C. Cole,

Hinge.

No. 93,058. Patented July 27. 1869

Fig. 2.

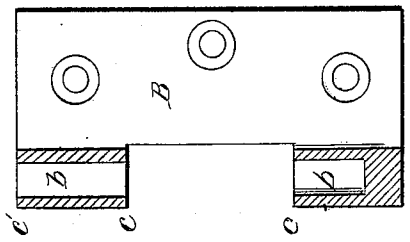


Fig. 3.

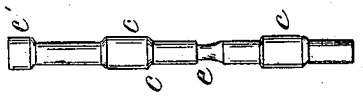
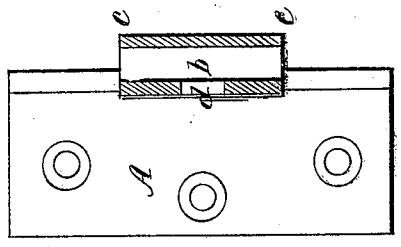


Fig. 1.



Witnesses.

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CALVIN COLE, OF ITHACA, NEW YORK.

Letters Patent No. 93,058, *dated July* 27, 1869.

IMPROVED HINGE.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, CALVIN COLE, of Ithaca, in Tompkins county, and State of New York, have invented a new and useful Improvement in "But-Hinges;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing through letters of reference marked thereon, forming part of this specification, and in which—

Figure 1 represents the male half, and

Figure 2, the the female half of the hinge, the knuckle of each being shown in section.

Figure 3 is an elevation of the hinge-pin, showing my improvement.

The object of this invention is to construct a hinge of the ordinary three or more knuckle character, that may be used as a loose but or reversible, to suit either right or left jamb; also, to reduce the amount of friction between the knuckles and the pin or pivot, around which they turn; and

It consists, first, in reducing the body of the pin to a less diameter than that of the hole in the knuckles at all parts of its length, except about a quarter of an inch, more or less, on each side of the dividing-lines between the male and female knuckles, and about the same amount at the upper or open end of said knuckle; and, secondly, in the formation of a slot at about mid-length of the knuckle, for the entrance of any suitable implement, as, for instance, a nail or knife-point, to operate on the shoulder of a reduced portion of the pin, and thus raise it sufficiently to withdraw it by hand.

Referring to the drawings—

A represent the male wing of the hinge, and B, the female wing, each bored longitudinally through the knuckles, as at *b*, in the ordinary manner, except that the female wing is not bored entirely through.

In this hole is fitted a pin, C, which rests in the bottom of the hole *b*, and is filed off level at the top. This pin fits the hole snugly at the points *c c c'*, and is reduced in diameter at all other parts, so as to diminish the bearing surface, and consequently the friction.

The swells *c c* are intended to lap the parting lines of the male and female knuckles about a quarter of an inch, more or less, in proportion to the size of the joint, and the swell *c'* enters the upper end of the bore, and closes the hole. This not only reduces the bearing-surface, but forms cavities around the pin, for holding oil to lubricate the joint.

On the inner side of the centre, or other suitable knuckle, is formed a slot, *d*, through which a nail or other suitable implement may be introduced when the door is open, to lift the pin C, by prying under the shoulder *e*, by which means it may be raised sufficiently to be withdrawn by the fingers, or any suitable instrument.

For a reversible but, I arrange the plate of the female wing centrally with regard to the knuckle, and that of the male wing to one side of its knuckle, but my improvements, as regards the removable pin, are applicable to any kind of but-hinge.

Having thus described my invention,

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

1. The arrangement and combination of the slot *d* in the knuckle, and shoulder *e* in the pin, substantially as shown and described, for the purpose set forth.

2. The construction of the pin C, with swells *c c c'*, fitting the bore of the knuckle, and reduced intermediate portions, substantially as and for the purposes specified.

CALVIN COLE.

Witnesses:

F. J. MCELHENEY,

C. T. BLOOD.