

(No Model.)

J. H. MAHAN.
HINGE.

No. 471,981.

Patented Mar. 29, 1892.

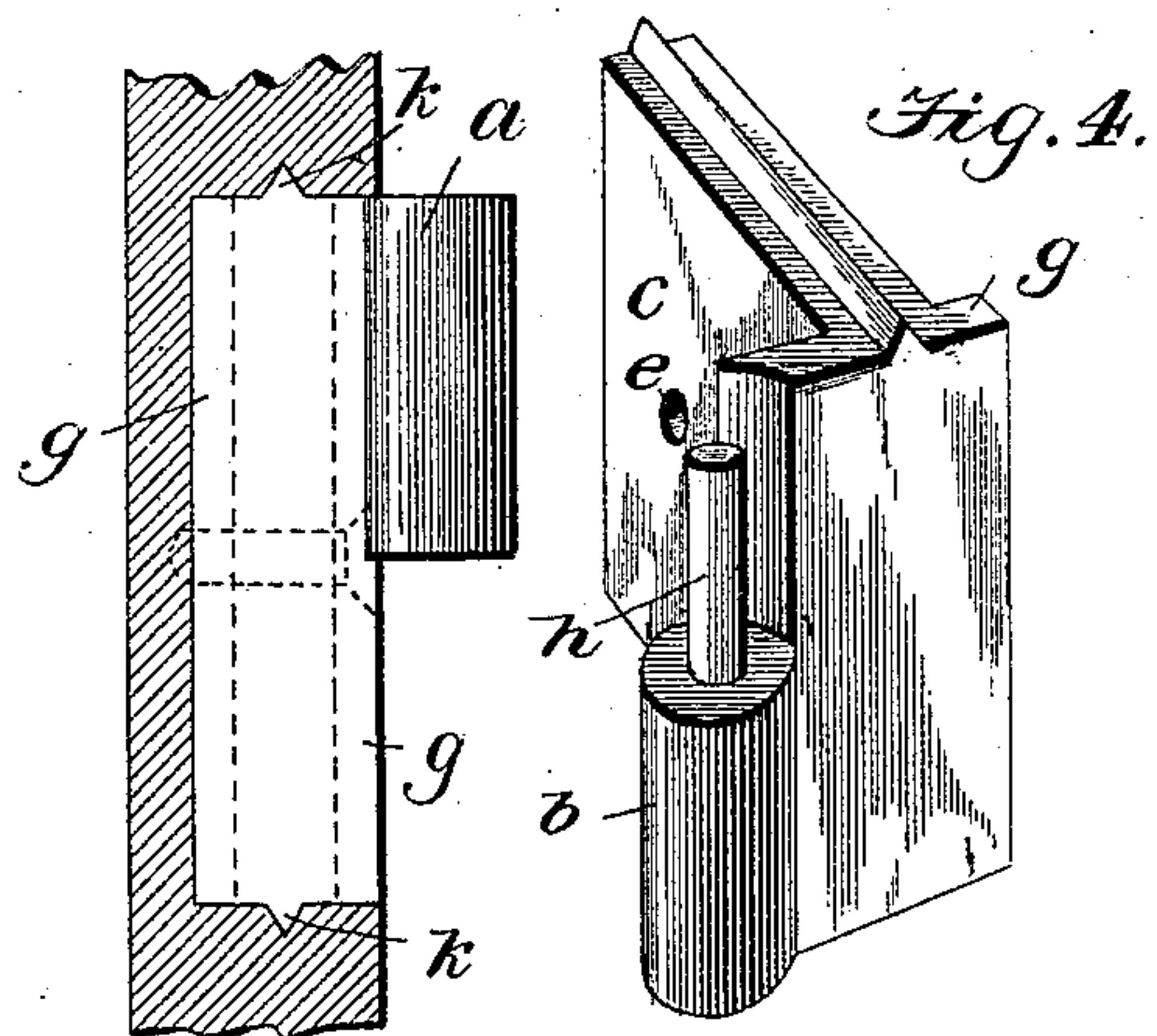
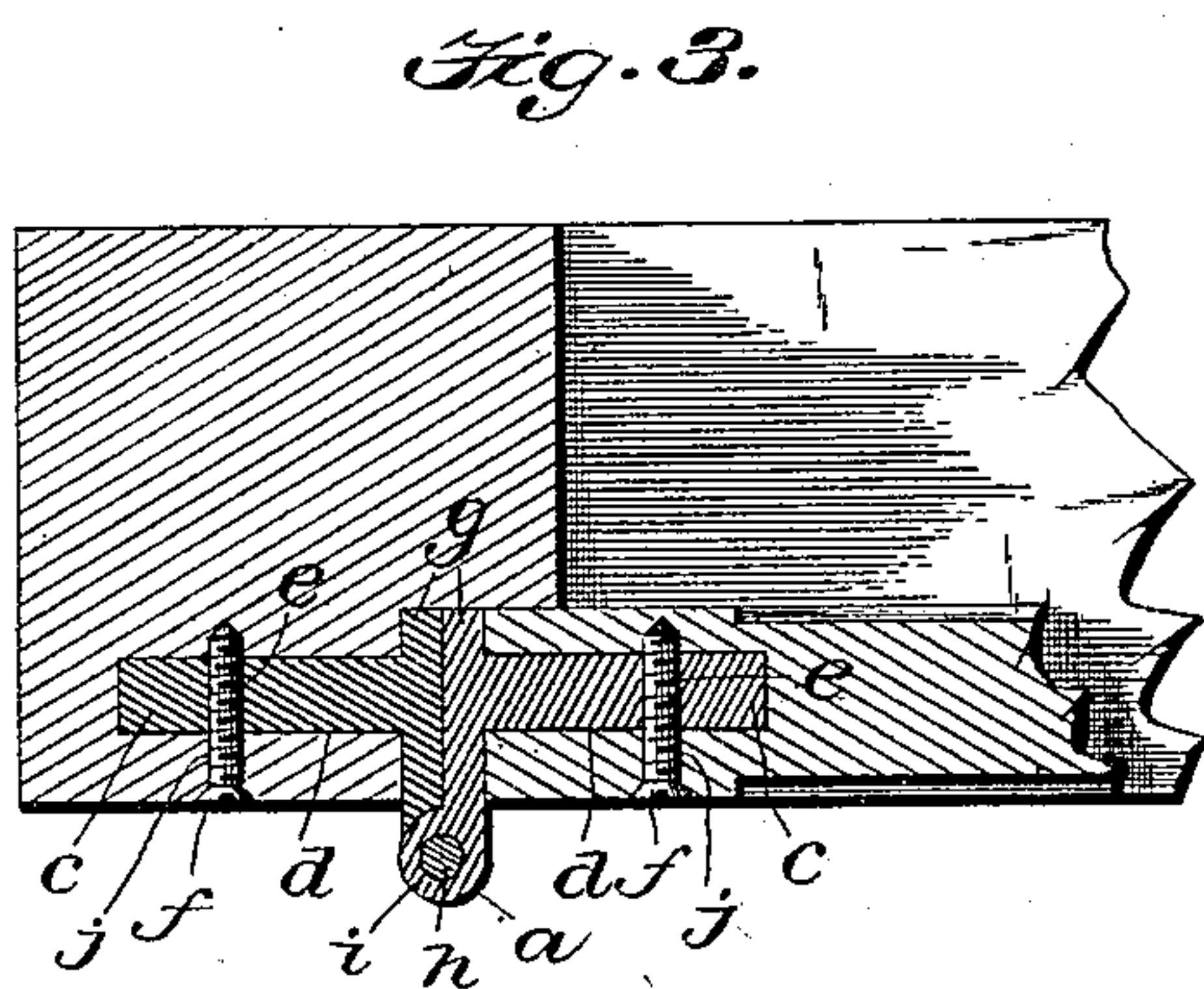
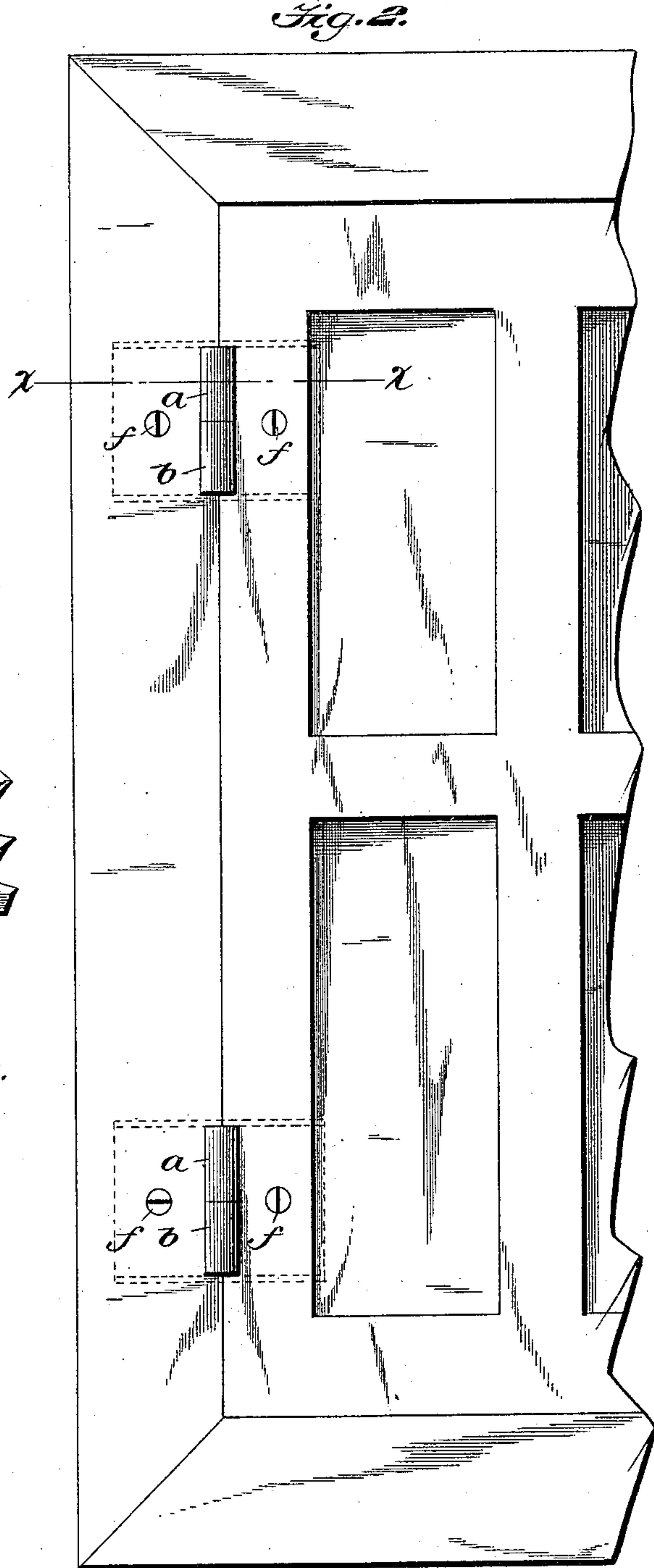
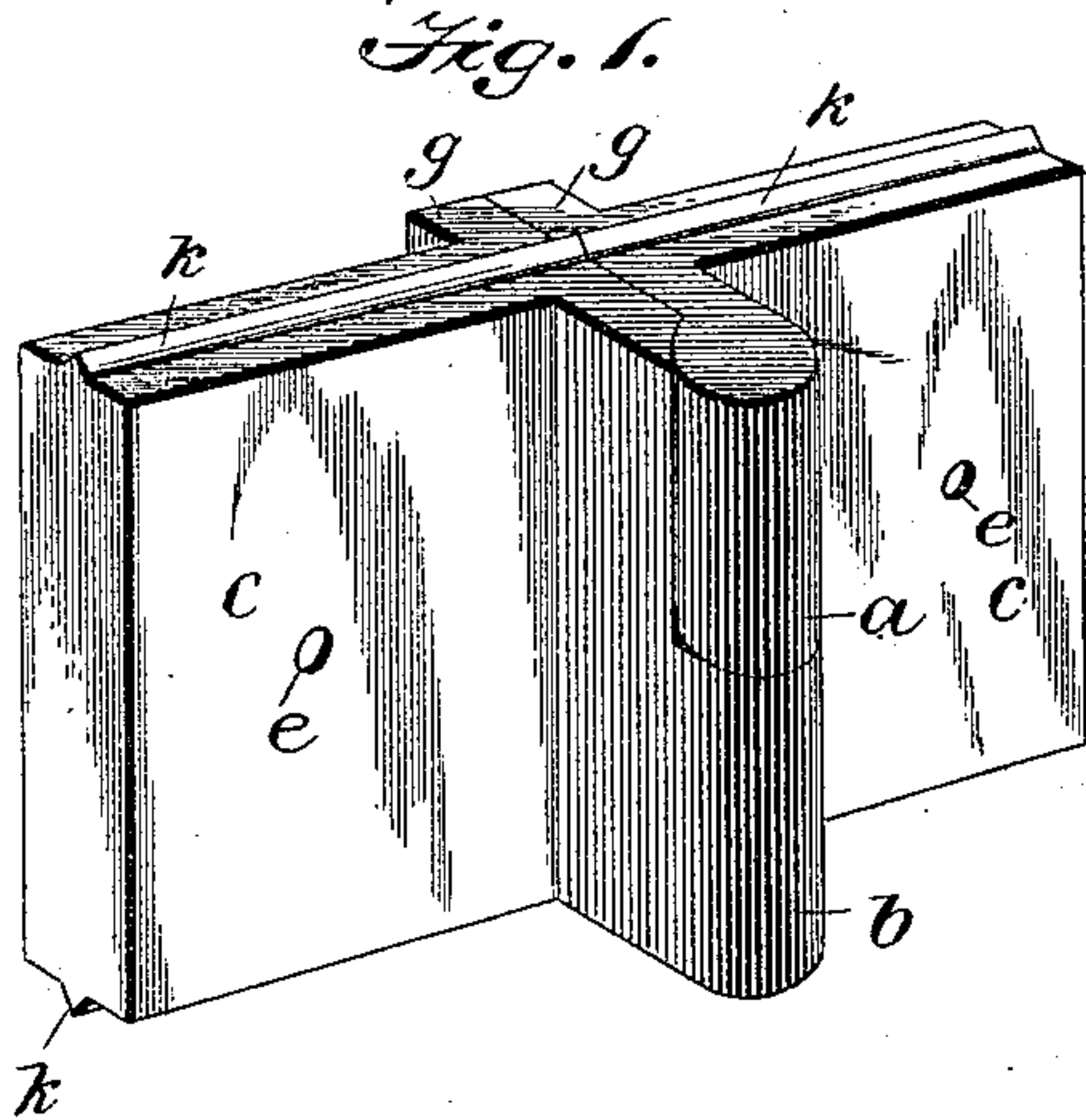


Fig. 5.

Witnesses:
L. M. Copenhaver
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UNITED STATES PATENT OFFICE.

JOHN HENRY MAHAN, OF MICHAELSVILLE, ASSIGNOR OF ONE-HALF TO
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HINGE.

SPECIFICATION forming part of Letters Patent No. 471,981, dated March 29, 1892.

Application filed January 12, 1892. Serial No. 417,855. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY MAHAN, a citizen of the United States, residing at Michaelsville, in the county of Harford and State of Maryland, have invented a certain new and useful Improvement in Butt-Hinges, of which the following is a specification.

The butt-hinge in common use has the leaf formed with holes for screws by which it is screwed in place, so that the leaf is the fastening for the hinge. The leaf is comparatively thin, and the holes increase its weakness, rendering it liable to break, and the strain on the hinge being borne by the leaf the screws are caused to work loose, and in driving the screws home they are liable to break the leaf. My improvement provides a more solid and durable fastening for the knuckle parts of the butt-hinge and dispenses with the leaf as the fastening part. I form the knuckle on the edge of the tongue, which is driven into a mortise made in the wood and fastened by a single screw driven into the wood through the mortise and through the tongue, so as to secure the hinge parts solidly within the wood in a manner to relieve the fastening-screw from strain. This construction gives the advantage of securing each knuckle part by a single screw, because the tongue, driven and fitting solidly into the wood-mortise, is supported in every direction in the wood and needs only a single screw to prevent it from working out of the mortise.

In the accompanying drawings, Figure 1 shows my improved butt-hinge. Fig. 2 shows a door or shutter as hung by my improved hinge; Fig. 3, a horizontal section showing the hinge parts mortised and fastened in the wood; and Fig. 4 is one of the hinge parts.

The hinge parts are made with the ordinary pintle-pin knuckles *a* and *b* for engagement, so as to swing upon each other. Each knuckle part is formed with a tongue *c*, preferably equal in length to that of the knuckle parts, when the latter are hinged together, wide enough to give a firm hold within a wood-mortise *d* and thick enough to form a strong body for the knuckle part. A hole *e* is formed centrally within the tongue to receive a screw

f, which is the only fastening required for each hinge part. At the knuckle edge the tongue is formed with shoulders *g*, the length of the tongue, as a covering for the mortise when the hinge part is driven therein. These shoulders are set in recesses in the surface of the wood to prevent any rocking movement of the tongue within the mortise, which might take place on the single screw-fastening; but when the tongue is driven home its shoulders form outside surface stops and the fastening holds the tongue solidly in place.

The knuckle parts are formed at one end of each tongue and stand out from the side thereof, one formed with the pintle-pin *h* and the other with the pintle-socket *i*. When the mortises are made in the wood with surface recesses, the outside surface holes *j* for the screws are ascertained by placing the tongue on the surface with its shoulder in the recess and making a surface mark on the wood through the hole in the tongue.

It is obvious that the tongue may be formed with two openings; but I have found one fastening-screw sufficient, and the construction which permits of its use enables me to produce a butt-hinge stronger, cheaper, and better than that now in general use.

As an additional provision for rendering the hinge firm in the mortise, I form cutting-lips *k* on the side edges of the tongue, so that when the latter is driven into the mortise these lips will cut their way into the wood, and thus hold the tongue against sidewise rocking in the mortise, which would be likely to occur in case the mortise should be a little too large for the tongue.

I claim—

The knuckle parts of a butt-hinge, each formed with a tongue having a central opening, and a shoulder at the knuckle edge, and the cutting-lips on the side edge, as and for the purpose stated.

In testimony whereof I have hereunto signed this specification.

JOHN HENRY MAHAN.

Witnesses:

MOSES NORRIS,

JAS. W. CLAYTON.