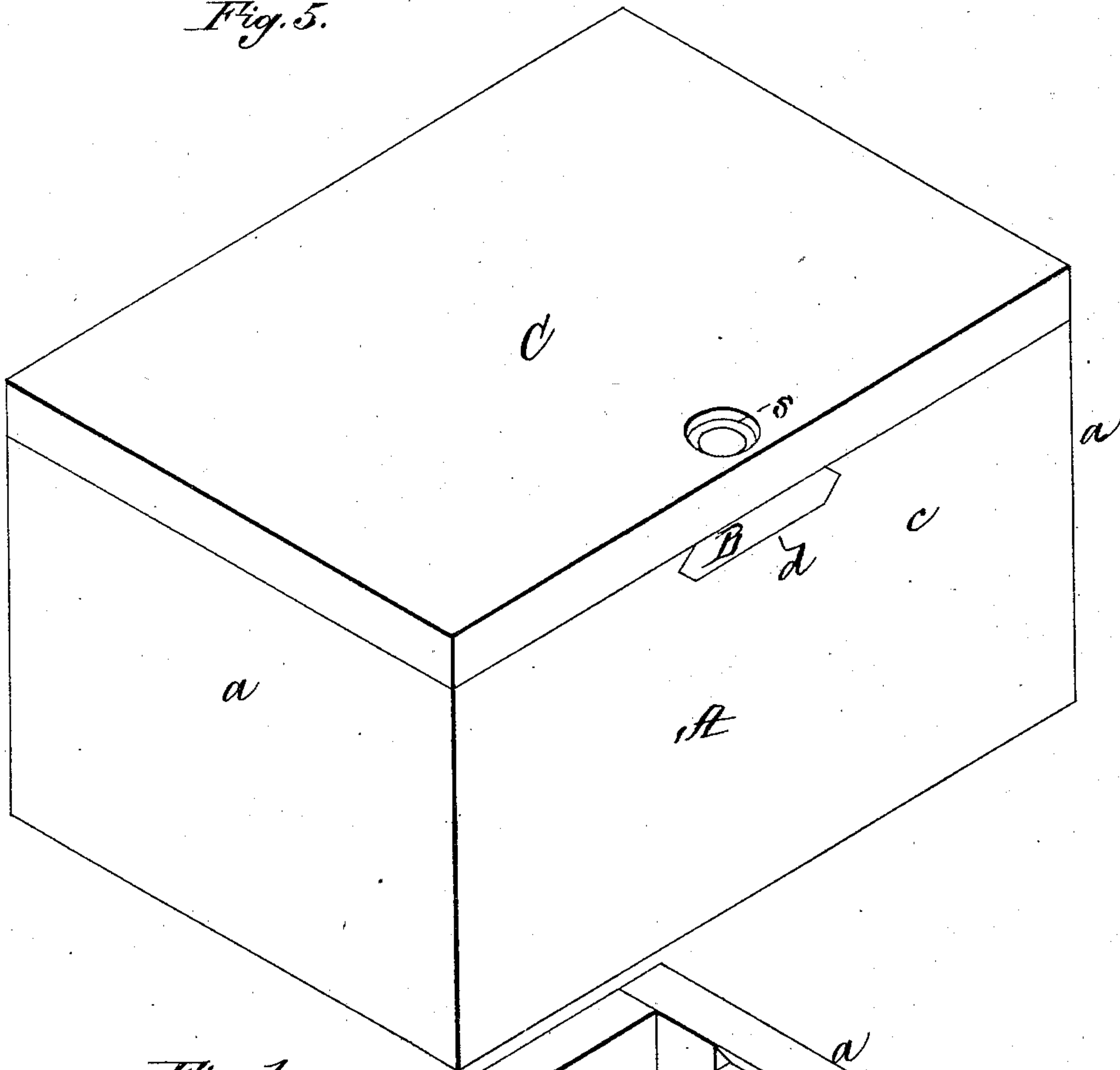


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Box-Fastener.

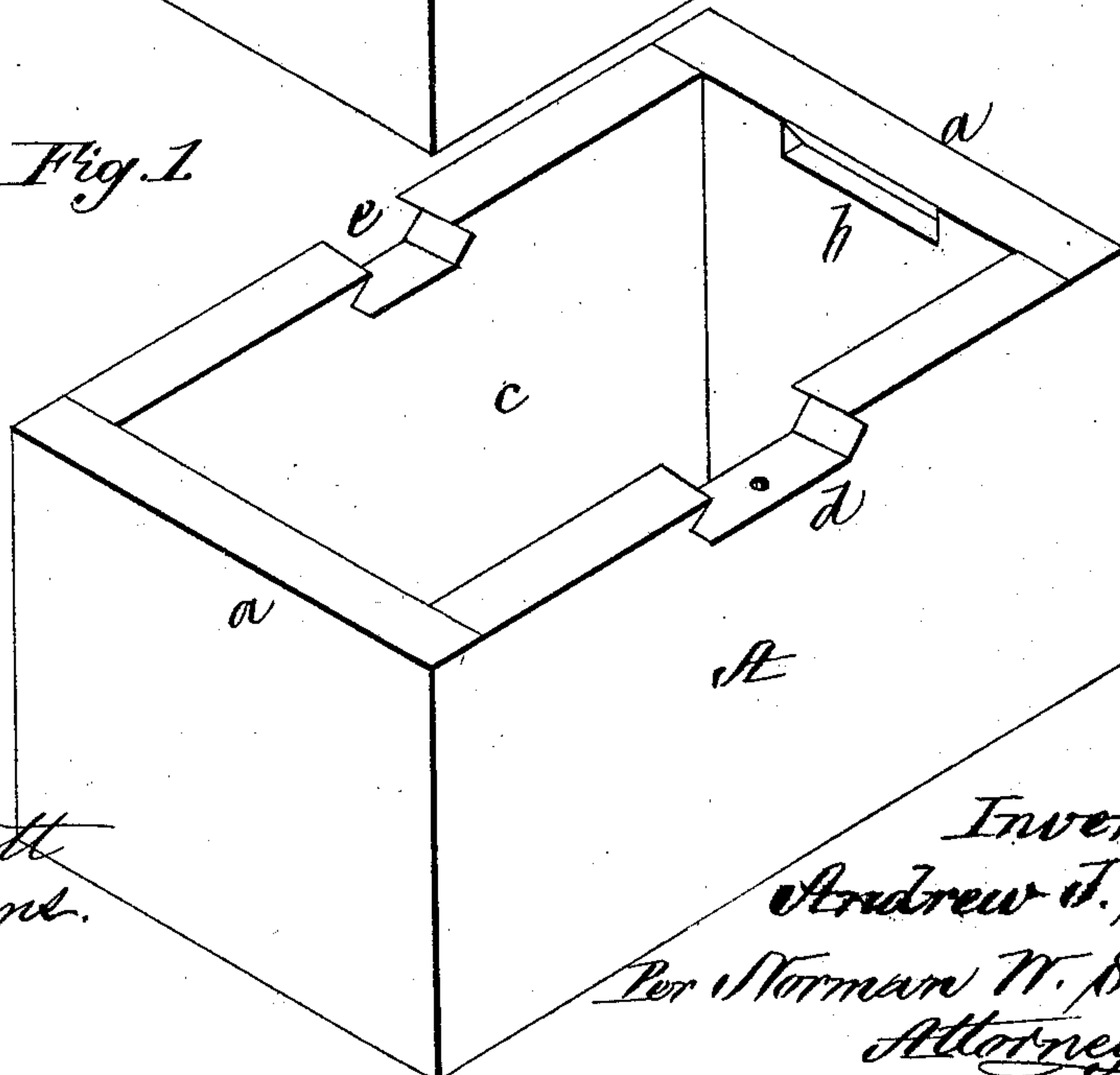
No. 222,745.

Patented Dec. 16, 1879.

*Fig. 5.*



*Fig. 1.*



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Fig. 2.

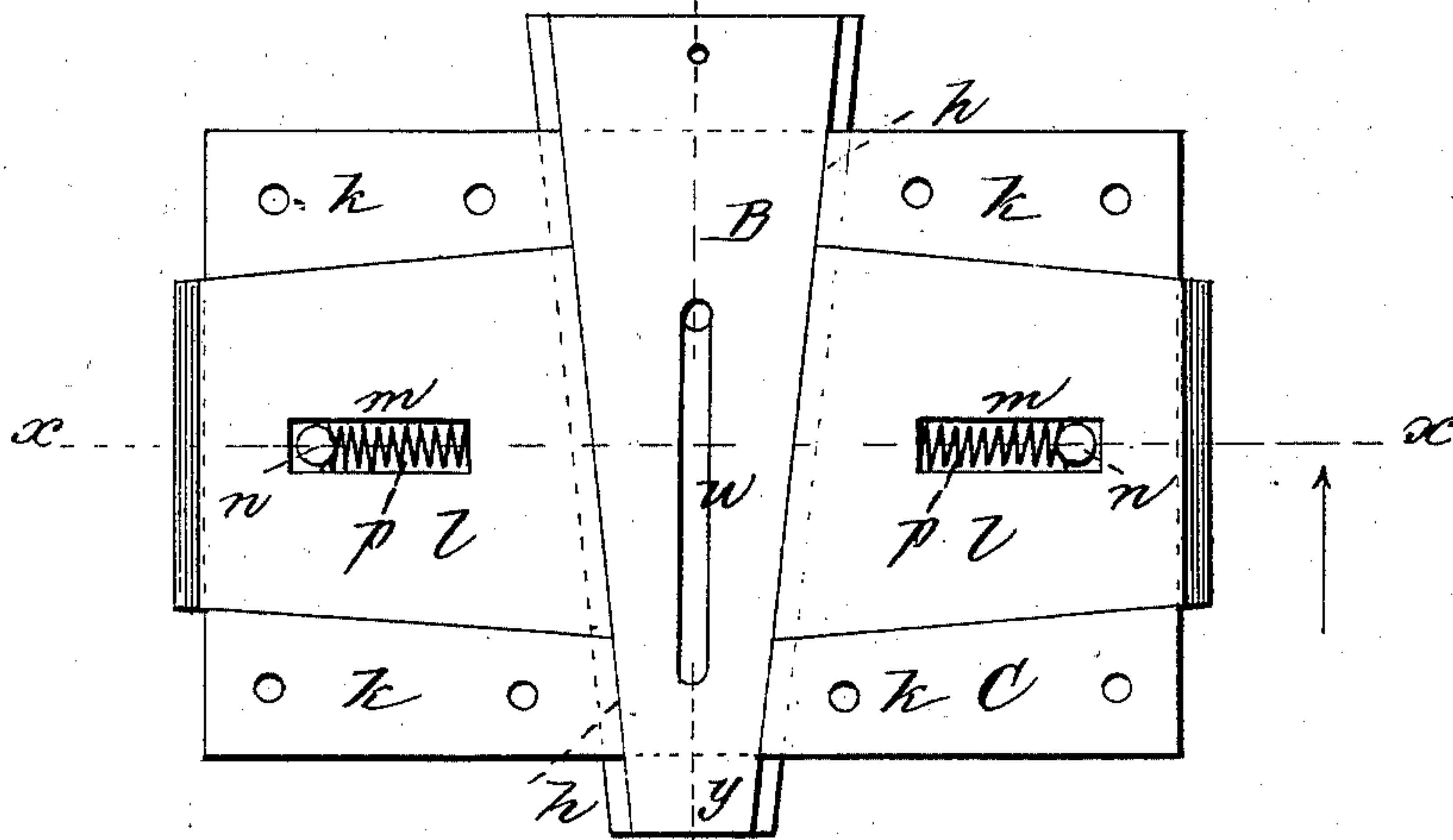


Fig. 3.

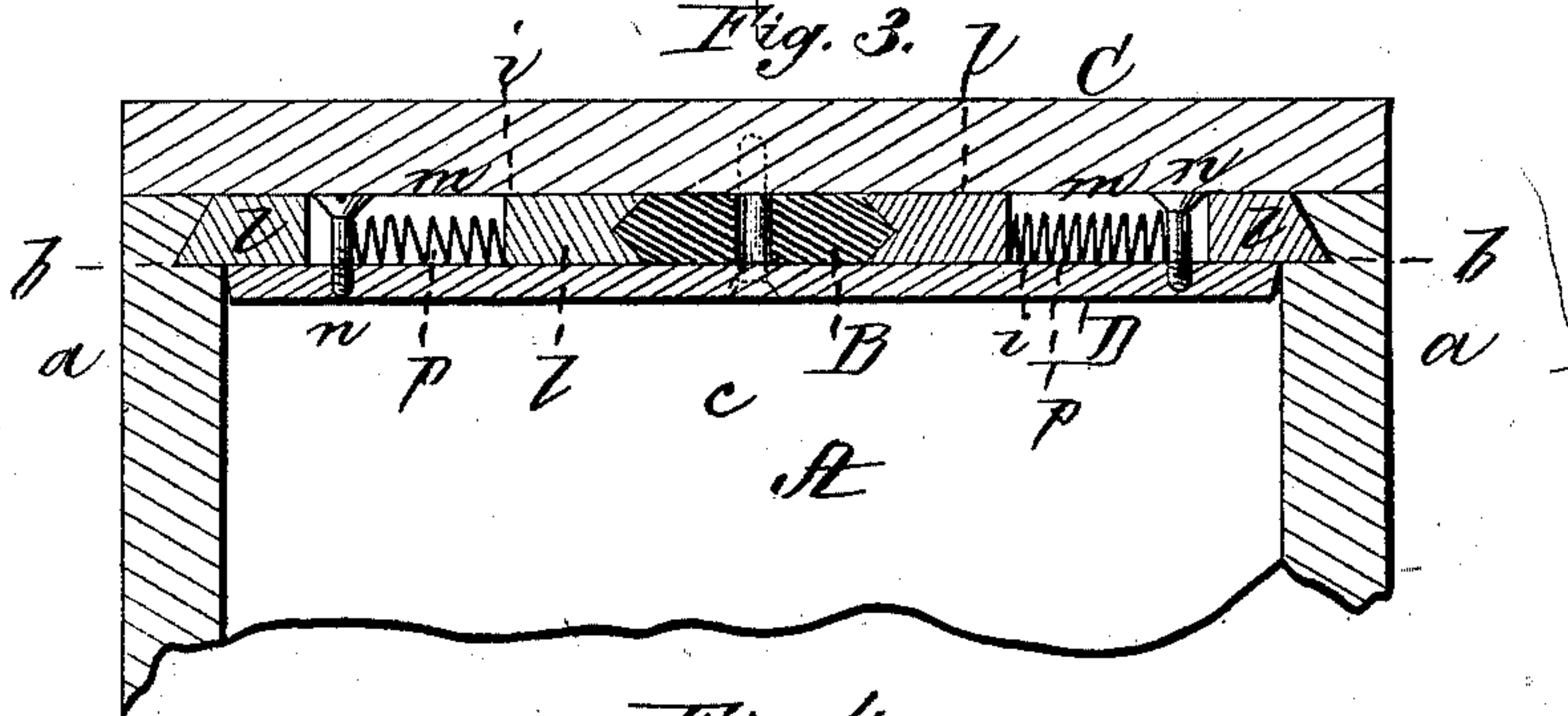


Fig. 4.

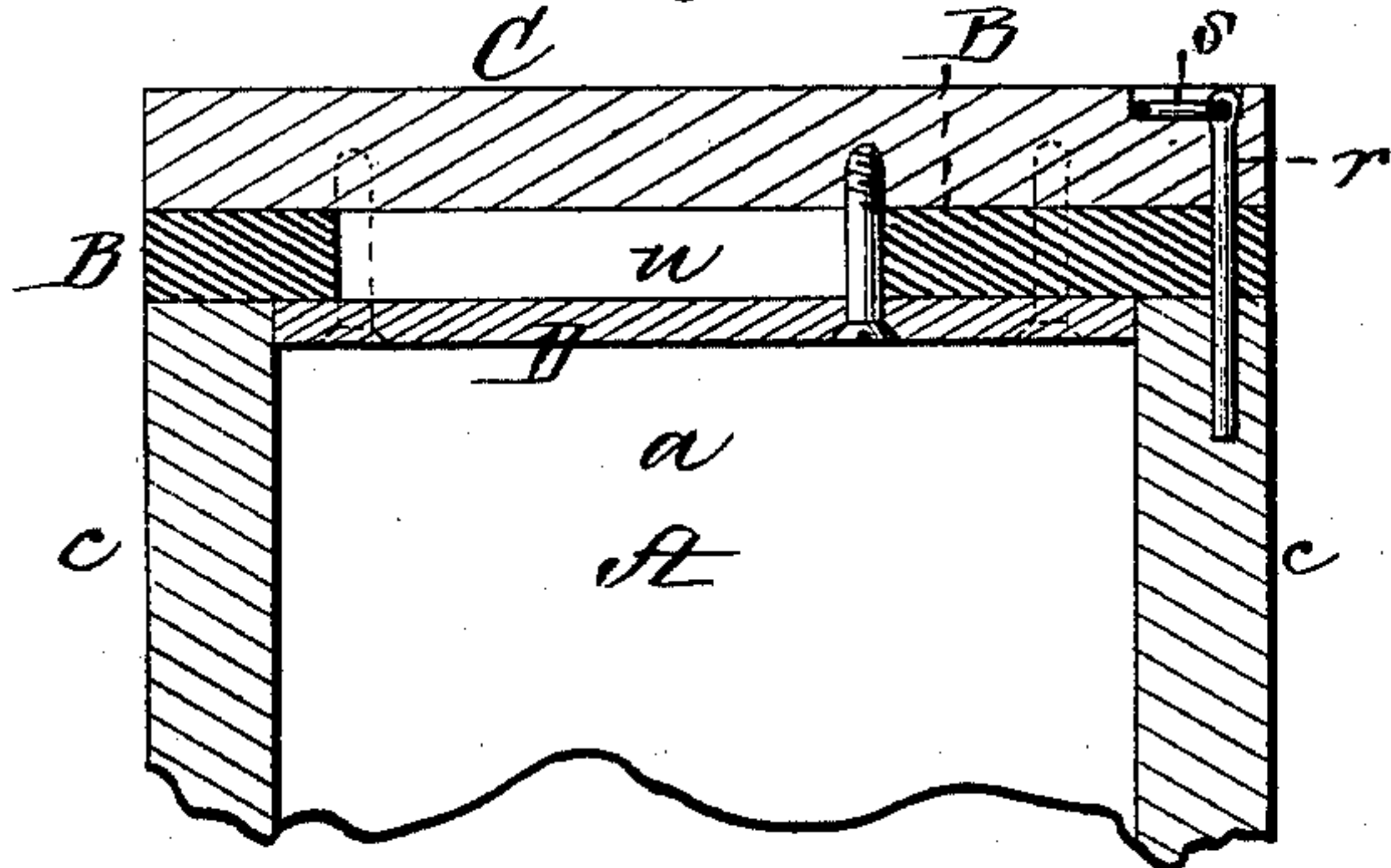
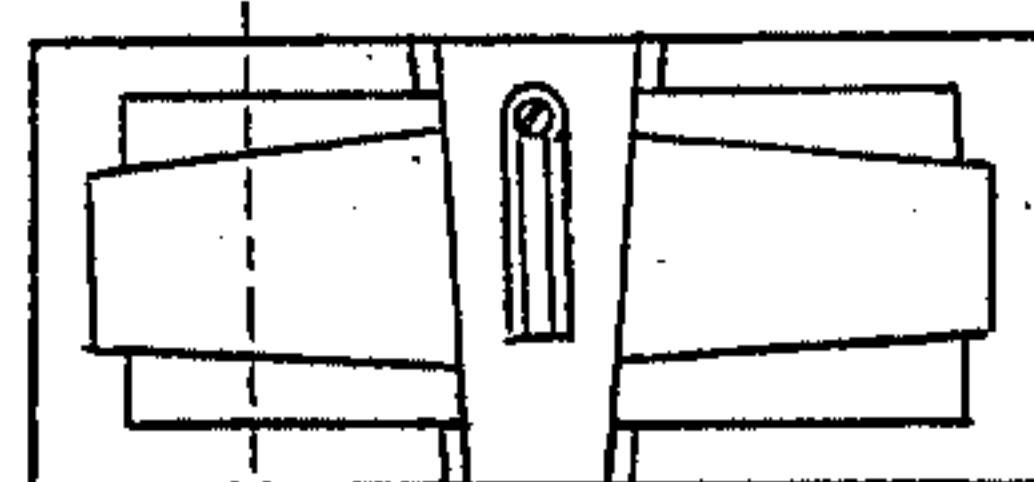


Fig. 7.



Fig. 6.



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# UNITED STATES PATENT OFFICE.

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TO MARKS LISSBERGER, OF NEW YORK, N. Y.

## IMPROVEMENT IN BOX-FASTENERS.

Specification forming part of Letters Patent No. 222,745, dated December 16, 1879; application filed  
October 3, 1879.

*To all whom it may concern:*

Be it known that I, ANDREW J. SIMPSON, of Washington, in the District of Columbia, have invented certain Improvements in Packing-Case Fastenings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a rectangular box or packing-case constructed in accordance with my invention, the cover and its fastening being removed. Fig. 2 is a plan of the fastening device detached. Fig. 3 is a longitudinal vertical section through the center of the packing-case, with its cover secured in place by means of its fastening. Fig. 4 is a transverse vertical section on the line *x x* of Fig. 2. Fig. 5 is a perspective view of the packing-case with its cover locked in place. Figs. 6 and 7 represent a slight modification.

My present invention has for its object to provide a simple, durable, and effective device by which the cover or lid of a box, barrel, or other package may be readily secured in place or removed, when required to be closed or opened; and my invention consists in a pair of bolts provided, or not, with springs, and operated by a tapering key sliding between them, the bolts and their key being interposed between the under side of the cover and a horizontal strip secured thereto, the interior of the ends of the package being provided with notches or recesses for the reception of the ends of the bolts when thrust apart into them by the movement of the sliding key into its seat, the ends of the key when the cover is locked in place lying flush within openings in the top of the sides of the package, in which position the key is not liable to come into contact with or be struck by any object, and therefore the package cannot be accidentally opened, while it may be instantly opened, when desired, by simply pressing in against the smaller end of the key.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents a rectangular box, the interior of each end, *a*, of which is provided near its top with a notch or recess,

*b*, extending in a horizontal direction, and equidistant from the sides *c* of the box.

The two sides, *c c*, are provided with openings *d e*, located equidistant from the ends *a*, and extending up through the top of the sides, the form of the openings *d e* being similar, but *d* being larger in cross-sections than *e*. These openings are for the reception of a tapering plug, which serves as a key, B, the length of which is exactly that of the width of the box or distance between the outsides of the openings in which it is intended to move, as will now be described.

The key B is intended to secure the cover C in place upon the top of the box A. This cover has screwed to its under side a horizontal strip, D, of a size corresponding to that of the inside of the box, and is cut away so as to leave four spaces, *h h i i*, between four solid corners, *k k*. The sides of the spaces *h h* are formed like a double dovetail, (see Fig. 3,) and in these spaces *h h* slides the tapering key B, which, in cross-section, corresponds thereto. In each of the spaces *i i* is fitted a tapering bolt, *l*, provided with a central slot, *m*, through which and into the cover C passes a screw, *n*, against which bears one end of a spiral spring, *p*, the other end of which bears against the inside of the slot *m*. The outer ends of the bolts *l l* are beveled to correspond with the bevel of the notches or recesses *b* in the ends of the box, and these bolts are made to engage and enter therein when forced out by the tapering key B against the resistance of their springs, the inner ends of the bolts being made to correspond in shape with the outer edges of the key, and also those of the corners of the strip D.

When the key thus forces out the bolts so that their ends enter the notches or recesses *b* in the box, the ends of the key rest in the openings *d e*, and are flush with the sides of the box, and the cover is locked thereon. To prevent the possibility of the key being accidentally pushed out of place, I pass a pin, *r*, down through the cover and key into the side of the box beneath, and this pin is provided with a ring, *s*, which is turned down within a circular recess formed in the top of the cover, after which the ring is covered and sealed with wax, &c., which, if removed, affords



evidence that the cover has been opened or tampered with.

When the contents of the box are to be used the seal is broken, the pin *r* withdrawn, and the key slid out by applying pressure to its smaller end, and after the ends of the bolts are withdrawn from their notches *b* by the recoil of the springs the cover may be lifted from the top of the box.

The tapering key B is provided with a central slot, *u*, through which and the strip D passes a screw, which serves as a stop to limit the movement of the key in both directions, prevents its being detached from the cover when unlocked, and keeps the inner end of the key flush with the side of the box, in which position it is not liable to be accidentally struck or brought into contact with any outside object.

My improved fastening is of simple construction, strong and reliable, and may be adjusted in place or removed with facility, and, as the exterior of the box is smooth and free from projections, all liability of being broken by hard usage incident to the use of hinges, &c., is avoided.

Where economy is desired, the springs *p*, screws *n*, and slots *m* may be dispensed with, as shown in Figs. 6 and 7, the fastening device so constructed still answering the same purpose.

It is evident that my fastening may be used to advantage for securing the heads of barrels in place.

Instead of interposing the spring-bolts *l* between the cover C and the horizontal strip D, the latter may be dispensed with and the bolts be secured directly to the cover by means of screws passing through slots; but I prefer the construction previously described.

I am aware that the head of a barrel has been secured in place by bolts thrust apart by

a wedge, the outer ends of said bolts entering the croze or chine of the barrel, as described in United States Letters Patent No. 79,919; but the construction of this fastening device was not so simple as mine, and its position was outside the head, where it was liable to be struck or injured and tampered with, thus jeopardizing the contents of the barrel.

By my invention the fastening device is on the under side of the lid, and the key lies flush with the exterior of the package, thus avoiding the objections incident to the fastening device described in said patent.

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

1. As an improvement in devices for fastening lids, covers, or heads to boxes, packing-cases, barrels, &c., the bolts *ll* and their interposing wedge-shaped key B, located on the under side of the lid C, in combination with the package A, provided with notches *b b* and openings *d e*, the latter extending through the sides of the package, and the length of the key which fits therein being such that its ends lie flush with the exterior of the package when its lid is locked in place, whereby the key is not liable to be struck by or brought into contact with an outside object and the package thus opened, and the key is so located as to afford ready access for removing the lid when desired, all constructed to operate as described.

2. The horizontal strip D and lid C, with the spring-bolts *ll* and interposing key B, located between them, in combination with the package A, provided with notches *b b* and openings *d e*, as and for the purpose set forth.

Witness my hand this 29th day of September, 1879.

ANDREW J. SIMPSON.

In presence of—

N. W. STEARNS,  
M. LISSBERGER.