

(No Model.)

W. F. WHITING.
SEPARABLE BUTTON.

No. 447,855.

Patented Mar. 10, 1891.

Fig. 1

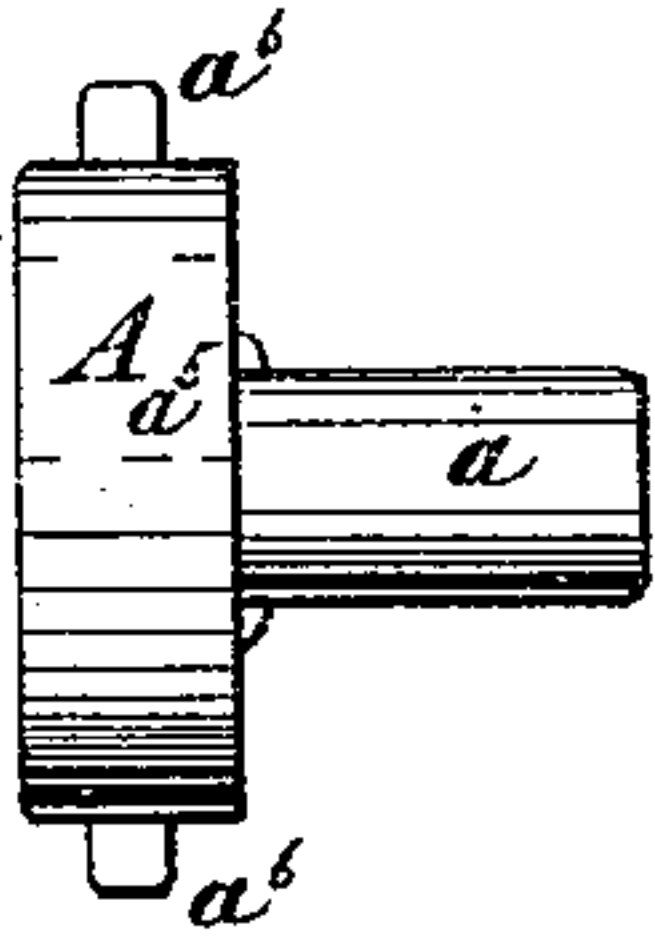


Fig. 2.

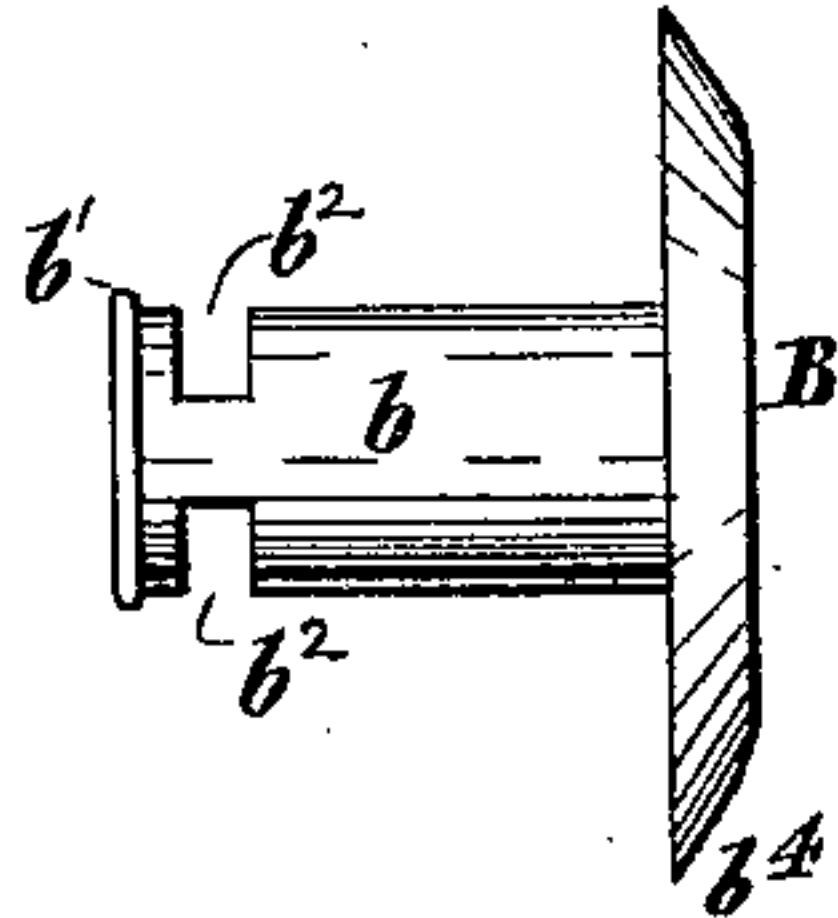


Fig. 3

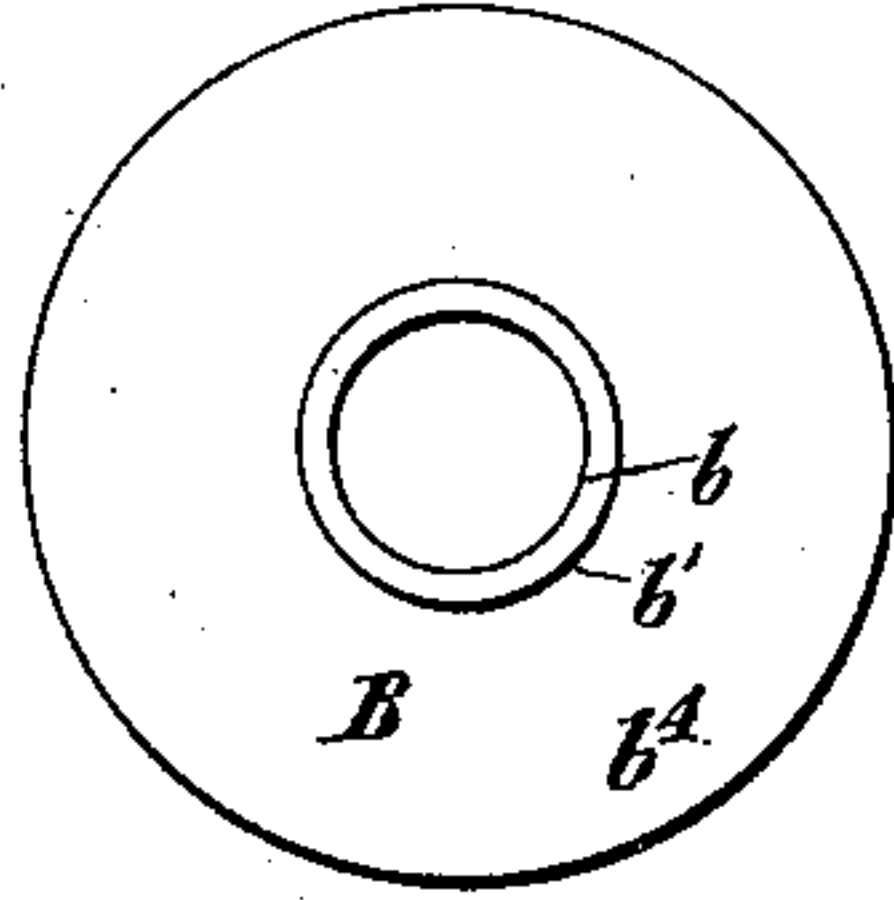


Fig. 4

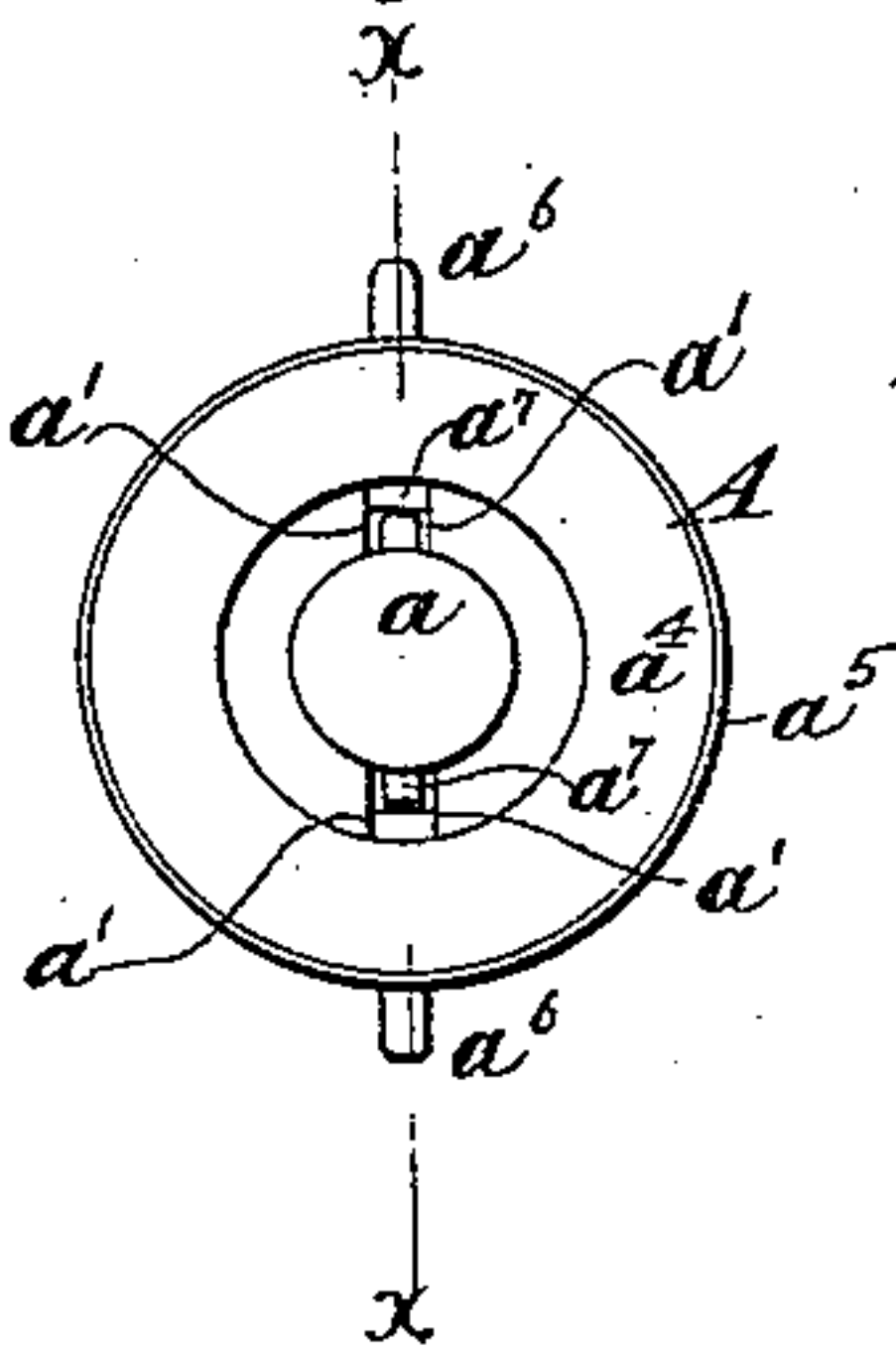


Fig. 5

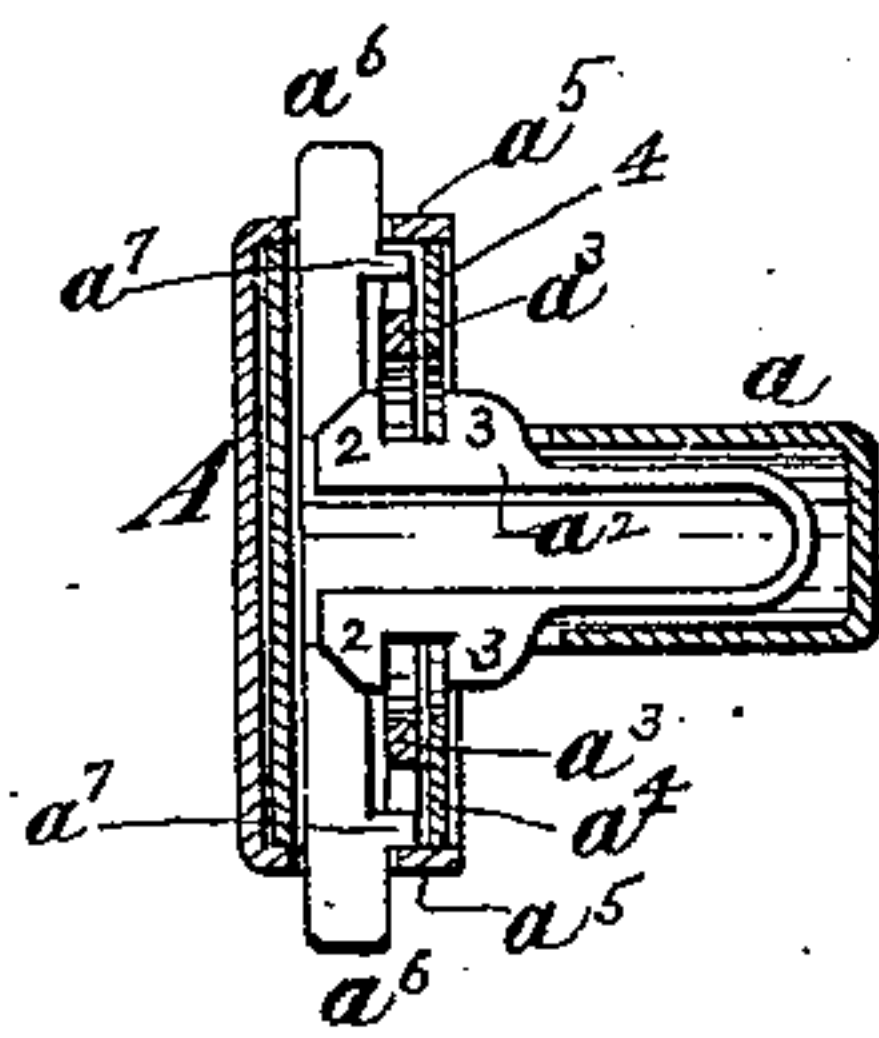


Fig. 8

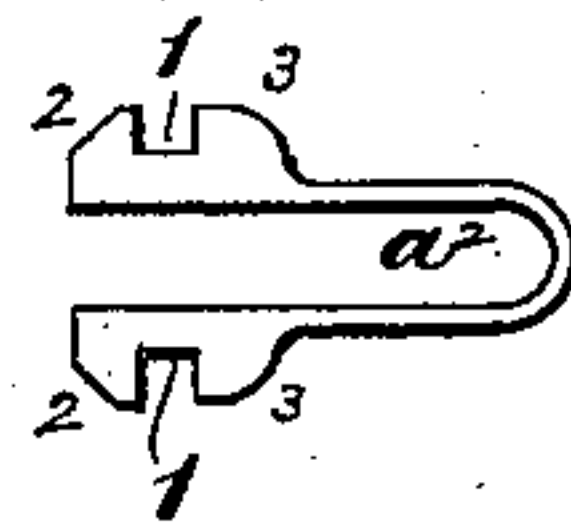


Fig. 6

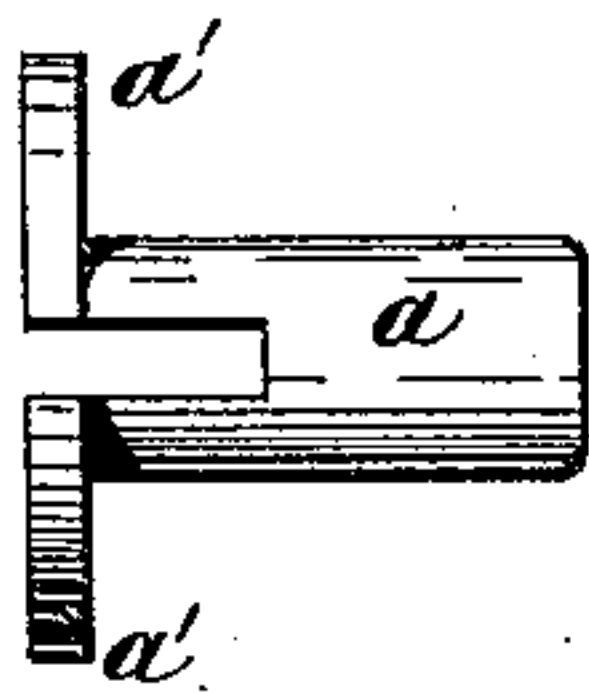


Fig. 7

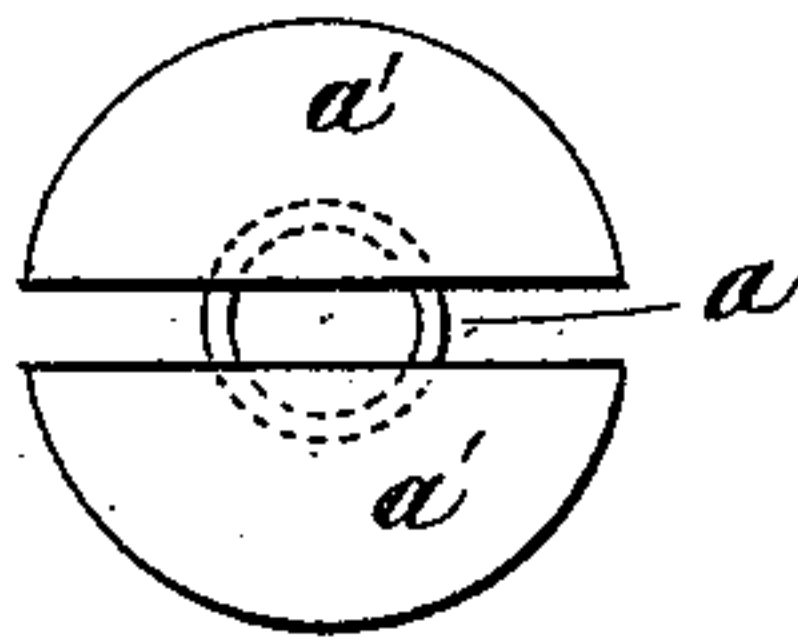


Fig. 9

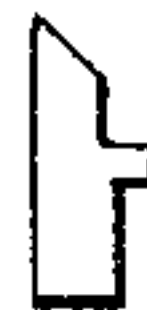
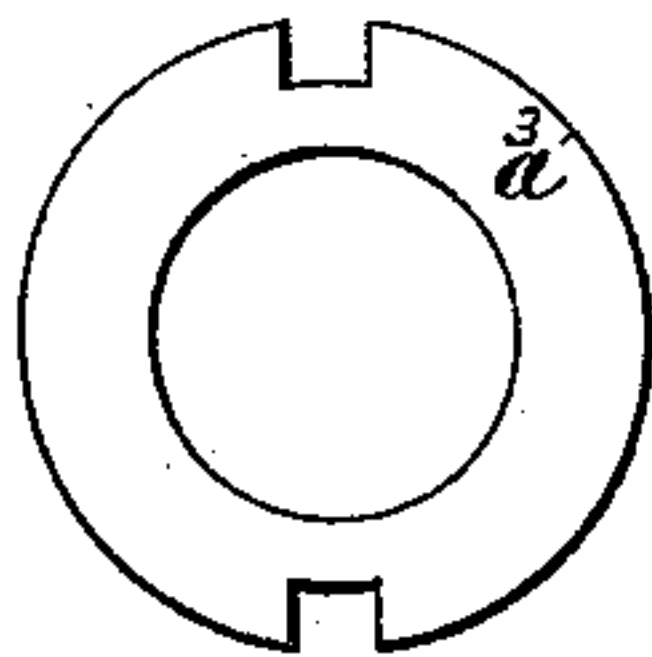


Fig. 10.



Witnesses
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By his Attorney Edwin H. Brown

UNITED STATES PATENT OFFICE.

WILLIAM F. WHITING, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
HIRAM HOWARD AND STEPHEN C. HOWARD, OF SAME PLACE.

SEPARABLE BUTTON.

SPECIFICATION forming part of Letters Patent No. 447,855, dated March 10, 1891.

Application filed June 28, 1890. Serial No. 357,078. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. WHITING, of Providence, in the county of Providence and State of Rhode Island, have invented a certain new and useful Improvement in Separable Buttons, of which the following is a specification.

My improvement relates to that class of buttons in which the head or front is detachable from the back-plate. Such buttons are commonly termed "separable buttons."

I will describe a button embodying my improvement, and then point out the novel features in a claim.

In the accompanying drawings, Figure 1 is a side view of the head or front and attached post-section of a button embodying my improvement. Fig. 2 is a side view of the back-plate and attached post-section. Fig. 3 is a front view of the back-plate and its attached post-section. Fig. 4 is a back view of the head or front and its attached post-section. Fig. 5 is a central longitudinal section of the button, taken at the plane of the dotted line $\alpha\alpha$, Fig. 4. Fig. 6 is a side view of the principal part of the head or front and its attached post-section. Fig. 7 is a front view of this principal part. Fig. 8 is a side view of the spring detached. Fig. 9 is a side view of one of two bolts, whereby the head or front may be released from the back-plate. Fig. 10 is a front view of a notched ring which is comprised in the head or front. All these figures are made on an enlarged scale.

Similar letters and numerals of reference designate corresponding parts in all the figures.

A designates the head or front, and B designates the back-plate, of the button. The back-plate is composed of two parts. One part is a tubular portion b , having near the front end a tubular portion or rim b' , and rearward of this rim two holes b^2 . The other part is a plate b^4 , which extends over the rear of the flange b^3 of the part b and has its edges bent forward around the edges of said flange. The tubular part b forms a post-section, attached to the back-plate.

The head or front A comprises a post-section a , which is made of a tube notched at the forward end and having semicircular

flanges a' extending from its notched extremity. This post-section a will be of a size to fit within the post-section b , which is attached to the back-plate. In the post-section a is arranged a spring a^2 , which consists of a strip of metal bent between the ends into the form of the letter U and of such dimensions that it will fit within the post-section a . It is made slightly thicker or wider at its extremities, and these thickened or widened portions have notches 1 in the outer side and projections 2 3 on opposite sides of the notches 1, located just rearward of the flanges a' , that extend from the post-section a . The widened or thickened extremities of this spring are free to move outward through the sides of the notched portion of the post-section. Rearward of the flanges a' , that extend from the post-section a , a notched ring a^3 is arranged. The notches of this ring correspond in position and size with the sides of the notch in the post-section and the space between the flanges a' . Rearward of this notched ring is a plain or complete ring a^4 . A sheet-metal cap-plate a^5 , of circular form, having a rearwardly-bent flange, is slipped over the semicircular flanges a' , the notched ring a^3 , and the complete ring a^4 , and rearward of the latter has its flange bent inward, so as to fasten all the parts together. Bolts a^6 work through the space between the flanges a' . Their inner ends enter the notches formed in the ring a^2 . Their outer ends protrude through holes in the flange of the cap-plate a^5 . These bolts have rearward projections a^7 , which enter the notches of the ring a^3 . The projections 2 of the spring bear against the inner end of the bolts a^6 , and in this way the spring forces the bolts outward as far as they can move. The projections a^7 of the bolts will come in contact with the flange of the cap-plate and arrest their outward movement. The bolts may be pressed inward against the resistance of the spring until their projections a^7 are forced against the inner ends of the notches in the ring a^2 . The front edges of the bolts bear against the cap-plate and the rear side against those portions of the notched ring a^3 which are inward of the notches.

The projections 3 of the springs are in such position that when the tubular post-section b

of the back-plate B is slipped over the post-section a of the head or front A they will be forced outwardly by the resilience of the spring to engage with the holes b^2 of the said tubular post-section b . When this occurs, the two shank portions will be engaged and the head or front A thereby fastened to the back-plate. The head or front may be separated from the back-plate by pressing against the outer ends of the bolts in such manner as to force them inwardly, as this will cause the extremities of the spring to be forced inward in such manner that their projections 3 will be withdrawn from the holes b^2 in the tubular post-section b of the back-plate.

Preferably the inner ends of the bolts a^6 are chamfered off or inclined rearwardly, and the opposite surfaces of the projections 2 of the spring a^3 similarly chamfered or inclined. By my improvement I produce a very simple and efficient button, wherein the head or front may be separated from the back-plate and reunited therewith at pleasure.

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

In a separable button, the combination of a head or front having an attached tubular post-section notched at the forward end, spring-arms fitted in said post-section and provided with notches 1 and projections 2 3, bolts a^6 , whose outer ends work through holes provided in a cap-plate which is comprised in said head or front and whose inner ends co-act with the projections 2 of the spring-arms, projections a^7 , extending from said bolts, a ring a^3 , placed rearward of said bolts and having notches for receiving the projections a^7 thereof, and a back-plate having a tubular post-section b , provided with holes b^2 for engaging with the projections 3 on the spring-arms, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM F. WHITTING.

Witnesses:

JOHN DODD,
N. H. SUTTON.