L. H. ROGERS.

HINGES.

No. 170,116.

Patented Nov. 16, 1875.

Fig. 1.

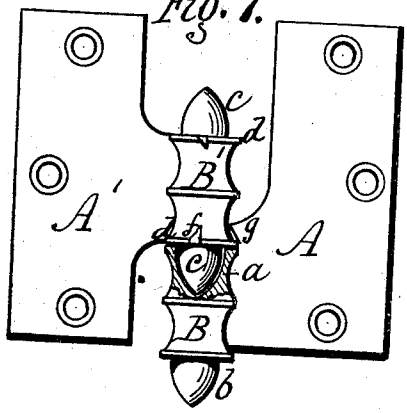


Fig. 2.

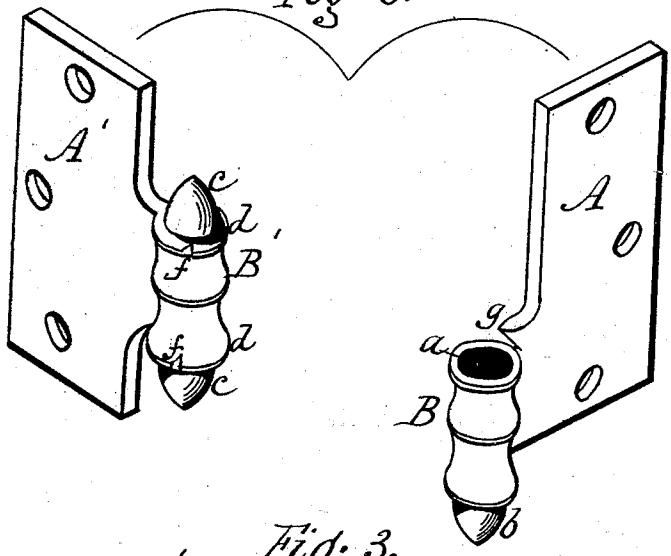
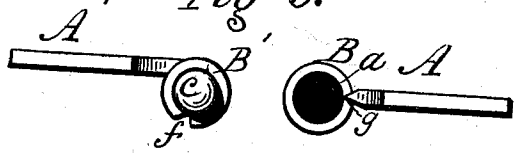


Fig. 3.



Witnesses.

E. B. Scott

Jacob Graham

Inventor.

Lewis H. Rogers,

per R. F. Osgood,

Atty

N. PETERS, PHOTO-LITHOGRAPHER, W. SHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LEWIS H. ROGERS, OF SOUTH AVON, NEW YORK.

IMPROVEMENT IN HINGES.

Specification forming part of Letters Patent No. **170,116**, dated November 16, 1875; application filed October 18, 1875.

CASE B.

To all whom it may concern:

Be it known that I, LEWIS H. ROGERS, of South Avon, in the county of Livingston and State of New York, have invented a certain new and useful Improvement in Hinges; 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 accompanying drawings, in which—

Figure 1 is an elevation, partially in section. Fig. 2 is perspective view, showing the parts of the hinge separated. Fig. 3 is a top view of the parts shown in Fig. 2.

The object of my invention is to produce a hinge for doors, gates, &c., which has the parts forming the joint cast solid on the leaves of the hinge, thereby avoiding a loose or projecting pin, the whole forming a right-and-left or reversible hinge, which can be easily applied.

The invention consists in the construction of the knuckle-joint, as hereinafter more fully described.

A A′ represent the two plates or leaves of the hinge. B B′ are the corresponding halves, forming the knuckle-joint. The plate A, which is attached to the door or gate post, has its screw-holes countersunk on both sides, so as to be fastened on either the right or left hand side. Its knuckle B is cast at the bottom of the plate, and in line therewith, and is formed with a conical socket or cavity, *a*, on top, and with an oval point, *b*, at the bottom, the latter simply forming an ornament. The plate A′, which is the swinging part, attached to the door or gate, has its screw-holes countersunk only on one side, and its knuckle B′ is cast on centrally of the inner edge of the plate, and tangentially thereto. At its upper and lower ends it has two conical points, *c c*, corresponding in form with the socket *a*. These points form the pintles or bearings resting in the socket *a*, and, accordingly as the plate A′ is placed one side up or the other, the hinge, in that case, will constitute a right or left hinge, as the case may be, by reason of the lateral projection of the tangent knuckle B′ on one side or the other of the plate. At the base of each of the points *c c* is a circular flange, *d*, which, when its point is inserted in the socket *a*, rests upon and covers the rim of the said socket, as clearly shown in Fig. 1. In each of these rims is formed a notch, *f*, and upon the inner edge of the stationary leaf A is formed a sharp-edged lip or lug, *g*, which projects over and covers the flange *d*. To insert the pintle-point *c* in its socket *a* the door is placed in a position so that the notch *f* will coincide with the lip *g*, which allows the flange *d* to pass below the lip. Then, when the door is turned, the flange *d* runs under the lip *g*, which holds it down and prevents the door from being raised. The upper side of the flange and the lower side of the lip are made inclined or angular, as shown, to insure easy running, and also to facilitate casting. The flange *d* thus answers a double purpose—first, to form a seat resting on top the rim of the socket *a*, to prevent undue grinding or wear of the pintle-point in the socket; and, second, to form a stop, in connection with the projecting lip *g*, to prevent the door being lifted off from its hinges in the turning movement.

The notch *f* is preferably located so that in putting on or taking off the door the latter is swung about half-way open to bring the notch in coincidence with the lip; but it may be applied at any other point of the half-circle between the open and shut position of the door.

I am aware that hinges have been known, forming "rights and lefts," by inverting the movable half of the hinge, as shown in the patent of C. Sholl, July 30, 1861, and others; but such have projecting pins. I am also aware that hinges with a double projection of the pintle, and reversible to rest in a single socket, have been known, as shown in the patent of S. L. Selden, January 19, 1875. Such I do not claim.

I combine with the double pintle-points *c c* the notched flanges *d d* and the lip *g*, by which the parts of the hinge are locked together to prevent the door being lifted off, while the hinge is still made reversible, or right and left handed. Another advantage of this arrangement is that the door can be easily inserted or applied, owing to the conical or pointed form of the pintle, which allows the

parts to engage, even if the door is a little out of line, thereby obviating the objection which is met in ordinary doors with straight pintles, which must coincide exactly with the sockets of the upper and lower hinges in applying the door. Another advantage of the arrangement is that oil can be applied in the cavity *a*, if desired, and be covered by the flange *d*, so that dirt cannot enter.

If desired, the part A′ may be used as the stationary part of the hinge attached to the door or gate post, and the part A be used as the movable part attached to the door or gate, the socket *a* in that case resting on top the points *c c* and the plate A′ having its screw-holes countersunk on both sides, so that it may be reversed and used right and left.

What I claim as new is—

The reversible or right-and-left hinge A A′, cast with solid knuckles B B′, and constructed with the socket *a*, conical pintle-points *c c*, notched flanges *d d*, and lip *g*, all combined and arranged to operate as and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

L. H. ROGERS.

Witnesses:
R. F. OSGOOD,
JACOB SYMBER.