

A. J. MILLARD.
Box Fastener.

No. 230,799.

Patented Aug. 3, 1880.

Fig. 1.

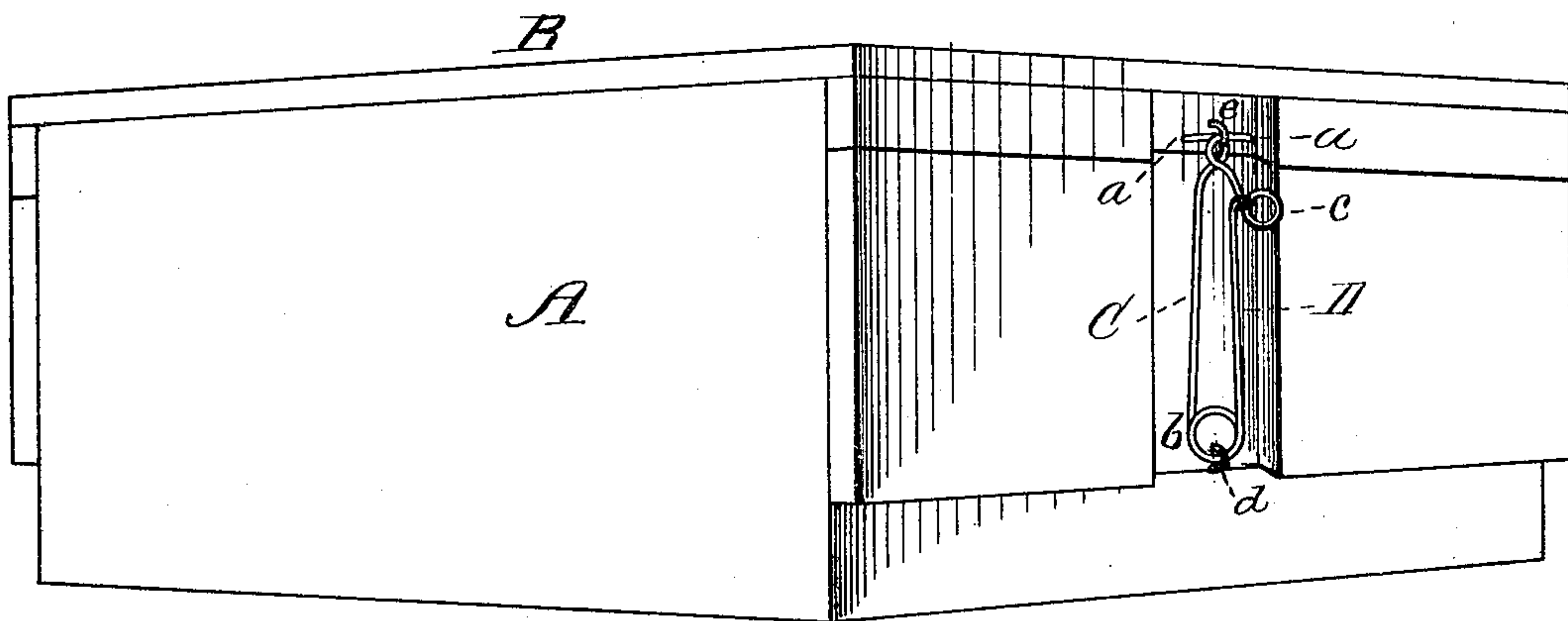


Fig. 3.

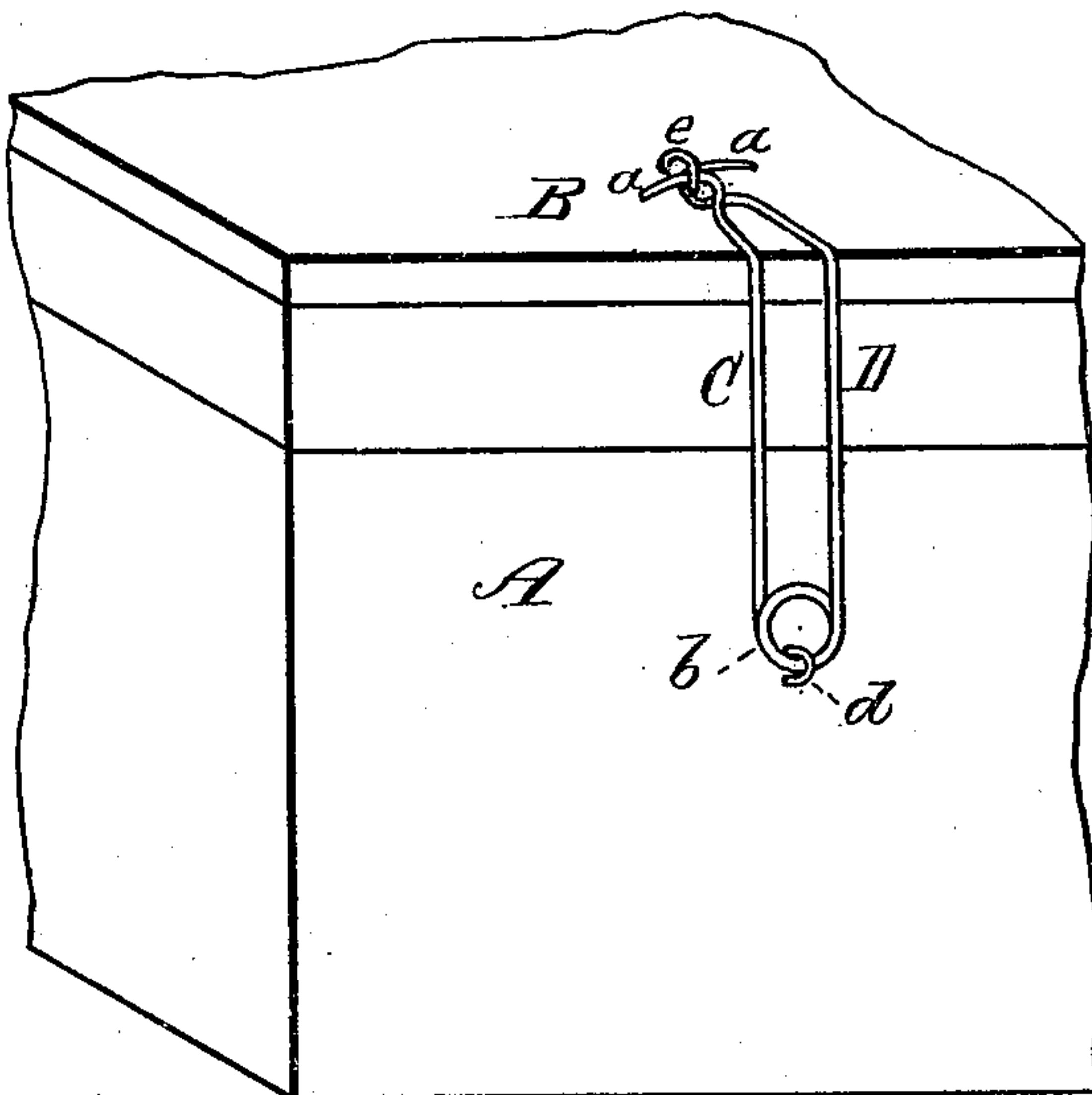
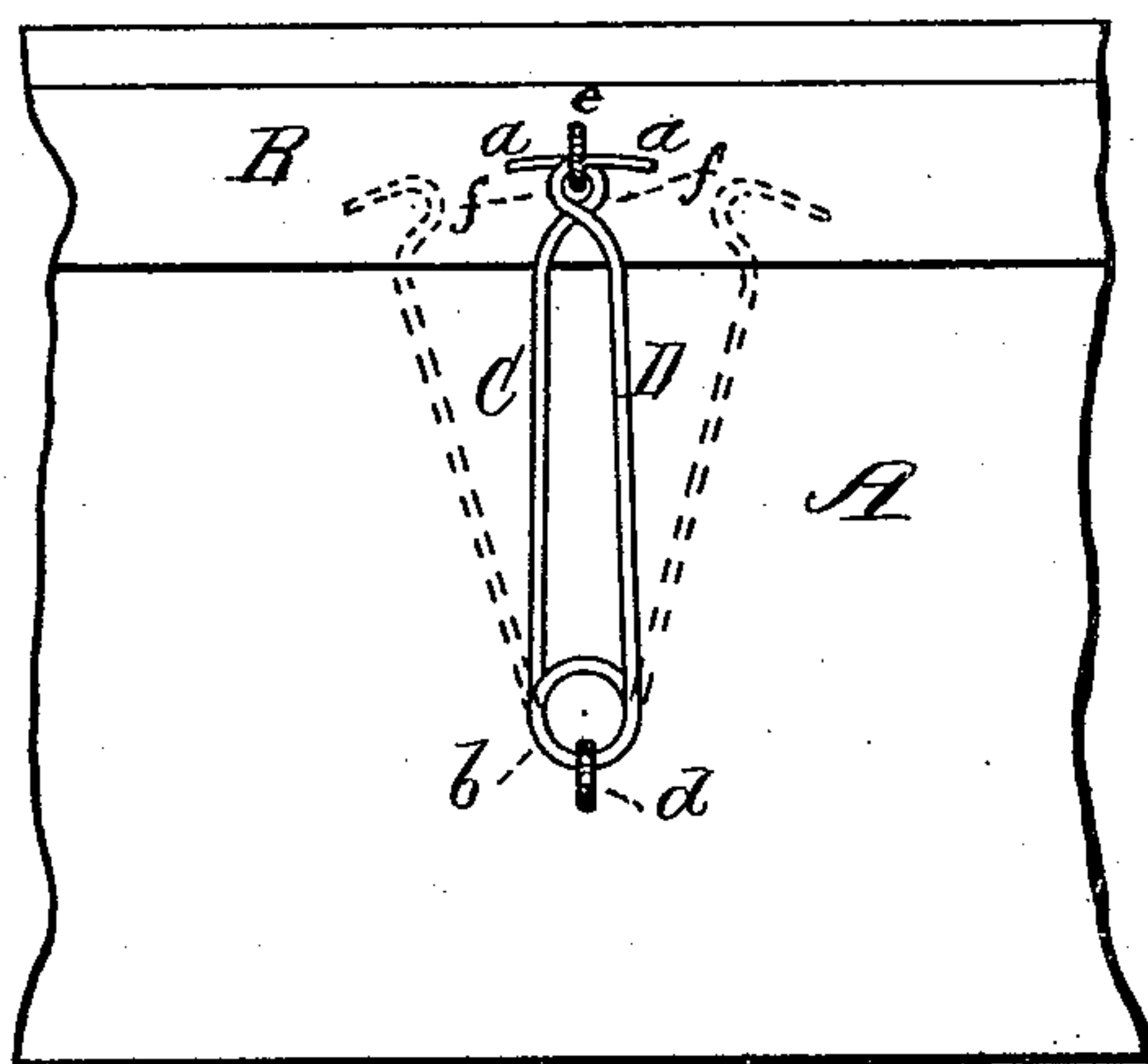


Fig. 2.



WITNESSES

Nat. E. Oliphant,
Geo. B. Porter.

INVENTOR

Andrew J. Millard,
per Charles H. Fowler,
Attorney.

UNITED STATES PATENT OFFICE.

ANDREW J. MILLARD, OF SIOUX CITY, IOWA.

BOX-FASTENER.

SPECIFICATION forming part of Letters Patent No. 230,799, dated August 3, 1880.

Application filed November 6, 1879.

To all whom it may concern:

Be it known that I, ANDREW J. MILLARD, of Sioux City, in the county of Woodbury and State of Iowa, have invented a new and valuable Improvement in Spring-Fastenings for Boxes, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a perspective view of a box, showing the application of my invention. Fig. 2 is a front elevation of the same. Fig. 3 is a modification in perspective.

The present invention has relation to that class of fastenings for boxes, crates, &c., having two spring-arms with hooked ends to engage with a staple upon the cover to be fastened.

In this class of devices the hooks upon the ends of the spring-arms were bent inward in a direction toward each other, and each hook engaging with its respective side of the staple, or upon that side nearest to the arm. This means of connecting the arms to the staple was necessitated by the manner of constructing the hooks, and it has been found inadequate for the purpose of a fastening, the full benefit of the elasticity of the arms not being secured, thereby rendering it liable to become accidentally unfastened.

The object or purpose of the present invention is to remedy the defects in this class of fastenings, and not only render it simple and cheap, but reliable as a fastening in securing the cover, so that it cannot be accidentally removed from the box or other receptacle while *in transitu*, and at the same time be readily fastened and unfastened when required.

The invention consists in the peculiar form of the spring-arms, whereby they can be made to overlap each other and engage with the staple upon the opposite sides thereof, as illustrated in the drawings and hereinafter described.

In the accompanying drawings, A represents a box, of any suitable form or construction,

provided with a cover, B, the box shown being of that class employed for packing eggs.

The fastening is composed of a metallic bar, preferably of wire, having sufficient elasticity to form a spring. This wire is bent to form two spring-arms, C D, having at their free ends hooks *a*, which are bent in an outward direction. In order to give more elasticity to the arms, the wire is bent at the junction of the arms to form a coil-spring, *b*, thereby making a much stronger fastening, and one less liable to become detached from the cover B.

The arms C D are secured to the box A by a suitable staple, *d*, and, for convenience of fastening and unfastening the arms, one of them is formed with a suitable knob or handle, *c*, either formed of the same piece of wire as forms the arms or made separately and afterward connected thereto, as found desirable.

In securing the cover to the box the hook upon the arm C is first made to engage with the staple *e* upon the cover, after which the hooked end of the arm D is pressed in direction of the arm C and made to engage with the staple *e*. In this position the hooked ends of both arms overlap each other, and each arm forms for the other a spring-lock, thereby securing a very firm and rigid fastening, and one that will not become unfastened accidentally.

The spring-arms C D, at their upper or free ends, are curved or bent inwardly, as shown at *f*, so that the hooks *a* can be more readily and conveniently made to engage with the staple *e*. Were the arms perfectly straight throughout their entire length and the hooks simply formed by bending outward and at right angles to the arms the ends thereof, it would be difficult, if not impossible, to engage the hooks with the staple upon the opposite sides, so that the arms will overlap. It is the particular construction of the hooked ends of the arms that more perfectly adapts them to be connected to the staple by overlapping or in a crossed position, as hereinbefore described.

The free or hooked ends of the spring-arms C D may be bent horizontally, as illustrated in Fig. 3 of the drawings, the staple in such case being connected to the upper side of the box-cover.

It will be seen that, as the arms C D overlap each other, a much stronger and more secure fastening is obtained, and less liable to become disconnected from the staple.

5 Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 In a box-fastener, the spring-arms C D, the upper or free ends thereof being curved or bent inwardly, as shown at *f*, to form the hooks *a*, whereby said hooks may be made to engage

with the staple *e* by the overlapping of the spring-arms, substantially as and for the purpose set forth.

In testimony that I claim the above I have 15 hereunto subscribed my name in the presence of two witnesses.

ANDREW J. MILLARD.

Witnesses:

GEORGE H. DAVIS,
SAMUEL T. DAVIS.