

No. 636,330.

Patented Nov. 7, 1899.

C. GLOVER.
HINGE.

(Application filed Feb. 23, 1899.)

(No Model.)

Fig. 1

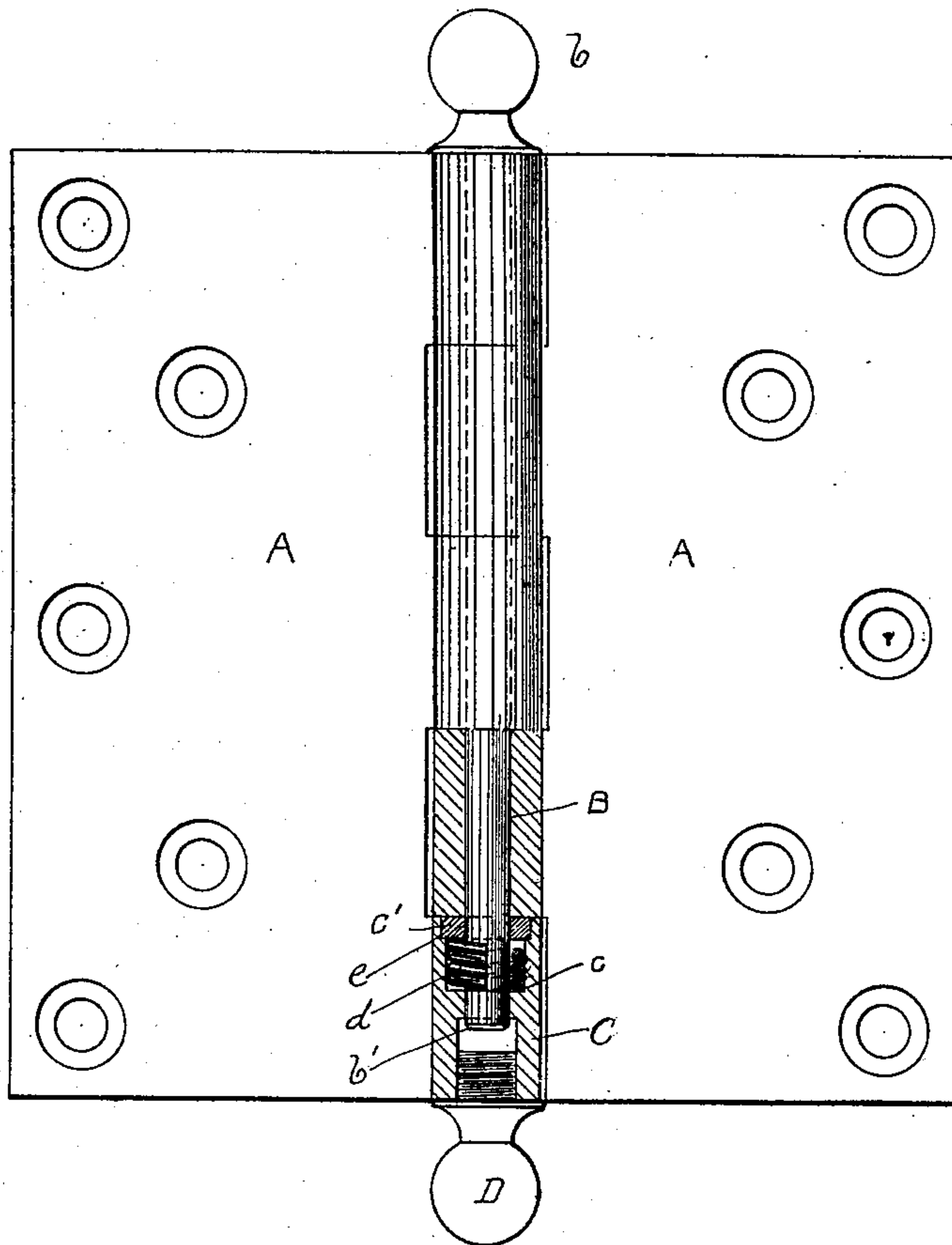


Fig. 2

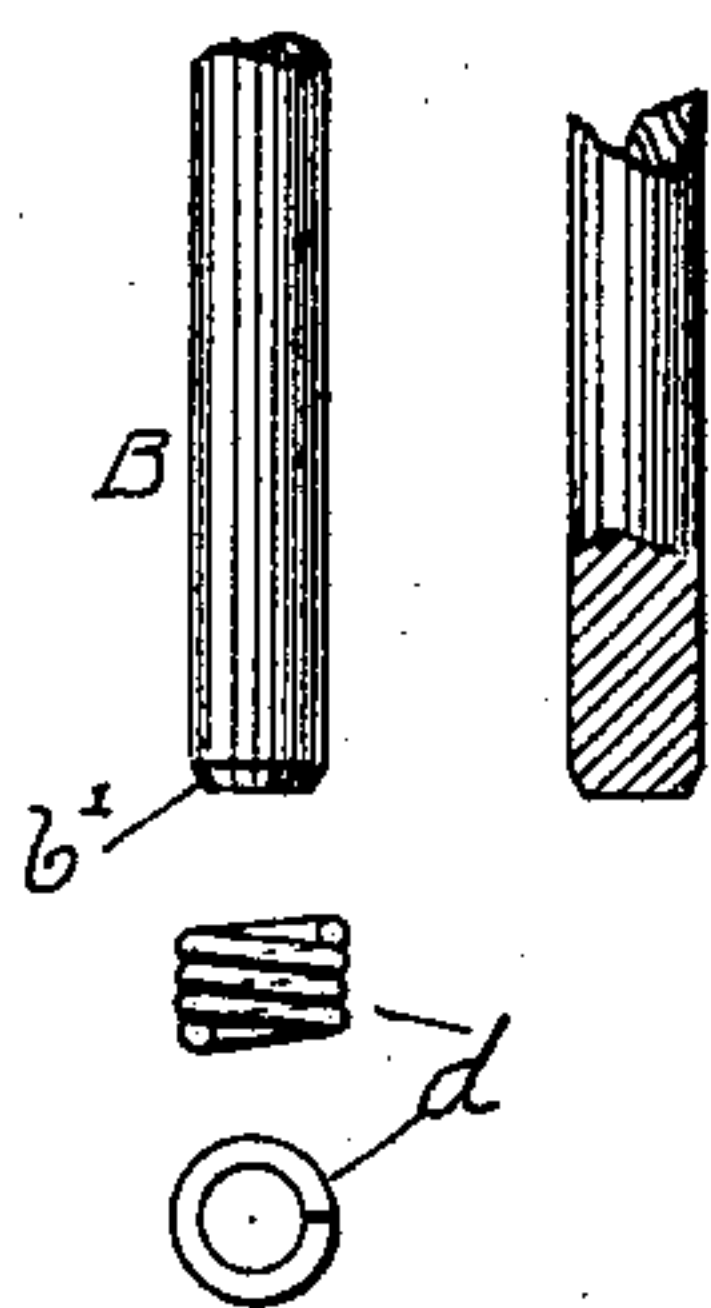


Fig. 3

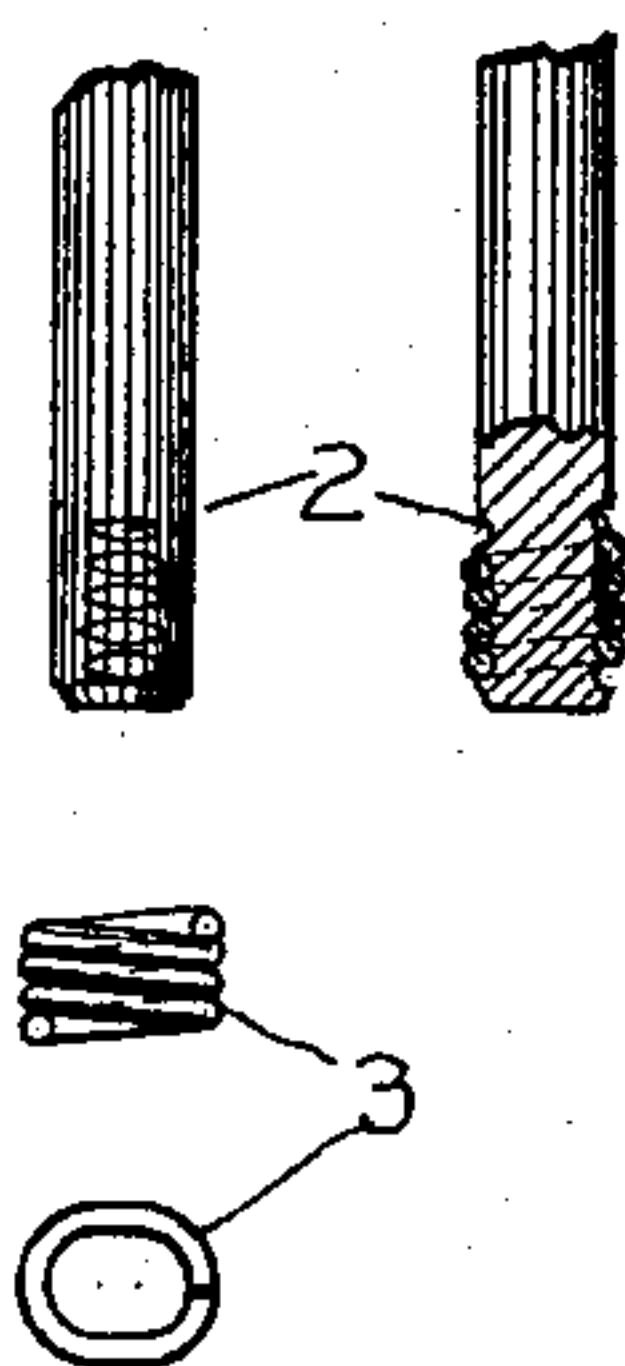


Fig. 4

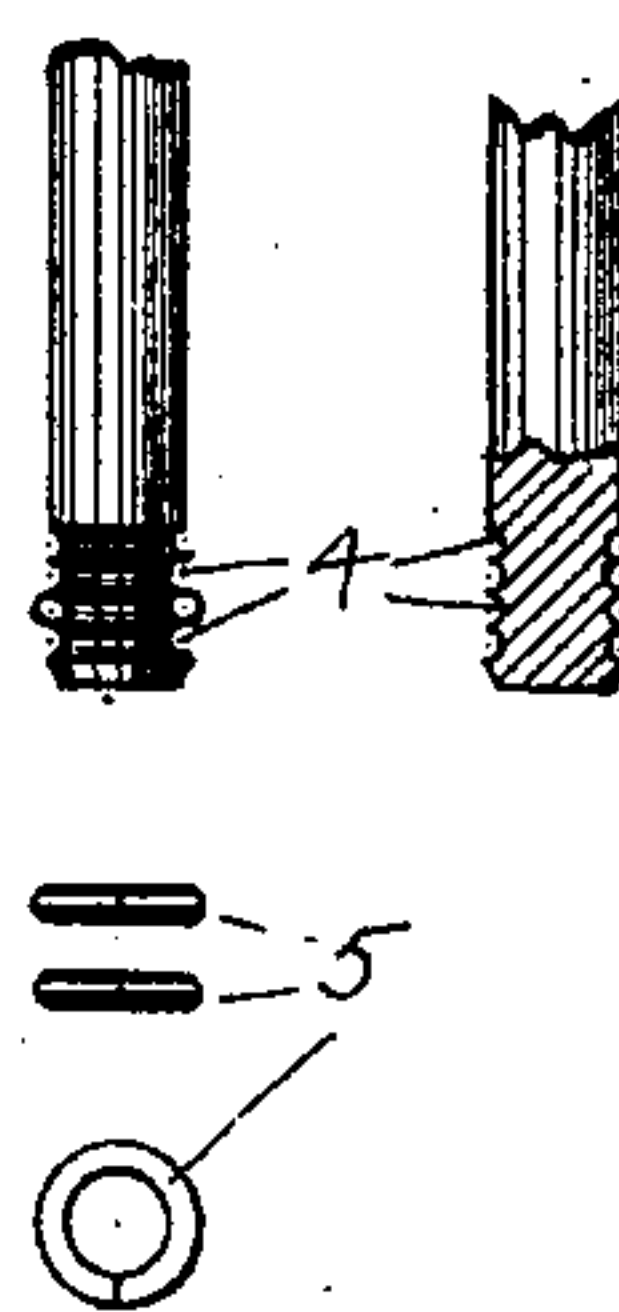
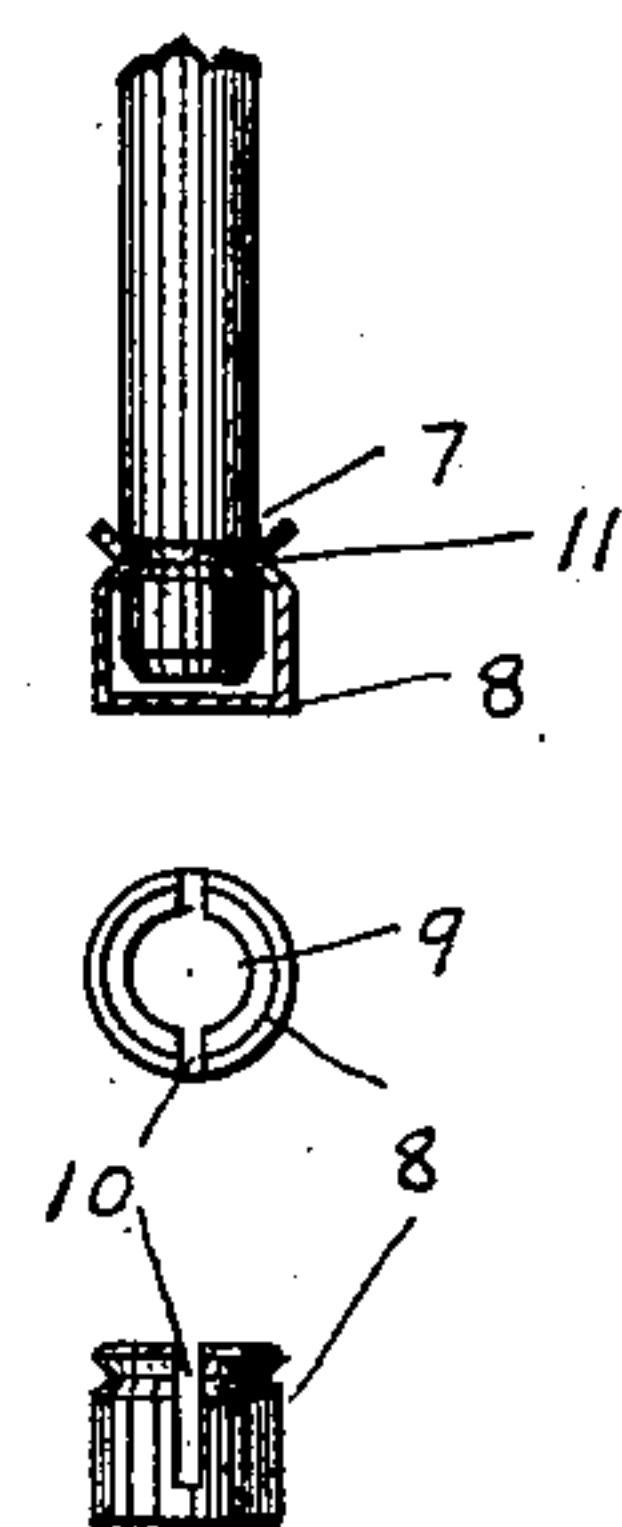


Fig. 5



WITNESSES:

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UNITED STATES PATENT OFFICE.

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P. & F. CORBIN, OF SAME PLACE.

HINGE.

SPECIFICATION forming part of Letters Patent No. 636,330, dated November 7, 1899.

Application filed February 23, 1899. Serial No. 706,615. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GLOVER, a citizen of the United States, and a resident of the city of New Britain, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Butt-Hinges; of which the following is a specification.

My invention relates to improvements in loose-pin butts, and has for its object to produce a simple and inexpensive means for holding the pin in position and preventing its accidental displacement. The means by which this end is accomplished are shown in the accompanying drawings, in which—

Figure 1 is a view, partly in section, of a butt in which one form of my invention is embodied. Fig. 2 is an enlarged view of the details of my invention shown in Fig. 1. Figs. 3, 4, and 5 show modified forms of my invention.

Referring to Figs. 1 and 2 of the drawings, A A denote the leaves of an ordinary butt which I use to illustrate my invention.

B is the pin, headed at one end *b* and slightly beveled at the opposite end, as shown at *b'*. A recess *c* is formed in the knuckle C and is preferably enlarged at the top *c'* to accommodate a washer *e*. In the recess is located a clip *d*. In the form shown in Figs. 1 and 2 the clip *d* consists of a spiral spring, which may be held in place by a washer *e*. The inside diameter of the clip *d* is a little smaller than the diameter of the pin, and when the parts occupy the position shown in Fig. 1 the contractive force of said clip grips the pin and holds it against accidental displacement.

D is a tip attached to the bottom knuckle of the hinge to give it a finished appearance and forms no part of my invention.

In assembling a hinge made according to my invention the clip *d* is placed in the recess *c* and is held therein by the washer *e*. The two leaves of the hinge are then put together so that the holes through the knuckles will register, and the pin is inserted in said hole and its lower end forced into the clip. The lower end of the pin and the clip are so constructed that the latter shall hold the pin with sufficient grip to prevent it from working out, but allow of its ready removal when desired by the application of sufficient force.

Loose-pin butts as they are now made are not satisfactory, because the pin is liable to work out by constant use and loosen the hinge; but my improvements do away with this objection entirely.

The modification shown in Fig. 3 has a pin with notches 2 in each side, and the clip consists of a spiral spring 3, which is elliptical in form. The spring engages the notches on the line of its minor axis and holds the pin in position.

The modification shown in Fig. 4 is a pin whose lower end is circumferentially grooved or corrugated, as at 4, and the clip consists of a number of split rings 5, whose inside diameter approximates the diameter of the bottom of the corrugations. The pin is forced into these split rings and held in place thereby.

In the modifications shown in Fig. 5 the pin is circumferentially grooved, as at 7, and the clip consists of a cap 8, having an opening 9, reduced to a size smaller than the diameter of the pin, which is split, as at 10, forming a spring-top. When the pin is forced into the cap, the top expands until the lip 11 enters the groove 7 on the pin.

While I have shown and described herein the preferred form of construction of the parts for holding the pin against accidental removal, yet it is to be understood that such construction may be varied to a considerable extent and yet come within the scope of my invention, which contemplates means located wholly within a knuckle of the hinge for frictionally engaging the pin to prevent its accidental displacement.

Although the construction shown in the drawings, in which a washer is used in holding the spring-clip in position in the knuckle, is the preferred form, still it is evident that the use of this washer is not essential to the device, as a knuckle above the socket will serve as a shoulder to prevent the removal of the clip when the pin is withdrawn.

It is not intended to include in this application the inventions shown in Figs. 4 and 5 of the drawings, as they form a part of a separate application filed by me June 23, 1899, and serially numbered 721,542.

I claim as my invention—

1. The combination in a butt, with the

leaves and pin, of a socket formed in one of the knuckles, and a spring-clip located in said socket, and having an opening smaller in diameter than the diameter of the part of the pin which supports the clip.

2. In loose-pin butts, the leaves and pin, a clip located in one of the knuckles to grip said pin and thereby hold it against accidental displacement, and a stop to prevent the removal of the clip from the knuckle during the operation of manually removing the pin.

3. In loose-pin butts a means for securing the pin against accidental displacement, com-

prising a clip located in one of the knuckles and a shoulder located in the path of outward movement of the clip. 15

4. The combination in loose-pin butts comprising the leaves, knuckles and pin, of a spiral spring located in a socket in one of said knuckles and adapted to receive and hold said pin and a washer located in the socket to retain the spring in position. 20

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Witnesses:

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