

(No Model.)

W. E. HAGAN.  
IMPLEMENT FOR SETTING BUTTON FASTENINGS.

No. 290,680.

Patented Dec. 25, 1883.

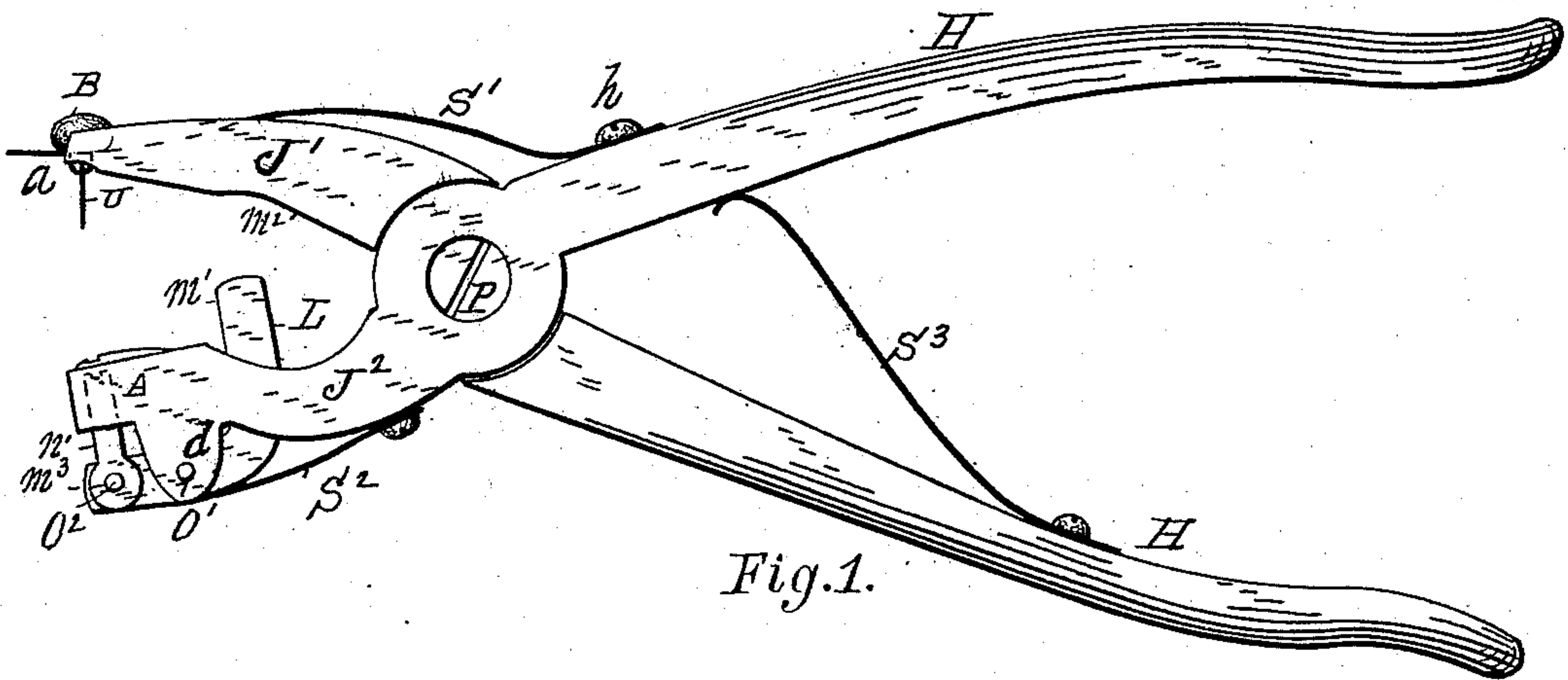


Fig. 1.

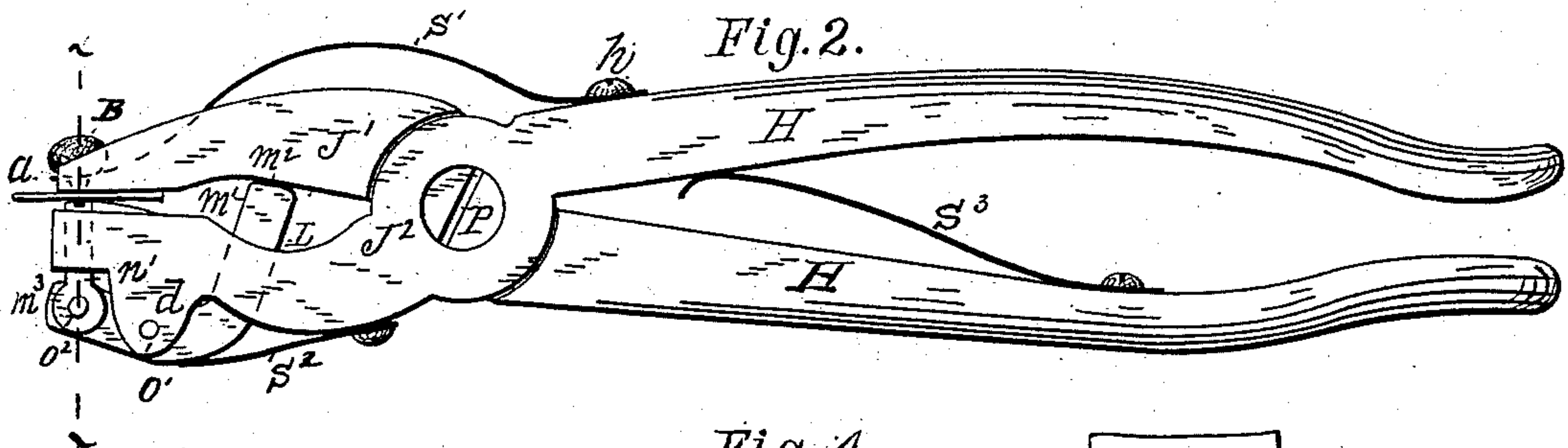


Fig. 2.

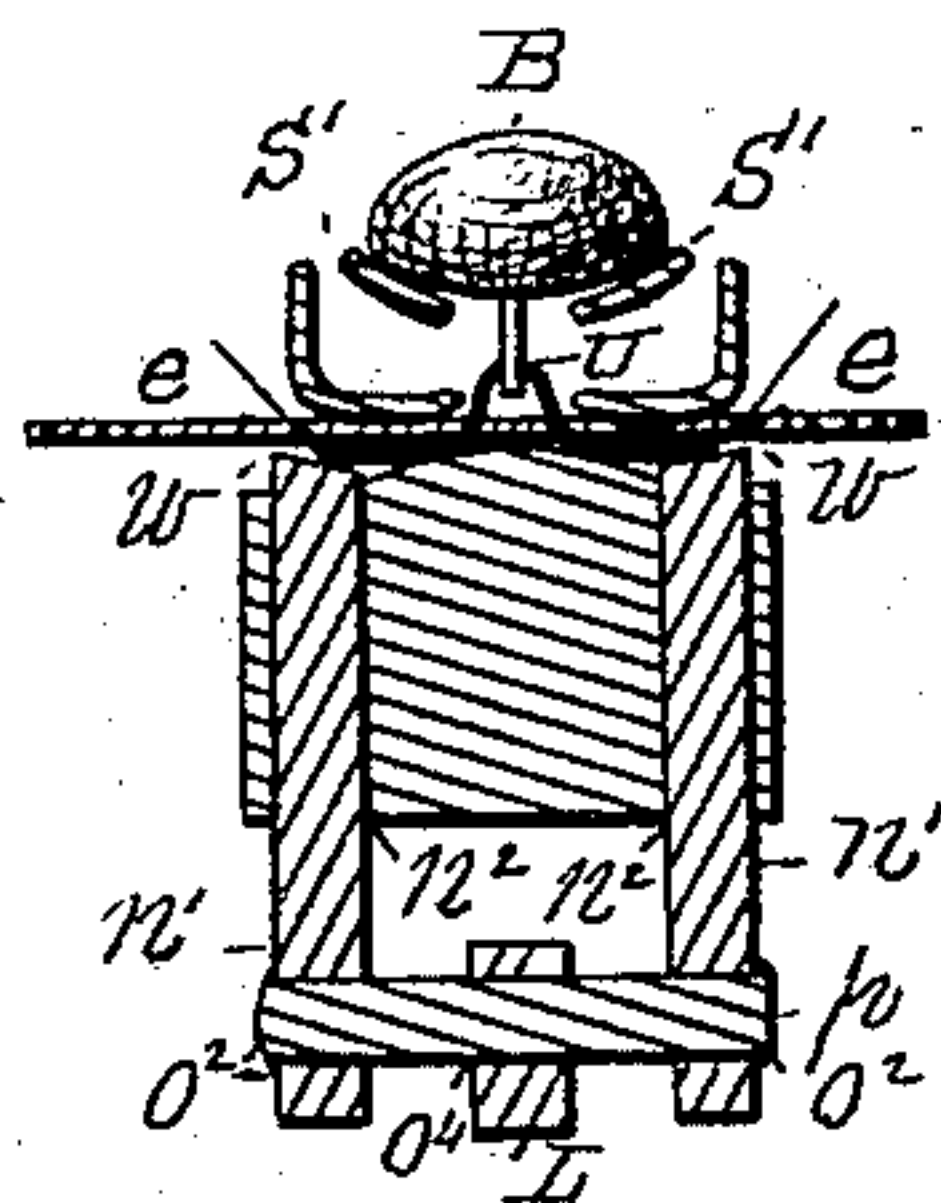


Fig. 3.

Witnesses:

W. C. Bull

Charles S. Brintnall

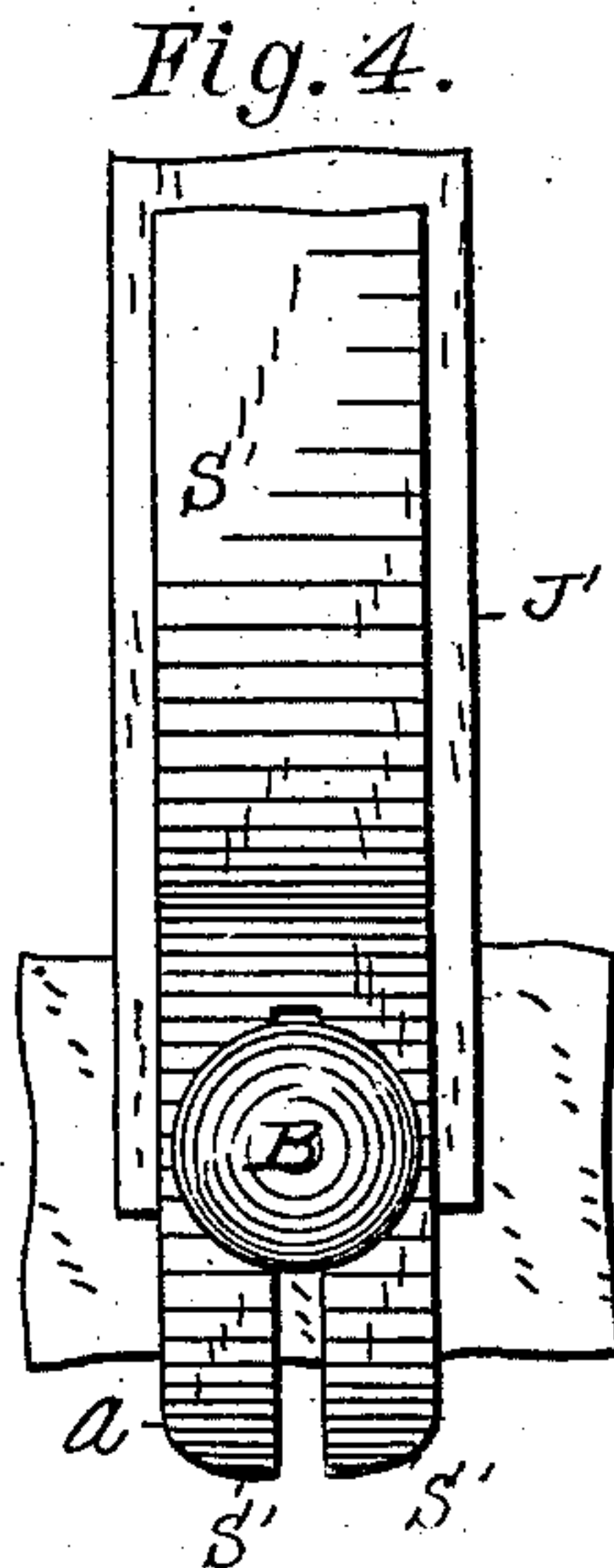


Fig. 4.

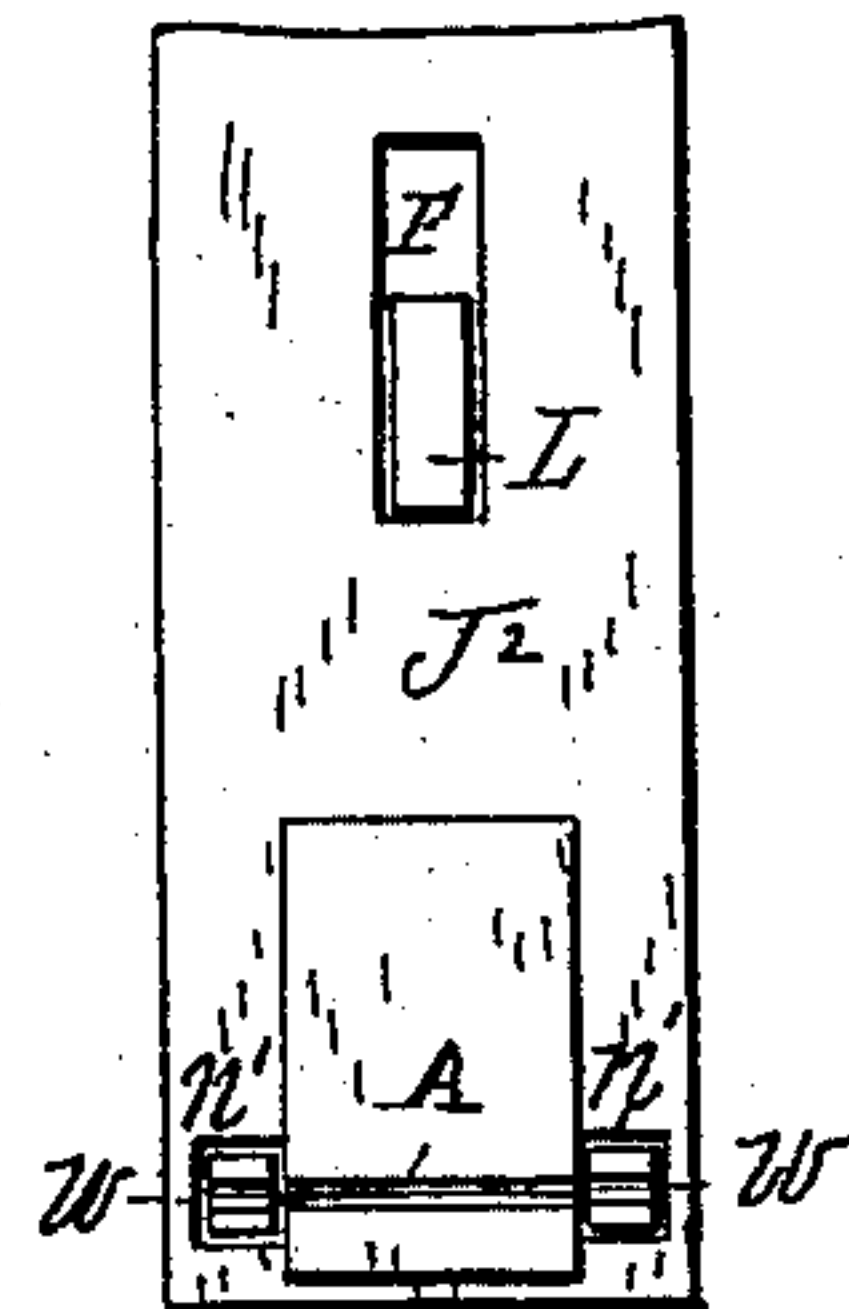


Fig. 5

Inventor:

William E. Hagan



# UNITED STATES PATENT OFFICE.

WILLIAM E. HAGAN, OF TROY, NEW YORK, ASSIGNOR OF ONE-HALF TO  
WILLIAM C. BUELL, OF SAME PLACE.

## IMPLEMENT FOR SETTING BUTTON-FASTENINGS.

SPECIFICATION forming part of Letters Patent No. 290,680, dated December 25, 1883.

Application filed May 31, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. HAGAN, of the city of Troy, county of Rensselaer, and State of New York, have invented a new and  
5 useful Improvement in Button-Fastening Implements, of which the following is a specification.

My invention relates to that class of devices which are used to attach buttons to shoes and  
10 other articles by means of staples, and which implements are made to have two jaws pivoted by means of a tongs-joint, and constructed with two handles as extensions from the jaws, and which when forced together also bring the  
15 jaws together and force the staple previously linked into the button-eye through the leather or material intermediately placed, so as to turn up and clinch the staple-prongs on the under side of the leather or material.

20 My invention consists, as will be subsequently described in detail, in the combination, with the jaws of a button-attaching implement, of a lever which is between its ends pivoted to the under jaw, and having its inner  
25 end and that nearest to the tongs-pivot adapted to engage with the upper jaw as the jaws close, and thus force upwardly the outer end of the lever, with the latter forked or bifurcated to engage with each of the prongs after they have  
30 passed through the leather or material, and thus force the staple-prongs up into the leather to clinch, the whole operation of forcing the staple-prongs through the leather and turning them upwardly being accomplished by simply  
35 closing the handles.

My invention also consists in the sub-combination of the parts where they perform specific function, as will be designated in the claims.

40 In the accompanying drawings, forming a part of this specification, there are shown five figures illustrating my invention, and in all of which the same designation of parts by letter-reference is used.

45 Figure 1 shows in a side elevation a button-fastening implement containing my invention, the jaws of which are illustrated as opened and a button and staple shown as inserted in the upper jaw. Fig. 2 illustrates the same  
50 parts in a side elevation as are shown at Fig. 1, but with the jaws closed and the button at-

tached to the leather or material by means of the outwardly and upwardly turned prongs of the staple. Fig. 3 shows a cross vertical section taken through the implement, button, 55 staple, and intermediate leather or material on the line *xx* of Fig. 2. Fig. 4 illustrates in a plan view the top of the upper jaw and the slotted spring, with a button inserted within the slotted, spring and upper jaw. Fig. 5 is 60 a plan view of the top of the under jaw.

The several parts of the implement and those constituting my invention are designated by letter-reference as follows:

The upper jaw is indicated by the letter *J'*, 65 and the lower jaw at *J*<sup>2</sup>.

The handles are designated at *H*, and the tongs-pivot joint at which they are operated is indicated at *P*.

The letter *S'* indicates a leaf-spring, which 70 is attached to the handle at *h*, and at its front is constructed with the slotted and turned-up end *a*. The front end of the upper jaw, *J'*, is also slotted, and constructed with a cross-recess on its under surface, so that when a 75 button, *B*, having a staple, *U*, linked into its eye, is inserted into the coincident slots in the end of the spring and jaw, with the top of the staple in the cross-recess, as the jaws are forced together, the button and staple are 80 firmly held and forced down, the latter passing through the intermediately-placed leather, and the staple-prongs *e*, coming in contact with the upper surface of the under jaw, are turned upwardly into the leather to clinch. 85

The foregoing parts as thus constructed and arranged are not my invention, they having been patented by the Goodfellow Manufacturing Company on the 19th day of December, 1882, and they are illustrated as a well-known 90 button-attaching implement to which my invention is applicable, although, as will be subsequently described herein, my invention can with the same facility be applied to any other kind of button-fastening implement con- 95 structed with two jaws and handles and an intermediately-arranged tongs-pivot.

The leading feature of my invention, as an attachment to button-fastening implements, relates to the application of an angular or curved 100 lever, that is pivoted between its ends to the under jaw of the device, with that end of the



lever nearest to the tongs-pivot constructed to engage with the upper jaw in its descent, and thus force the opposite end of the lever upwardly to crowd the staple-prong points (after having been spread out by engagement with the upper face of the under jaw) up into the leather. This lever is indicated at L, and is shown as passing through the slot F, made in the under jaw, as being pivoted at O' to the under jaw in an offset, *d*, made thereon, with its inner upturned end, *m'*, adapted to engage with the descending upper jaw at *m*<sup>2</sup>, and thus force upwardly the front end of the lever L, (indicated at *m*<sup>3</sup>.)

The letter S<sup>2</sup> designates a spring attached to the under jaw, against the recoil force of which the front end of the lever is raised. The outer end of the lever has formed in it a bearing or pivot-opening, O<sup>1</sup>, for the passage of the journal or pin *p*, and to the outer ends of the latter, and at their lower ends, O<sup>2</sup>, are pivoted the pistons *n' n'*, which are constructed to work in guideways *n*<sup>2</sup> *n*<sup>2</sup>, formed in the end of the lower jaw, and made with their upper ends grooved and inclined from their inner edges upwardly and outwardly, as indicated at *w w*. As this upward motion of the front end of the lever L thus produced is adapted to upwardly force the staple-prong points into the leather by the bifurcated upward extension of the front end of this lever when so made, or by the attachment of any well-known means to the end of the lever for such purpose, I do not limit my invention of the lever L, as constructed to operate in connection with the jaws of the implement, to its further combination with the pistons and their mode of operation as I show and describe them.

Upon the upper face of the under jaw there is formed a groove, A, which is slightly higher at its center than at its sides, the purpose of which is to guide the staple-prongs while being spread out into the coincidently-formed grooves produced in the ends of pistons as the jaws of the implement are forced together. The points of the staple-prongs thus moved turn up slightly in the grooves on the ends of pistons, and, as soon as this is done, the inner end, *m'*, of the lever L is arranged to engage with the descending upper jaw, which raises the outer end, *m*<sup>3</sup>, of the lever, and the pistons are forced upwardly to crowd the prong-points of the staples up into the leather.

While I do not limit my invention to the precise form of lever shown and described, yet I do make it a condition of any modification of it that the lever shall be pivoted to the under jaw between the lever ends, and at that end nearest the tongs-pivot it shall be constructed to engage with the upper jaw in its descent when the jaws close to force up and raise the outer end of the lever.

If desired, the slot in the lower jaw may be

dispensed with and the lever divided longitudinally at its front end in two parts, and each part be pivoted at each side of the under jaw, and the inner ends of the two parts united between the jaws, and, where thus united, adapted to engage with the under jaws when the jaws come together. As thus made, the bifurcated ends of the lever may be turned up to take the place of pistons, or the latter may be pivoted to the bifurcated ends of the lever; or any well-known means may be attached to the lever ends to force the staple-prong points up into the leather.

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

1. The combination, with the upper and under jaws of a button-attaching implement, of an angular or circular form of lever, that is pivoted to the under jaw, substantially as shown, and constructed at its end nearest to the pivot to engage with the upper jaw as the jaws close to raise the outer end of said lever, as and for the purposes herein set forth.

2. In a button-attaching implement, and in combination with the pivoted jaws thereof, an angular or circular lever, which is pivoted to the under jaw between the ends of said lever, and at the end nearest to the pivot is constructed to engage with the upper jaw as the jaws close, two pistons pivoted to the front end of said lever, and vertical guideways for the said pistons, constructed in the under jaw of the implement, as and for the purposes set forth.

3. In a button-attaching implement, and in combination with the upper and under jaws thereof, the lever L, pivoted between its ends to the under jaw, with its inner end, *m'*, constructed to engage with the upper jaw as the jaws close, the pistons *n' n'*, pivoted to the front end of the said lever, the piston-guides *n*<sup>2</sup> *n*<sup>2</sup>, formed in the under jaw, the inclined grooves *w w*, formed in the piston ends, and the groove A, produced in the upper surface of the under jaw, as herein shown and described.

4. In a button-attaching implement, the combination of the lever L, attached between its ends to the under jaw of the implement, with its inner end constructed to engage with the upper jaw as the jaws close, and the spring S<sup>2</sup>, attached to the under jaw, and constructed at its free end to engage with said lever, as shown and described.

Signed at Troy, New York, this 28th day of May, 1883, and in the presence of the two witnesses whose names are attached.

WILLIAM E. HAGAN.

Witnesses:

JAMES KNIBBS,  
CHARLES S. BRINTNALL.