

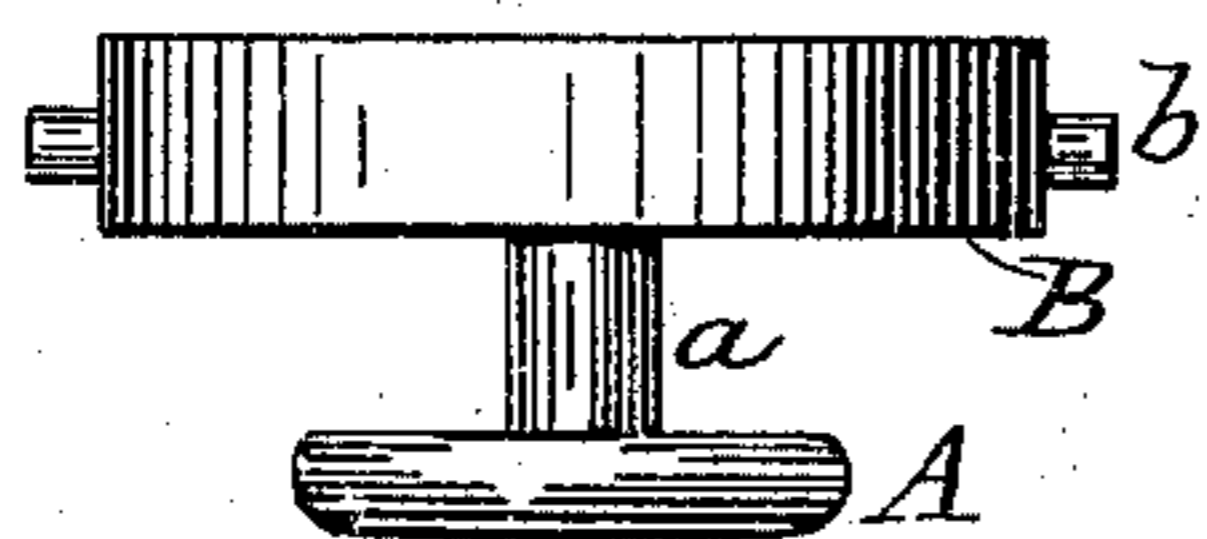
(No Model.)

E. S. DODGE.  
Separable Button.

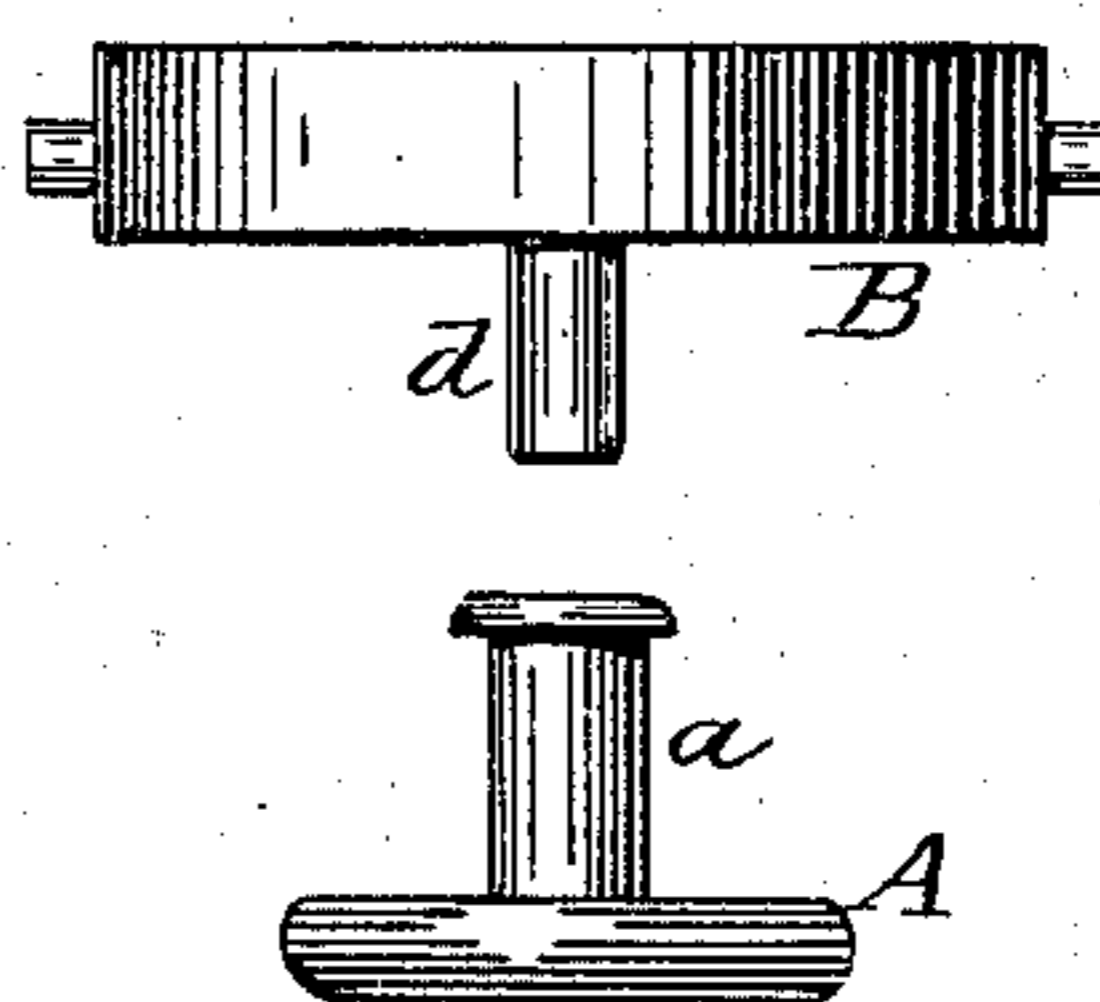
No. 229,388.

Patented June 29, 1880.

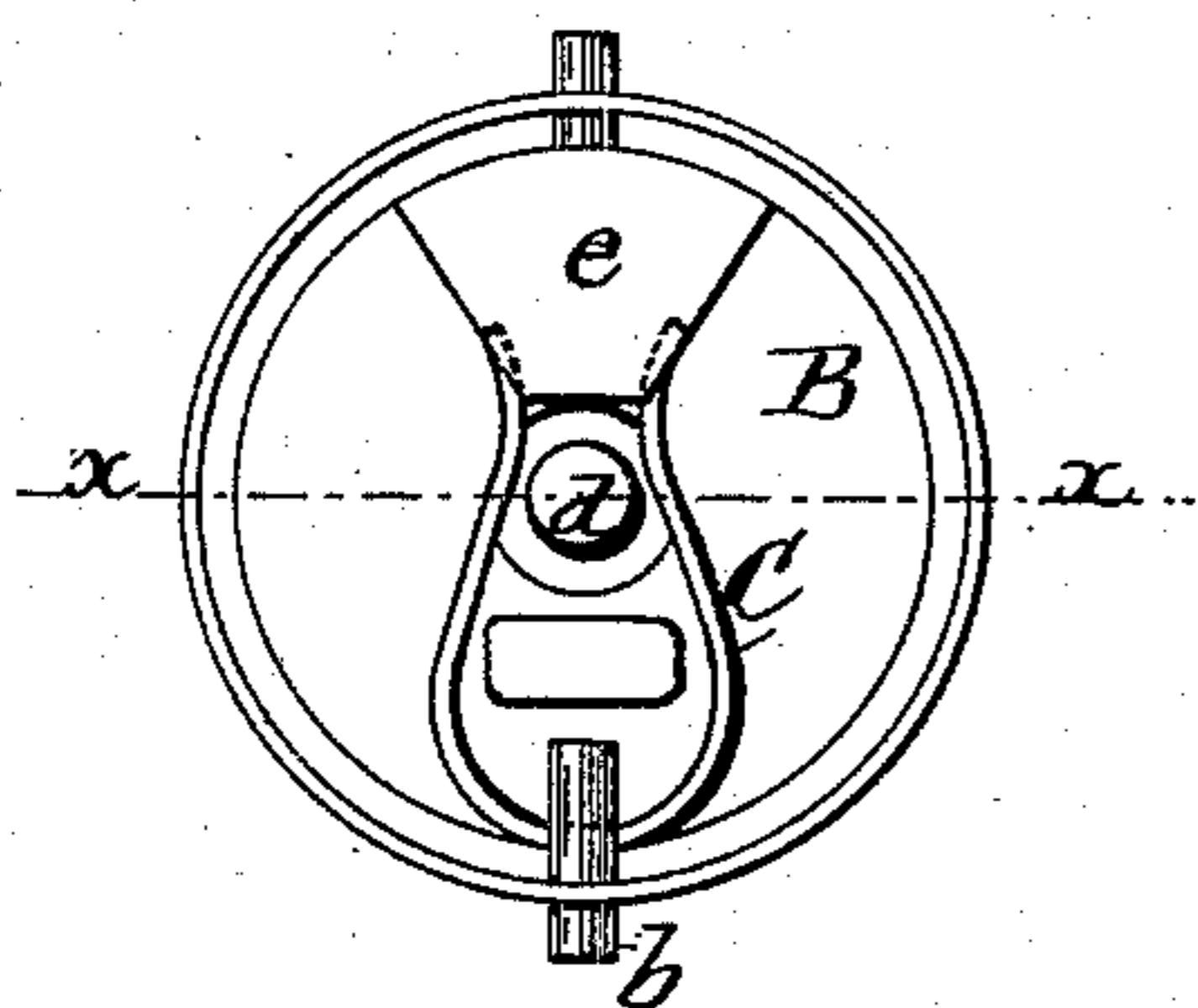
*Fig. 1.*



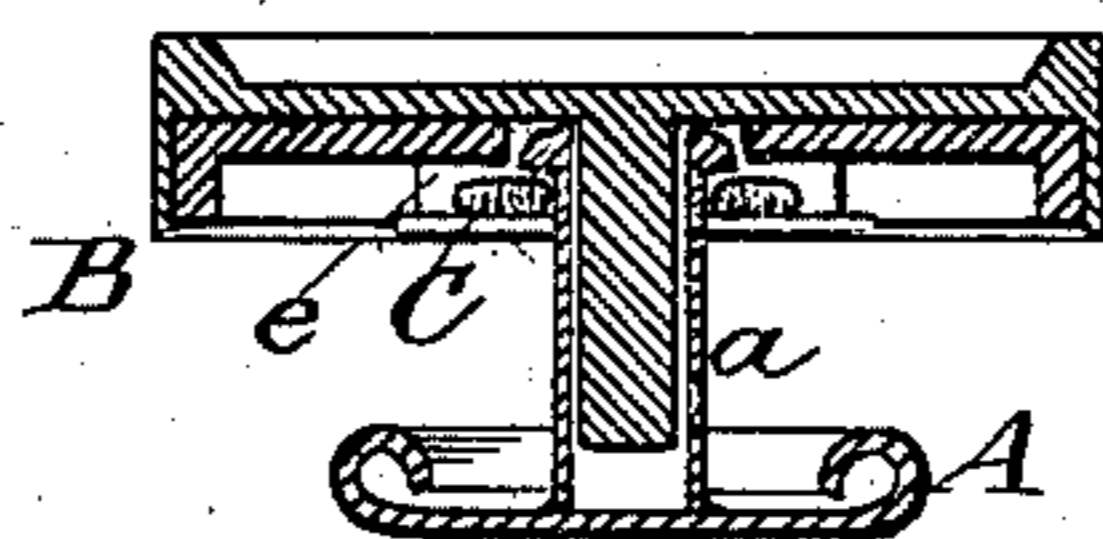
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:  
*Philip F. Garner*  
*Howell Bartle*

Inventor:  
*Ezra S. Dodge*  
By *Wm. C. Wood*  
Attorney.

# UNITED STATES PATENT OFFICE.

EZRA S. DODGE, OF PROVIDENCE, RHODE ISLAND.

## SEPARABLE BUTTON.

SPECIFICATION forming part of Letters Patent No. 229,388, dated June 29, 1880.

Application filed May 24, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, EZRA S. DODGE, of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Separable Buttons; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

My improvements relate to that class of separable buttons in which radially-projecting push-rods are relied upon for releasing the front from the back or shoe of the button; and the objects of my improvements are simplicity and economy in construction, with due reference to effective operation, security, and durability.

Referring to the drawings, Figure 1 represents one of my buttons in side view. Fig. 2 represents the same with the front and back separated. Fig. 3 represents the front of the button, in plan view, with its inside plate removed for disclosing the interior. Fig. 4 represents the complete button in central vertical section on line *x*, Fig. 3.

The back or shoe A of the button has a tubular shank, *a*, with a square-shouldered flange at its end, substantially as heretofore.

The front B of the button is chambered, as heretofore, for the reception of the securing mechanism, which has heretofore been employed in great variety, and in which springs of various kinds have been arranged for direct contact with the flange of the hollow shank, and also for actuating slides interposed between the springs and said shank. The engaging power of said springs has been heretofore overcome by various arrangements of pushers or push-rods, and these have been placed in direct contact with the springs, and they have been combined with movable wedge-blocks for separating said springs.

I employ one or two push-rods. When one rod only is actually employed I place diametrically opposite it a stationary pin, as shown, for attaining a merely symmetrical effect.

The principal novel feature in my button is the loop-shaped double-acting spring C, mounted in a novel manner upon the push-rod *b*, so that it moves bodily with said rod.

The two sides or arms of the spring C closely approach the solid stem *d* on the rear side of the button-front and overlie a circular recess in the rear side of the front, into which the flange of the tubular shank is entered, when the front and back are united. The spring may be composed of spring-metal wire, or it may be specially formed from suitable sheet metal.

The spreading of the spring, when moved longitudinally by its push-rod, is effected by a wedge-block, *e*, which may be either movable or stationary, but which I prefer to be immovable, as shown. This wedge-block, at the surfaces with which the ends of the spring are in contact, is grooved, for so housing the ends of the spring as to prevent them from being drawn out of position by any pulling or separating strain upon the two main parts of the button. The distance between the ends of the grooves of said wedge-block and the solid post is reduced to a minimum, and therefore the springs are firmly held or supported closely adjacent to their points of contact with the flange of the hollow shank *a*, which affords a firm union of the two main parts of the button, even if a very light spring be employed. If the wedge-block be also movable by means of a second push-rod, said block should be grooved in like manner; but the spring push-rod would not then need to be moved to so great an extent as when it only is movable.

I have shown a solid wedge-block; but, as its grooved inclined sides are only utilized, it is obvious that a bent strip of metal similarly grooved can be economically employed with like results.

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

In a separable button, the spring C, mounted upon and moving with the push-rod, and the separating-wedge, in combination with the flanged tubular shank and the solid post, substantially as described.

EZRA S. DODGE.

Witnesses:

F. L. DAVENPORT,  
GEORGE H. BURNHAM.