

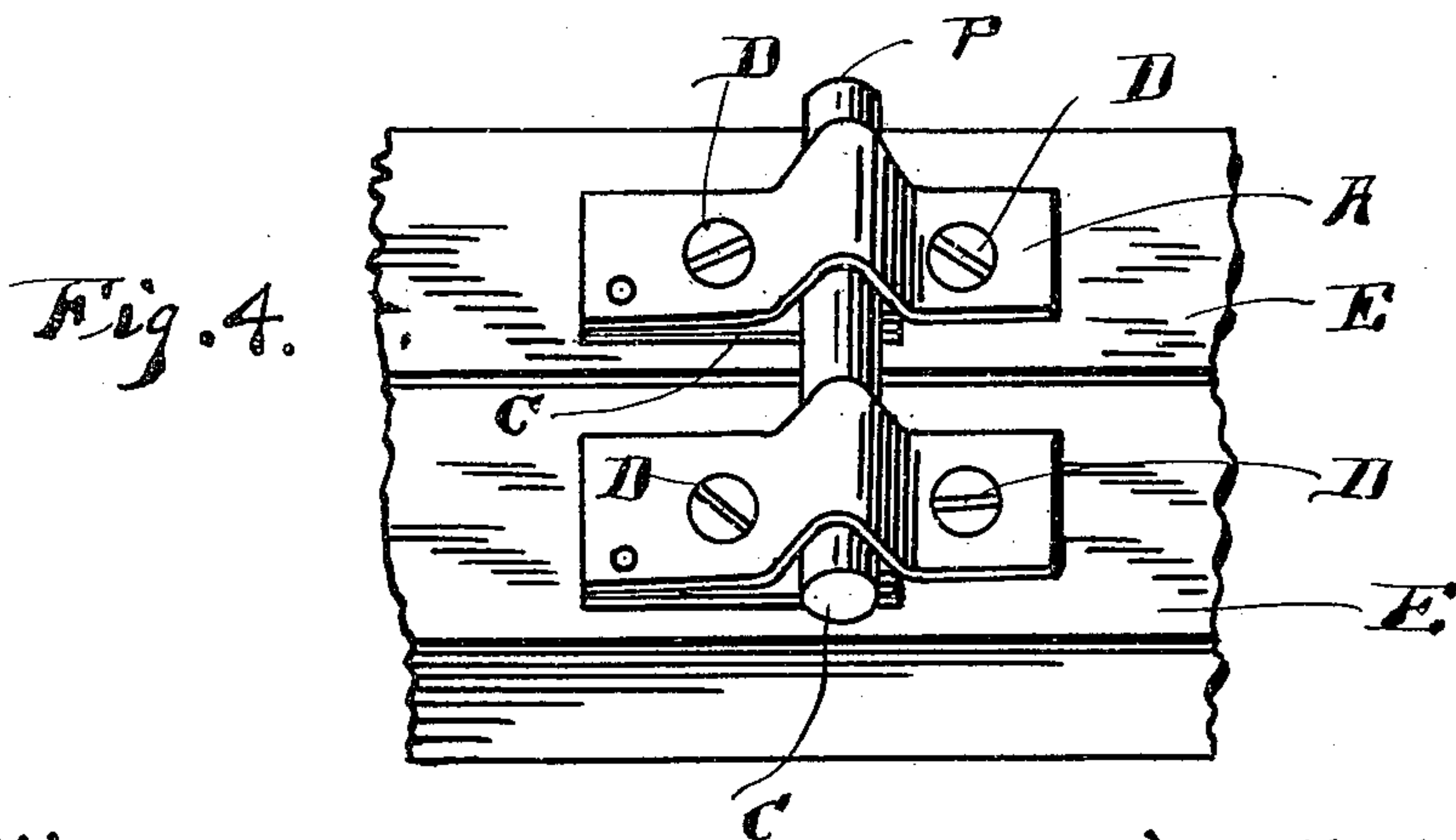
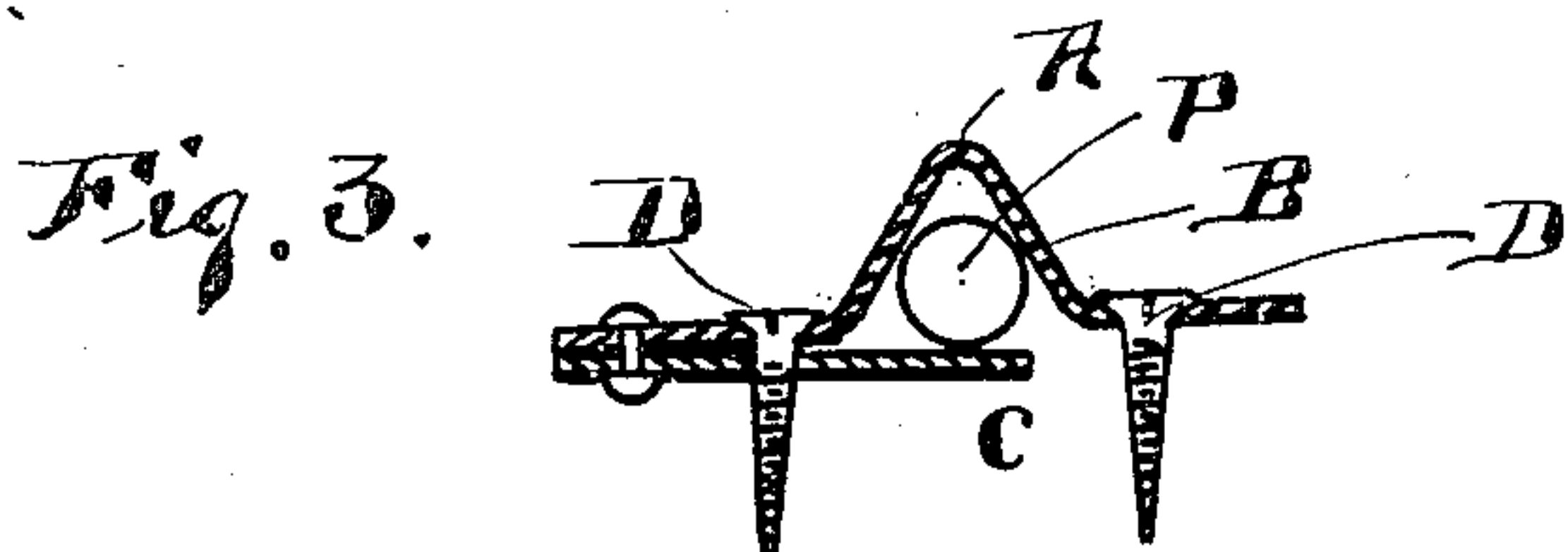
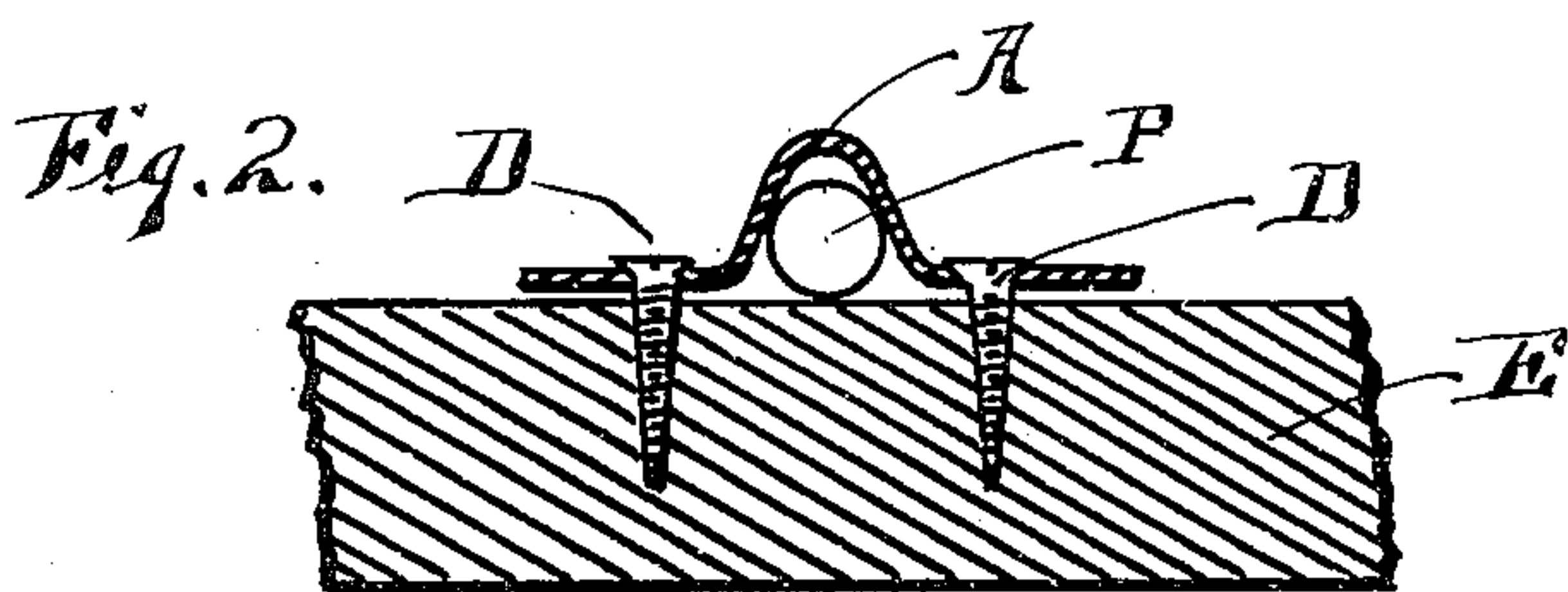
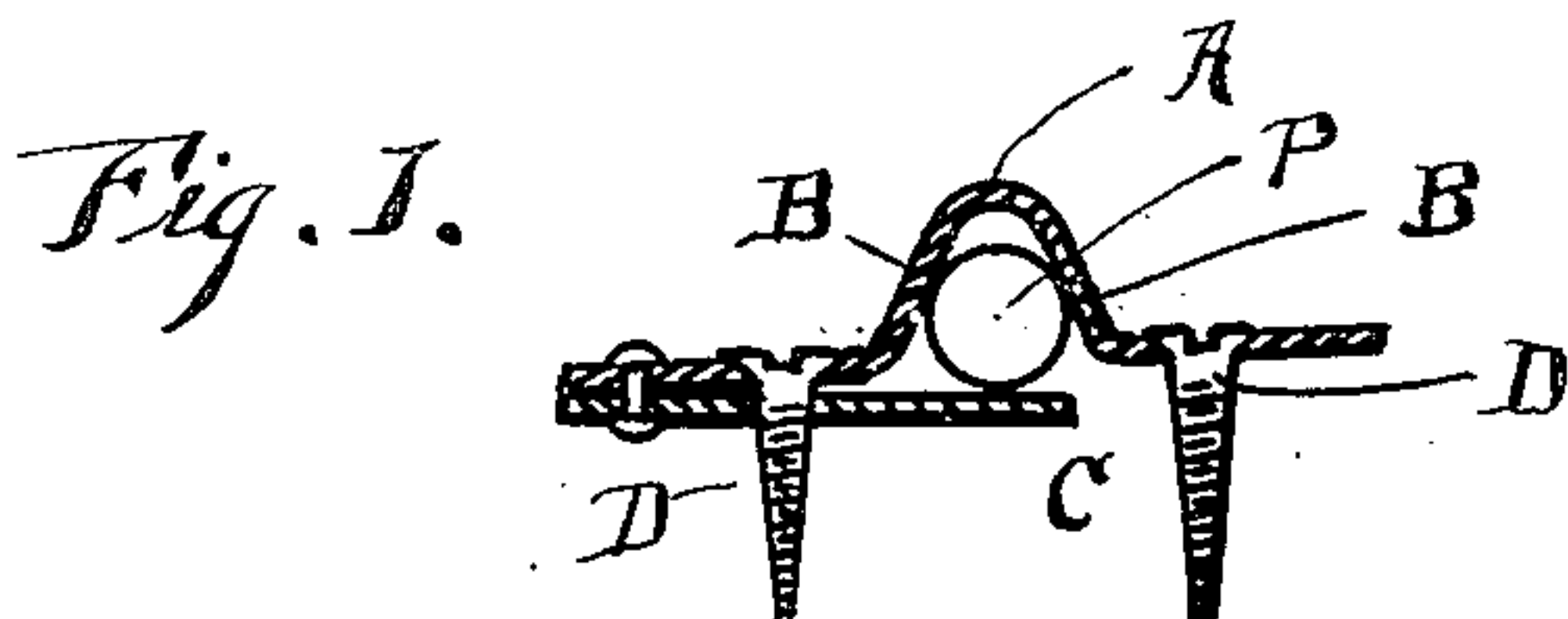
No. 658,633.

Patented Sept. 25, 1900.

C. L. FROST.
FRICTION HINGE FOR FURNITURE.

(Application filed Sept. 15, 1899.)

(No Model.)



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES L. FROST, OF GRAND RAPIDS, MICHIGAN.

FRICITION-HINGE FOR FURNITURE.

SPECIFICATION forming part of Letters Patent No. 658,633, dated September 25, 1900.

Application filed September 15, 1899. Serial No. 730,633. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. FROST, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Friction-Hinges for Furniture, of which the following is a specification.

This invention has for its general purpose to provide a novel, simple, and reliable construction of friction-hinge for furniture, such as mirrors; and the invention consists in the combination, with a pintle, of a metal plate provided with a transversely-arranged bend or depression having flared or wedging sides to clasp the sides of the pintle as said plate is drawn toward the pintle by means of screws passed through end portions of said plate and into the article of furniture, thereby exerting a wedging action against the pintle and producing a stronger and more efficient friction between the pintle and said plate by reason of the flared sides of the depression in said plate.

The objects of my invention are, first, to simplify the construction of friction-hinges which are used in connection with mirrors and for other like purposes, and, second, to increase the efficiency of frictional strength between the plate and pintle by means of the peculiar shape of the bent portion of the plate which comes in contact with the pintle. These objects I accomplish by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows a sectional view of my preferred form of hinge taken lengthwise through one of the leaves of the hinge. Fig. 2 shows a modified form, the modification consisting in dispensing with the lower plate shown in Fig. 1 by C. Fig. 3 shows another modified form, which modification consists in having the bend of the plate at a sharper angle than is shown in Figs. 1 and 2. Fig. 4 shows in perspective view sections of the mirror-frame and the mirror-frame support with a pair of the hinges attached thereto.

Similar letters refer to similar parts throughout the several views.

It will be understood that there are two sets of hinges used in supporting a mirror-frame. In heavy mirrors it is difficult to produce a sufficient amount of friction in the

friction-hinge to prevent the mirror from turning or tilting from the required position, and the construction hereinafter described and illustrated in the drawings produces such a friction as to entirely prevent the tilting of the mirror from the position in which it is placed.

A represents the metallic plate, which is provided with the bent portion (shown in Fig. 1) extending upward over the pintle, the opening being larger, so as to allow the pintle to be wedged into such bent portion. The portions of the plate which come in contact with the pintle are indicated in Fig. 1 by B B and in the modified form illustrated in Fig. 3 by B' B'.

P represents the pintle resting in the wedging portion of the plate A and contacting therewith at the points B B.

C represents a plate placed between the plate A and the mirror-frame or mirror-frame support.

In Fig. 4, E' represents a section of the frame which supports the mirror, while E represents a portion of the mirror-frame.

In Fig. 2 I have shown the same form as is shown in Fig. 1 and have dispensed with the plate C, allowing the pintle P to rest directly upon the mirror-frame or mirror-supporting frame, as the case may be.

In Fig. 3 I have shown a modified form, the modification consisting merely in a slight change in the form of the bent portion of the plate A. Instead of bending the plate upon a curve I have bent it in an angular form or substantially in the shape of the letter V. The straight sides of the V-shaped portion (shown by B' B') come in contact with the pintle P. The plates are secured to the mirror-frame by means of the screws D D.

The operation of my invention is as follows: One of the hinges is applied to each of the supporting-frames and one to either side of the mirror-frame. The pintle E is placed in position connecting the hinged portion of the mirror-frame and the hinged portion of the supporting-frame. The screws D D are then turned down, so as to draw the bent plate A upon the pintle or pivot. The pintle is not intended to reach the upper portion of the depression formed by bending the plate, but is intended to be wedged securely in the open-

ing. The opening decreasing in size causes the bent portion of the plate A to clasp, as it were, the pintle P, thereby increasing the friction between the pintle and plate.

5 This method of constructing the hinge enables me with the smallest amount of material to produce a hinge which will hold the pintle so as to prevent the same from turning excepting when the mirror is turned by
10 hand, and a mirror or picture so supported will remain in any position required and will not become displaced by its own weight.

I am aware that a friction-hinge consisting of a pintle and a plate having a concave bearing for one end of said pintle is old, as shown,
15 for instance, in Sitters's patent to J. F. Buzzell, No. 359,555, dated March 15, 1887, and F. W. Mix, No. 379,901, dated March 20, 1888, the pintle being merely clasped between two plates,
20 one of which is flat and the other being provided with the concaved pintle-bearing. Such construction I do not claim, it being the purpose of my improvement to increase the friction and make it more effective and reliable by
25 providing for a wedging of the pintle between the flaring sides of the wedge-shaped depressions in the plate. Thus in my improvement there is a direct pressure upon those points of the pintle, one point on each side being
30 pressed by the upper plate and on the lower

side by the lower plate or, in case of there being no lower plate, by the mirror-frame. This pressing of the pintle into the wedge-shaped opening or depression results in greatly increasing the friction between the
35 upper plate and the pintle and provides a very positive and direct frictional action. It is not necessary to turn down the screws into the wooden frame in order to secure the friction desired, as is the case with some other
40 devices of this character.

Having thus described my invention, what I claim to have invented, and desire to secure by Letters Patent, is—

In a friction-hinge for furniture, the combination with a pintle, of the bearing-plate
45 provided with a wedge-shaped depression to positively engage the pintle with a direct and increasing pressure on opposite sides of the pintle, as said plate is drawn forcibly to the
50 pintle by screws passed through the end portions of said plate and into the furniture, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.
55

CHARLES L. FROST.

Witnesses:

EDWARD TAGGART,
DORA B. PARKER.