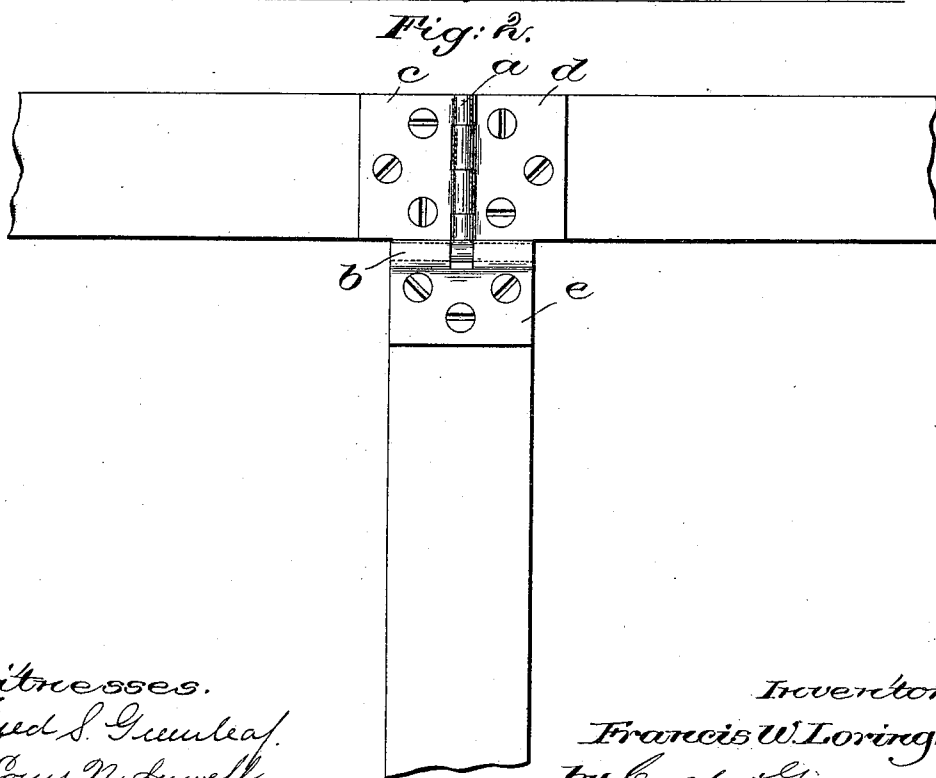
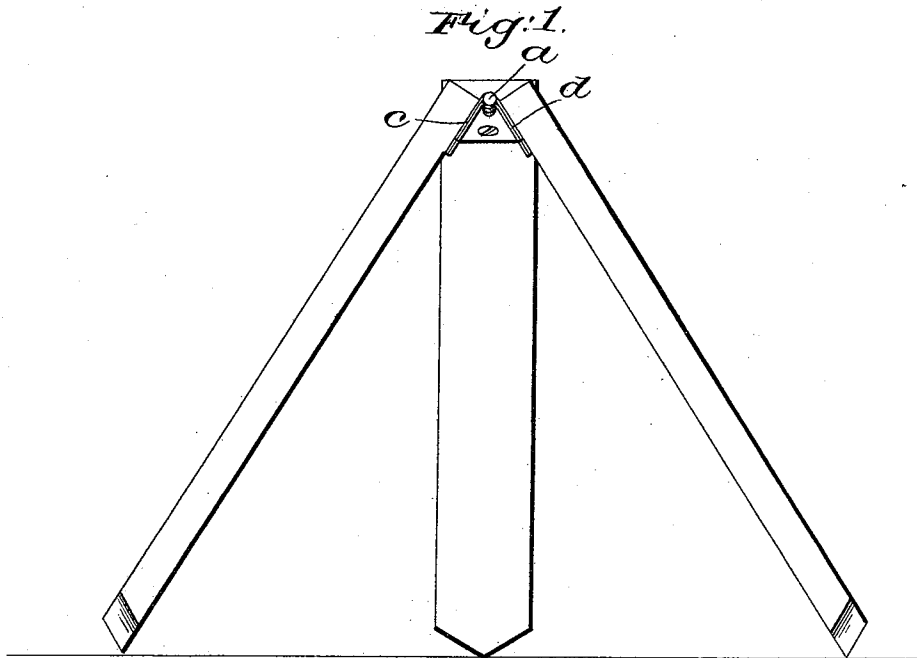


(No Model.)

F. W. LORING.
HINGE.

No. 472,192,

Patented Apr. 5, 1892.



Witnesses.
Fred S. Greenleaf
Louis N. Howell

Inventor
Francis W. Loring
by Crosby & Gregory
Attys.

UNITED STATES PATENT OFFICE.

FRANCIS W. LORING, OF BOSTON, MASSACHUSETTS.

HINGE.

SPECIFICATION forming part of Letters Patent No. 472,192, dated April 5, 1892.

Application filed December 9, 1891. Serial No. 414,455. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS W. LORING, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Hinges, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to construct a three-part hinge adapted for tripods and analogous uses or in instances where it is desired to connect three parts together and provide for independent movement of each.

In accordance with this invention a pintle is provided which receives upon it in any usual manner two leaves, they being freely revoluble on said pintle, and another pintle is provided which may be connected with the first-named pintle rigidly, if desired, and if such connection is desired to be rigid the pintles may be formed in a single piece, and the last-named pintle is adapted to receive upon it the third leaf, which is also freely revoluble. The last-named pintle is so arranged with relation to the first-named pintle that the leaves thereon may be turned on an axis at right angles to the axis of the first-named pintle, and also may be turned on the axis of said first-named pintle, as desired.

Figure 1 shows in side elevation a three-part hinge embodying this invention connected to a tripod, and Fig. 2 an under side view of the hinge with the parts moved into the same plane.

The pintle *a* or post (see dotted lines, Fig. 2) is of any suitable length, and has mounted on it two leaves *c d*, like unto an ordinary two-leaved hinge. The pintle *b* (see dotted lines, Fig. 2) is herein shown as a cross-bar formed integral with the pintle *a*, and arranged

at right angles to it, although it is obvious it may be made as a separate piece connected with it in suitable manner. The leaf *e* is arranged on said pintle *b* and adapted to turn freely. The leaves all being freely revoluble on the pintles, the latter are also unrestrained and may be moved independently of the leaves.

In operation it will be seen that the leaf *e* may be turned on its pintle *b* on an axis at right angles to the axis of the pintle *a*, and, furthermore, the said leaf *e* and pintle *b* may be turned with the pintle *a* on the axis with said pintle, thereby giving to said leaf *e* movements on two different axes at right angles with relation to each other, and, furthermore, the leaves *c d* may be turned on the axis of the pintle *a*, and said leaves, with the pintle *a* upon which they are mounted, may be turned with the pintle *b* on the axis of said pintle.

I do not desire to limit myself to the precise construction of parts, as it is obvious that the leaves may be formed in various ways, and so also the pintles, whereby the results above specified may be accomplished.

I claim—

The three-part hinge herein described, consisting of the pintle *a* and leaves *c d*, freely revoluble thereon, and the pintle *b* and leaf *e* freely revoluble thereon, said leaf *e* thereby having movements on different axes, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANCIS W. LORING.

Witnesses:

BERNICE J. NOYES,
EDWARD F. ALLEN.