

(No Model.)

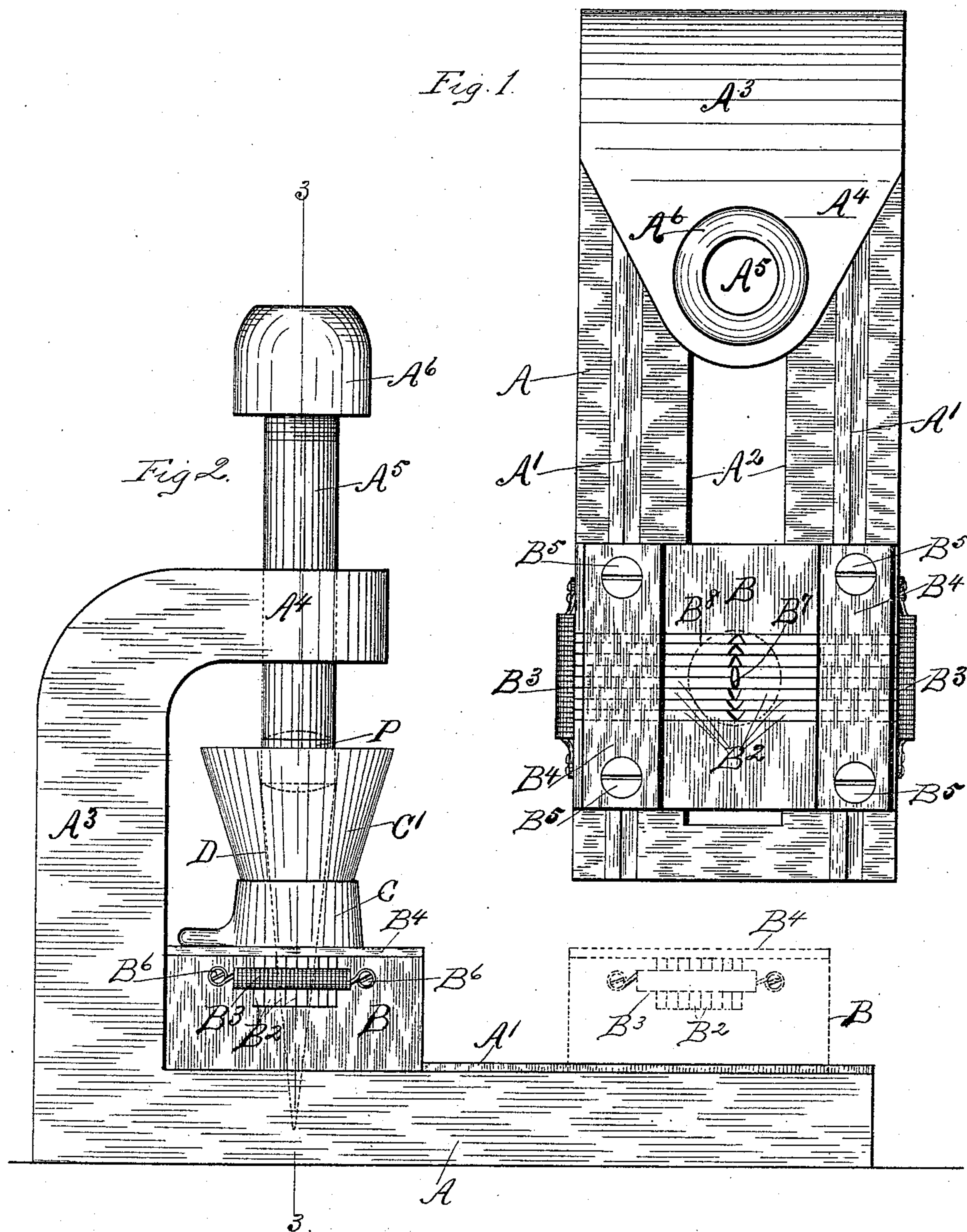
2 Sheets—Sheet 1.

C. E. THOMPSON.

APPARATUS FOR INSERTING PLUGS IN BRUSH HEADS.

No. 485,670.

Patented Nov. 8, 1892.



Witnesses:
Frank C. Curtis
John T. Booth.

Inventor:
Charles E. Thompson
by Geo. A. W. W. W.
att'y.

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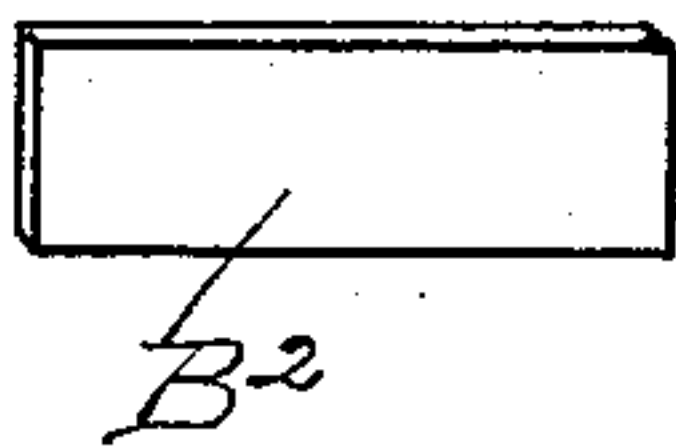
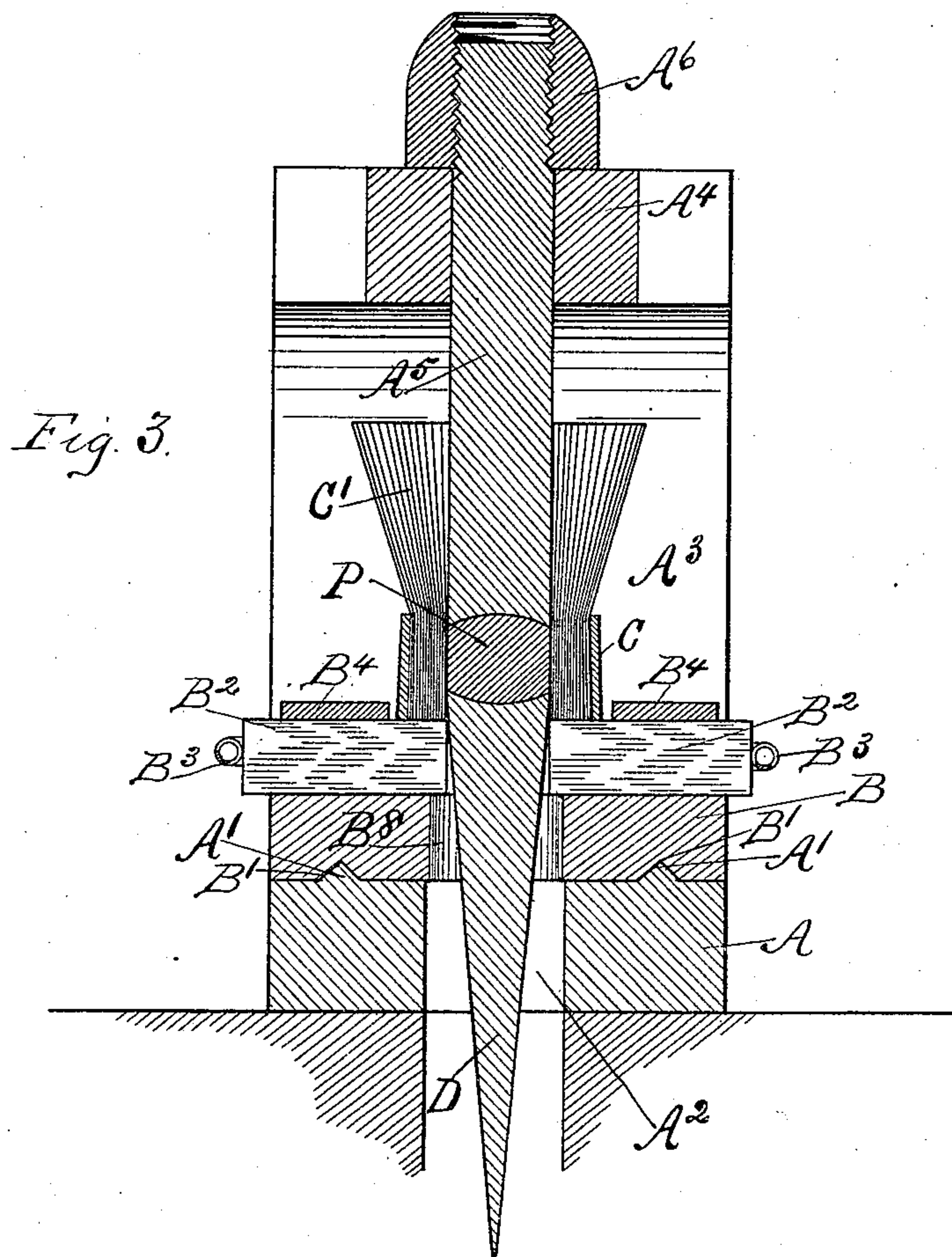
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Witnesses:
Frank C. Curtis.
John T. Booth.

Inventor:
Charles E. Thompson
by Geo. A. Washburn
Atty.

UNITED STATES PATENT OFFICE.

CHARLES E. THOMPSON, OF LANSINGBURG, NEW YORK, ASSIGNOR TO
STEPHEN PALMER, OF SAME PLACE.

APPARATUS FOR INSERTING PLUGS IN BRUSH-HEADS.

SPECIFICATION forming part of Letters Patent No. 485,670, dated November 8, 1892.

Application filed January 18, 1892. Serial No. 418,408. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. THOMPSON, a citizen of the United States, residing at Lansingburg, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Apparatus for Inserting Plugs in Brush-Heads, of which the following is a specification.

My invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a top plan view of my improved apparatus for plugging brush-heads. Fig. 2 is a side elevation of the same, showing a brush-head in position to be plugged. Fig. 3 is a vertical cross-section taken on the broken line 3 3 in Fig. 2. Fig. 4 is a view in perspective of one of the movable brush-supporting plates detached.

My improved apparatus is especially applicable for inserting a wooden or metallic plug in a brush-head formed by inserting a single knot of bristles in a tapered metallic ferrule or head-band. The knot of bristles is first inserted in the head-band so that the knot projects from the smaller or contracted end of the band, after which a plug is forced into the middle portion of the knot, of the proper size to expand the same and tightly compress the bristles between the plug and band to prevent the bristles from working loose and escaping from the band.

A is the bed-plate of the apparatus, provided with the guideways A' on its upper side, the pin opening or slot A², extending longitudinally of the bed-plate, and the upright A³ at one end. The brush-carrier is composed of a block B, having on its lower side grooves B', adapted to receive the guideways on the bed-plate, and a series of brush-supporting slide-plates B², controlled by the springs B³. There are two series of plates, the inner ends of one series being contiguous to and abutting upon the inner ends of the other series

at about the middle part of the carrier-groove in which they slide, as shown in Fig. 1. The plates are movable transversely of the ways and are held in the groove or recess in the upper side of the carrier-block by means of the binding-plates B⁴, secured to the block, as by the screws B⁵. The springs may be of any known form, being shown in the form of coil-springs, the ends of the springs being secured to the carrier-block by the screws B⁶. The upright A³ has an offset or arm A⁴, supporting in a suitable slideway the follower A⁵, the upper end of which is provided with an enlarged part or head A⁶, adapted to engage with the arm A⁴ and limit the downward movement of the follower.

The brush, comprising the head-band C and knot of bristles C', is placed upon the slide-plates B² in an inverted position, as shown in Figs. 2 and 3, the carrier occupying the position indicated by dotted lines in Fig. 2. The point of a conical pin D, which I term the "leader-pin," is then inserted in the projecting end of the knot of bristles and forced down the longitudinal center of the knot to about the position indicated by dotted lines in Fig. 2. The point of the pin after piercing the brush-head passes in between the contiguous ends of the slide-plates at B⁷, forcing them apart, and through the aperture B⁸ in the carrier and the slot A² in the bed-plate. A plug P is then placed upon the base or upper end of the leader-pin in the position shown in Fig. 2, and the follower raised to a position which will permit the brush-head and plug to pass under it. The carrier is then slid along the guideways on the bed-plate until it reaches a position where the plug is in the path of the follower, which is lowered upon the plug and forced downward to the position shown in Fig. 3, driving the plug to its seat in that part of the knot of bristles inclosed by the head-band. The leader-pin is driven by the plug from the head and falls through the carrier-aperture and bed-plate slot. The follower is again raised, the carrier slid back to the position indicated by dotted lines in Fig. 2, and the brush-head removed to be trimmed and finished in any desired manner. The plug is preferably cy-

lindrical in form with convexed ends, and the base or upper end of the leader-pin and the lower end of the follower are concaved to fit and form seats for the convexed ends of the plug while inserting the same, as shown.

When so formed, the plug is securely held between its seats, and such seats prevent the edges of the plug from chipping or spreading.

As the conical leader-pin is driven through the knot of bristles and carrier-aperture the inner ends of the slide-plates closely embrace the same and support the bristles and prevent them from following the leader-pin through the carrier-aperture. The yielding springs B³ permit the slide-plates in the two series to slide outwardly and make room for the base or larger end of the pin as it passes between the contiguous ends of the two series of plates, and also serve to cause the plates to slide inwardly to the position shown in Fig. 1 after the pin has passed out from between their ends. By providing the follower with an adjustable stop to regulate its movements I am able to easily and accurately regulate the position of the plug in the brush-head.

I have shown the head of the follower provided with a screw-threaded aperture adapted to receive and fit the screw-threaded upper end of the follower. The follower is forced down into the brush-head when inserting the plug until the head strikes the upper side of the arm A⁴, which serves as a stop to limit its downward movement. By turning the head upon the screw-threaded follower in one di-

rection or the reverse the limit of movement of the follower can be increased or diminished. The follower can be actuated by blows from a hammer, by a press, or in any known manner.

What I claim as new, and desire to secure by Letters Patent, is—

1. An apertured bed-plate and an apertured brush-support comprising an apertured block and two series of spring-controlled slide-plates having the inner ends of the individual plates in one series contiguous to the inner ends of the individual plates in the other series and movable to and from each other, in combination with a leader-pin, a follower-support, a follower movable in a fixed support toward and from the brush-support, and an adjustable stop for regulating its movements, substantially as described.

2. In an apparatus for inserting plugs in brush-heads, a support for the brush-head, comprising an apertured block and two series of spring-controlled slide-plates having the inner ends of the individual plates in one series contiguous to the inner ends of the individual plates in the other series and movable to and from each other, substantially as described.

In testimony whereof I have hereunto set my hand this 14th day of January, 1892.

CHAS. E. THOMPSON.

Witnesses:

GEO. A. MOSHER,
FRANK C. CURTIS.