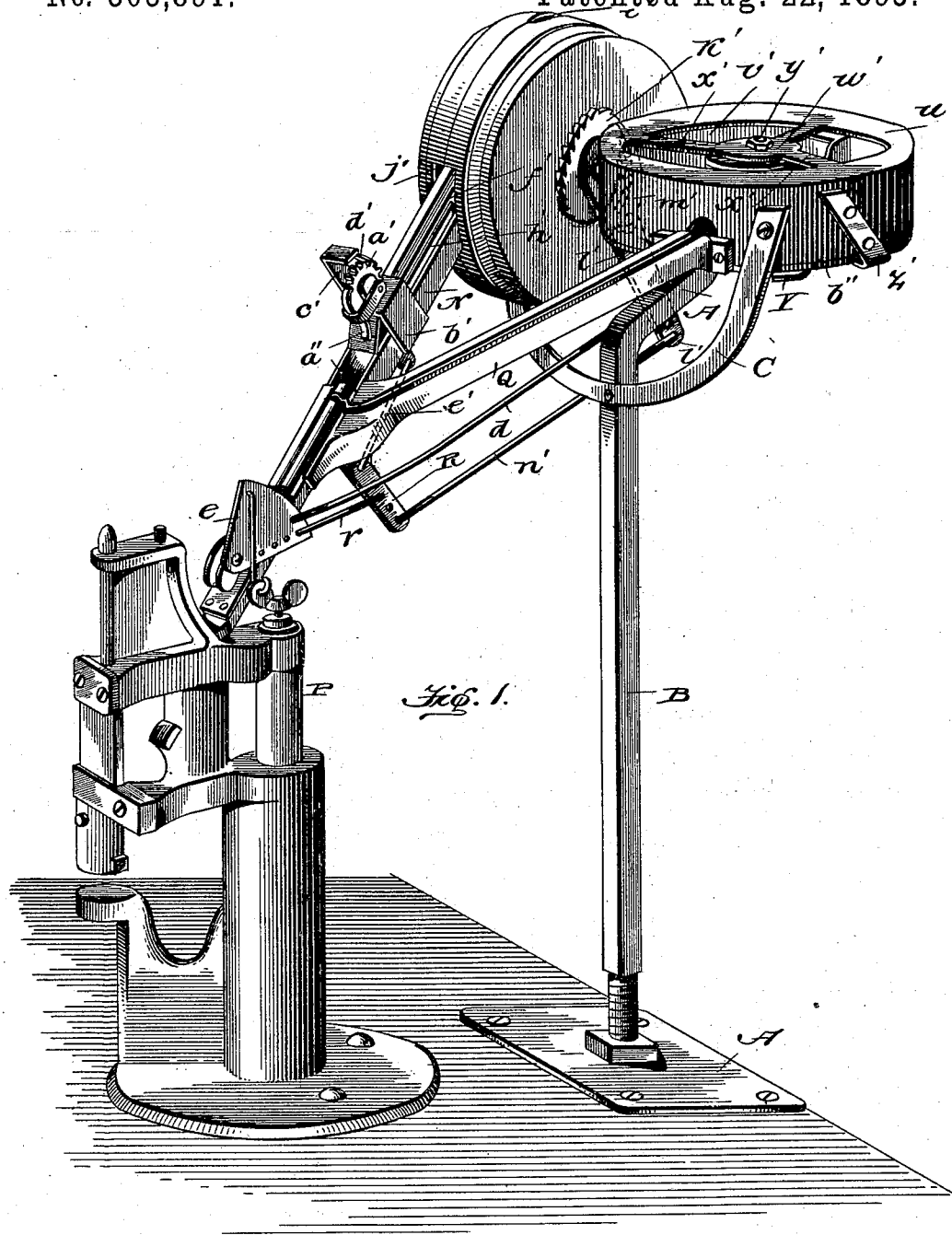
(No Model.)

2 Sheets—Sheet 1.

G. W. ALTMAN.
BUTTON SETTING MACHINE.

No. 503,891.

Patented Aug. 22, 1893.



Witnesses
Wm. C. Dashiell
 Jas. B. Clarke

Inventor
George W. Altman
By, E. H. Bates
Att'y.

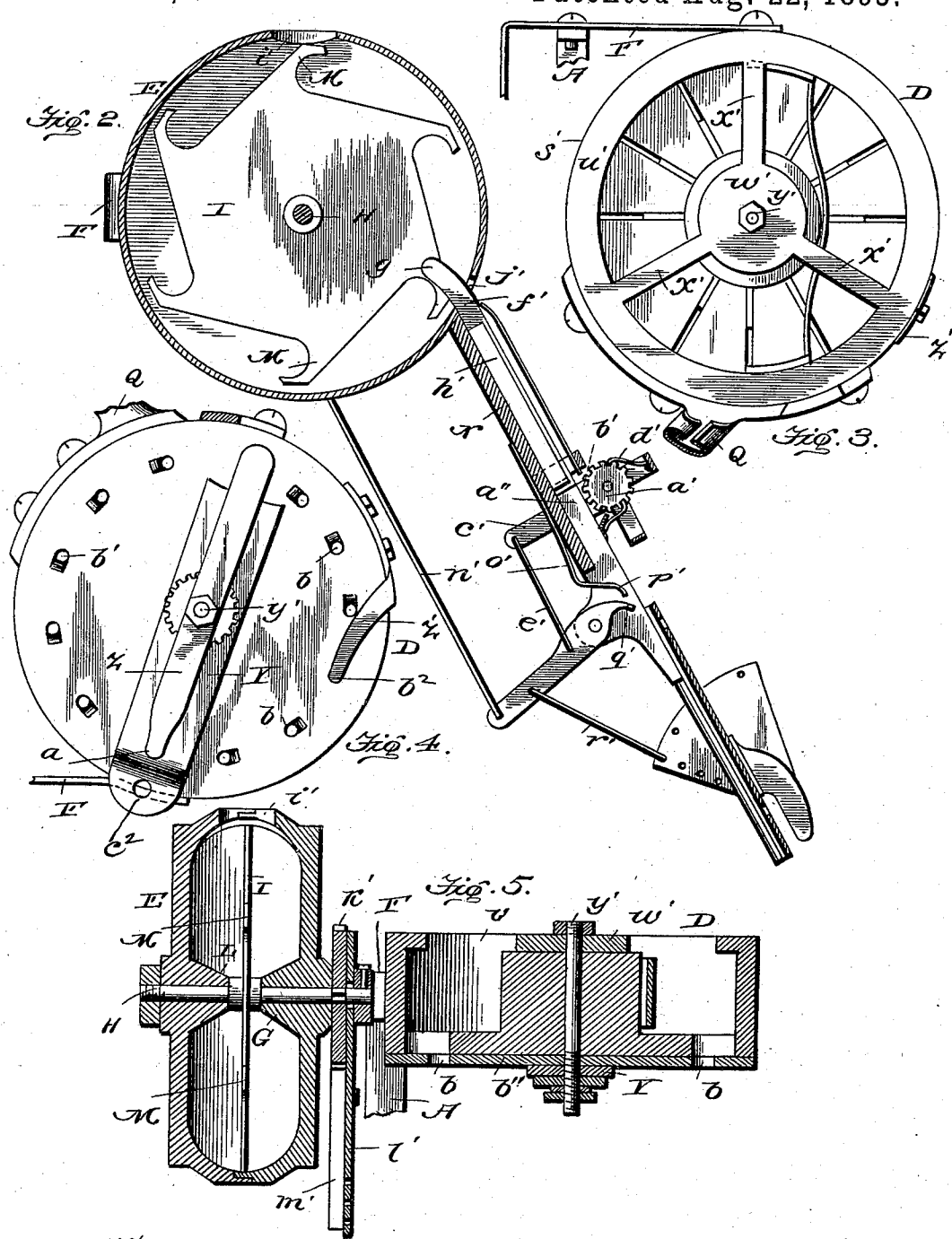
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UNITED STATES PATENT OFFICE.

GEORGE W. ALTMAN, OF MARION, INDIANA.

BUTTON-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 503,891, dated August 22, 1893.

Application filed May 3, 1893. Serial No. 472,842. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. ALTMAN, a citizen of the United States, residing at Marion, in the county of Grant and State of Indiana, have invented certain new and useful Improvements in Button-Setting 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.

This invention relates to button-setting machines for securing buttons to shoes, and it consists in the construction and novel combination of the parts of the same, as will be hereinafter fully described and particularly pointed out in the claims.

Figure 1, is a perspective view of my device. Fig. 2, is a vertical sectional view of the staple drum and its chute. Fig. 3, is a plan view of the button cylinder. Fig. 4 is a bottom view of the same, and Fig. 5 is a vertical transverse sectional view of button cylinder and staple drum.

Referring by letter to the accompanying drawings, A designates the base-plate by which the machine is secured to the bench or base on which it is to be used.

B is the standard which supports the operating mechanism. The lower end of this standard is screw-threaded and is provided with jam-nuts and a washer for holding the standard in its seat in the base-plate, the base-plate itself being secured in place upon the bench or other place by bolts and nuts. The standard B is bent or curved near its upper end rearwardly away from the perpendicular line of the standard, and has secured to it just below the first or initial bend or curve a U-shape brace, one of the ends of which is secured by a screw to the button-feeding cylinder D and the other end to the staple-feeding drum E supported mainly by a cross head or bracket F secured to the upper end of the standard B, screws being preferably employed to secure these several parts in position on the standard and brace.

On the inner face of the staple-feeding drum around its arbor line is an integral inwardly projecting cone-shaped bushing G, which forms one of the bearings for the shaft H of the staple-feeding saw I, the hub of said saw

I, being rigidly secured to the saw-shaft H. The staple feeding drum is made in two vertically disposed sections and on the outer one of these sections and projecting from the inner face of the same is a cone-shaped portion L which forms another bearing for the shaft H.

The staple-feeding saw I is provided with hook-shaped teeth M the hooks projecting all in the same direction from a common center, these teeth M being designed to feed the staples for securing the shoe-buttons through the staple-tube or chute N to the anvil P which clinches them to the fabric of the shoe, after said staples have met with the eye of the button-shanks as they come from the button-chute Q which leads into the staple-feeding chute at a point in the staple-feeding-chute where the lever R is fulcrumed, and engages and places the staple into the eye of the button-shank. The threaded eye and staple are then forced or moved down by the following or succeeding staples and buttons, to the anvil P, which, however, forms no part of the present improvement,—and are there clinched or fastened by the action of the anvil. Y is a spring which engages the power end of a stop-lever Z having a stud *a* at its forward end which passes upwardly through a hole *b* in the front end of said lever immediately in rear of its connection with the curved rod *d* connected to a pivoted and perforated segmental plate *e* at the front end of the staple chute. The segmental plate *e* is also connected with the clinching mechanism at the anvil.

On the staple-tube is arranged a feeding-wheel *a'* that is mounted on a frame *b'* secured upon the channel portion *a''* of the staple-tube, and pivoted to the journal of said wheel is a lever *c'* having a pawl *d'* that engages the teeth of the staple-feeding wheel *a'*, and connected to the lower end of this lever is a rod *e'*, the opposite end thereof being connected to the long arm of the lever R. Thus at every stroke of the clinching device the wheel *a'* is moved, and the staples, by the teeth thereof, are caused to pass downwardly to the button, and meet the same at the intersection of the tubes, one at a time, where they are threaded. Centrally arranged within this channel *a''* is a guide-bar *f'*; the curved end *g'* of which enters the drum and said bar has

on either side two spring-arms h' , h' ; the inner ends of which are fixed to the central arm while the opposite ends thereof are free and serve to keep the staples in an upright position on the center-bar when said staples are riding the bar in their exit from the drum. At the same time said side springs serve to retard sufficiently the downward movement of said staples as the latter are crowded upon said arm by the teeth of the revolving saw I. The staples are put into the drum at the opening i' , and leave said drum at the opening j' .

Upon the inner end of the shaft H and between the drum and the button-feeding cylinder, is secured a ratchet wheel k' and loosely pivoted to said shaft is an arm l' to which is pivoted a pawl m' that engages the ratchet wheel aforesaid and which causes the shaft to revolve with its toothed wheel, when the device is operated. The lower end of this pivoted arm is connected to the plate e by a rod n' .

Beneath the channeled staple-chute is secured one end of a flat spring o' ; the free curved end p' of which engages the buttons at the intersection of the staple and button tubes and retards the movement of the lowest button while the same is being threaded, *i. e.*, the staple prong passing into the eye thereof, after which the upper curved end q' of the pivoted lever R, forces the threaded button downwardly toward the anvil where it is attached to a shoe. This lever R, is connected also to the plate e by a rod r' .

The button cylinder D, consists of two parts s' , b'' ; the cylindrical portion s' is flanged at u' and open at the top as at v having a central plate w' and arms x' connecting the central plate to the cylinder. The portion b'' forms the bottom of this cylinder and the same revolves and is supported upon a vertical bolt y' which has its bearing in the plate w' . The under-face of this revolving bottom plate of the button cylinder has holes or depressions b in which the stud a engages whereby the bottom is turned or revolved at every stroke of the anvil. A stop or retaining spring z' , is secured to the cylinder and the point b^2 engages one of the holes b and prevents a reverse action of the bottom as well as holding the same in position until acted upon by the lever y . This lever with its spring z is pivoted to the bolt y' and is

arranged beneath the bottom of the button cylinder, the end c^2 being connected to the segmental plate by the rod d . Thus it will be seen that at every stroke of the anvil when clinching the staple with its button to the shoe, the toothed plate within the staple-drum and the revolving bottom of the button cylinder are simultaneously operated; the staples being delivered from said drum-arm and the buttons being delivered from the cylinder into the button-chute, where they meet at the intersection of said arm and chute and are there threaded, after which the threaded buttons pass into the lower portion of the chute and are delivered to the anvil. By this construction the staples are fed from one source which is connected with the button-feed source, and in their passage to the anvil, the staples are threaded into the eyes of the button shanks, so that when the anvil has been reached, the staple, already passed through the eye of the button-shank, is ready to be forced through the material of the shoe and clinched therein by the anvil mechanism. Treadle-power, steam-power, or the like, may be used to operate the machine, it only being necessary to keep the staple drum and the button-feeder properly supplied with appropriate material.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a standard having a button feeding cylinder, of the lever Y and spring Z, a staple feeding drum and connected conveying chute for the buttons and staples, substantially as specified.

2. The combination with the supporting standard, of a button feeding drum or cylinder having a stop-spring and a bearing-spring engaging openings in its lower face, of a staple feeding drum having a hook-tooth staple-feeding saw, a hooked feeding-lever in the staple-chute and a button-chute connected with the staple chute at the point where the feeding-lever is fulcrumed, substantially as specified.

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

GEORGE W. ALTMAN.

Witnesses:

J. W. NESMITH,
C. W. HASTY.