

No. 881,308.

PATENTED MAR. 10, 1908.

J. W. DONALDSON.
HINGE.

APPLICATION FILED JULY 9, 1907.

Fig. 1

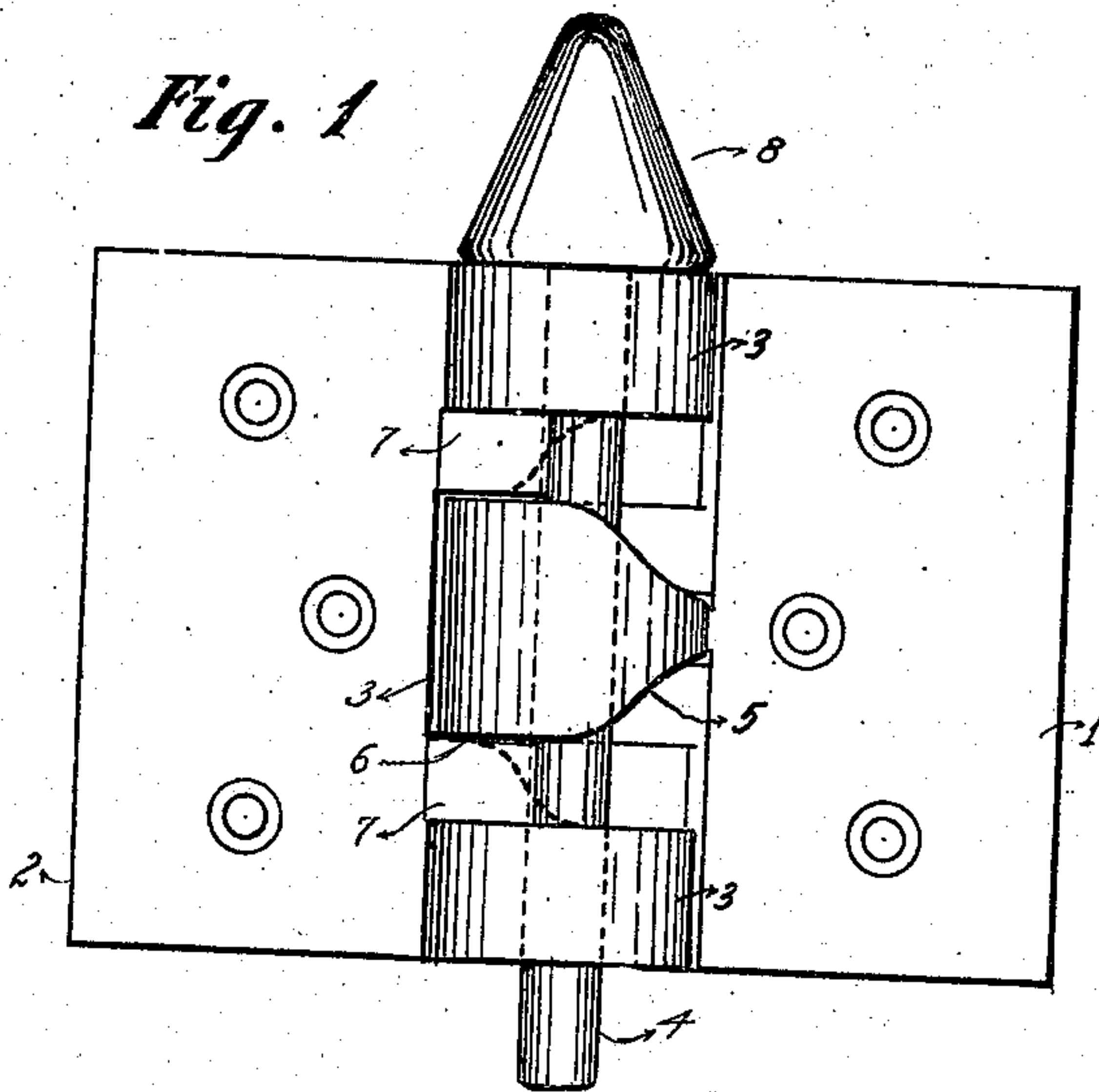


Fig. 2

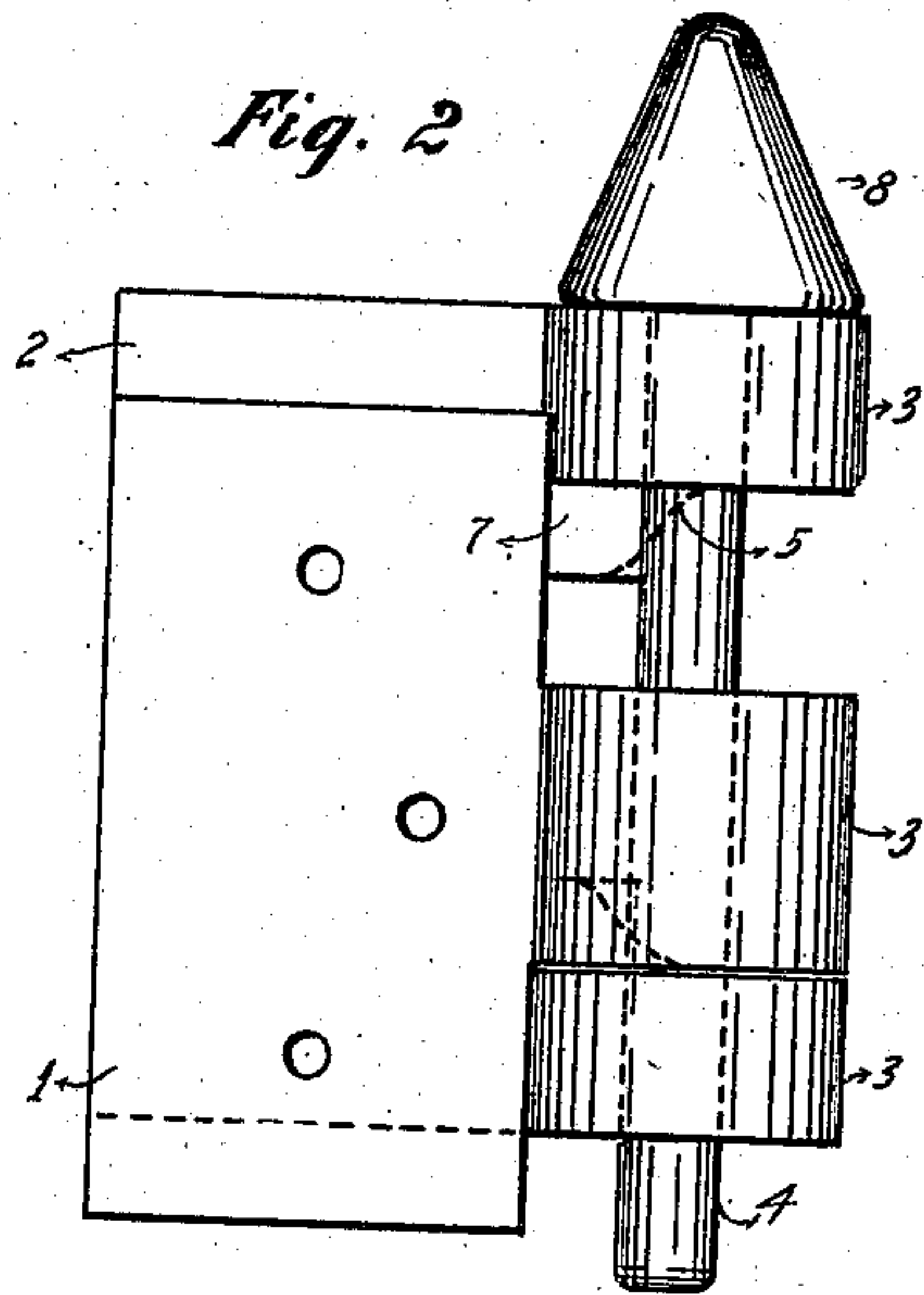


Fig. 3

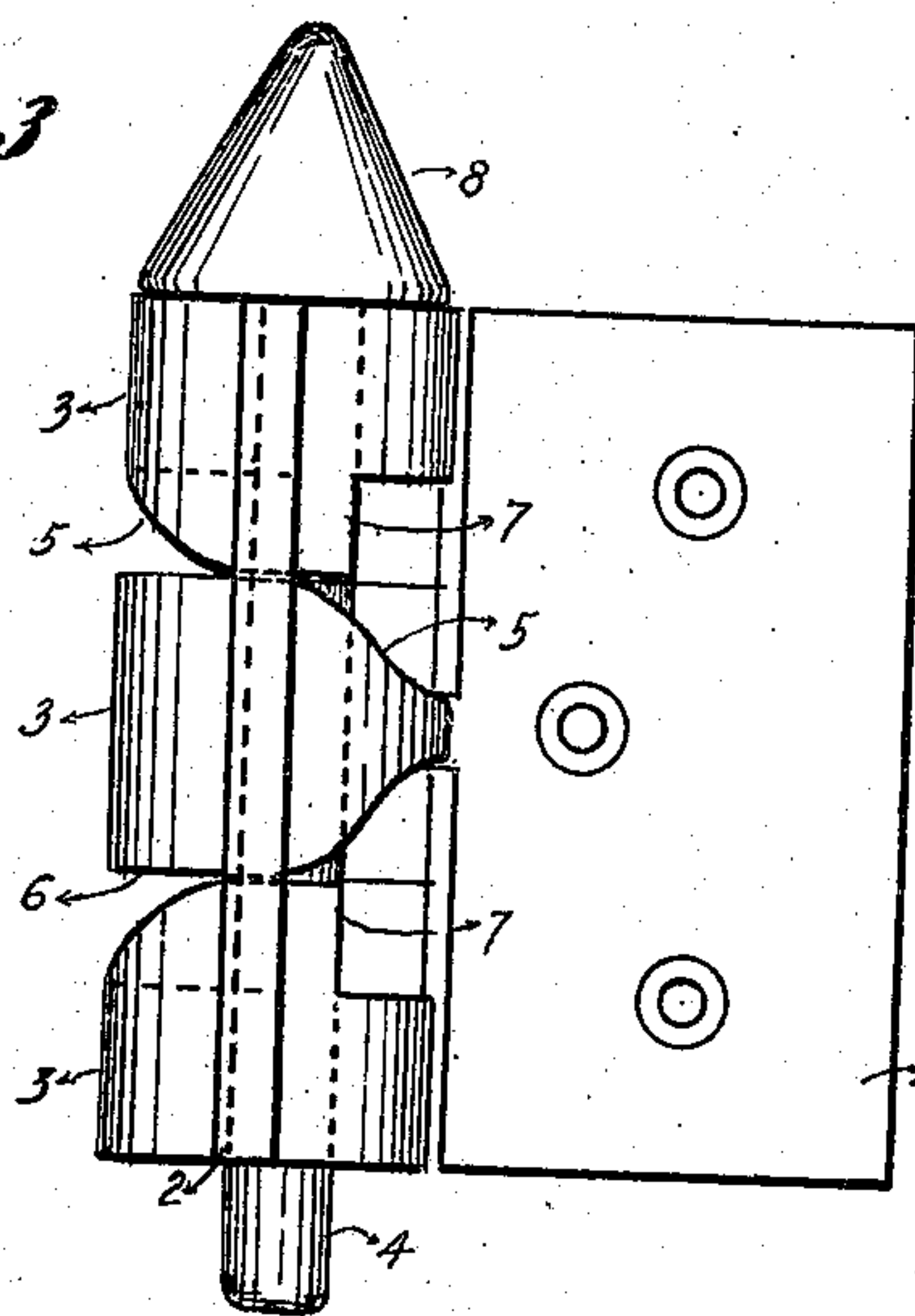
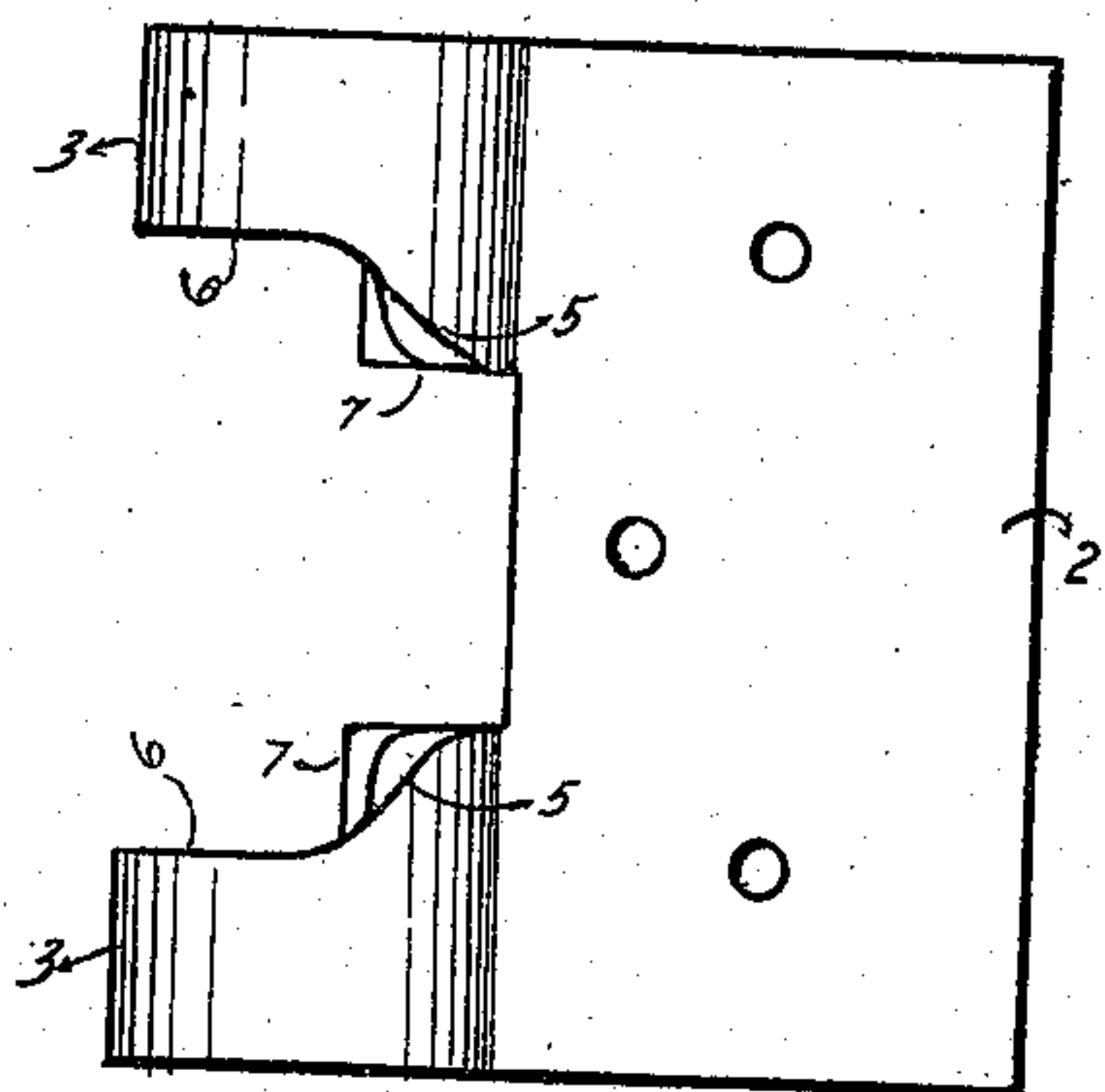


Fig. 4



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES W. DONALDSON, OF HOUSTON, TEXAS.

HINGE.

No. 881,308.

Specification of Letters Patent.

Patented March 10, 1908.

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To all whom it may concern:

Be it known that I, JAMES W. DONALDSON, of the United States, residing at Houston, in the county of Harris and State of Texas, have invented new and useful Improvements in Hinges, of which the following is a specification.

This invention relates to hinges designed for use in connection with doors or gates; and has for its objects to provide a comparatively simple and inexpensive device of this character wherein the cooperating hinge butts are provided with meeting cam faces which serve when the door or gate is opened to raise the same vertically to over-ride obstructions; one wherein the hinge will, when applied to a door, permit the same, when closed, to rest upon the lower sill, thus to exclude wind, rain or snow, and one wherein the pintle may be readily reversed for the application of the hinge to right or left hand doors.

With these and other objects in view, the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings. Figure 1 is a view showing the hinge standing in open position. Fig. 2 is a side elevation of a hinge embodying the invention and showing the position of the parts when the door is closed. Fig. 3 is a view of hinge leaves showing side elevation of leaf #1, (Fig. 1) with leaf #2, (Fig. 4) at right angles to each other. Fig. 4 is a view of one of the hinge leaves.

Referring to the drawings it will be seen that the hinge comprises a pair of companion members or leaves 1 and 2, adapted for attachment, respectively, to a door or other swinging closure and its casing or support, said leaves being provided with tubular butts or knuckles 3 for the reception of a pintle 8—4 by means of which the leaves are pivotally connected.

As seen more clearly in Fig. 3, each hinge butt is provided with two oppositely pitched spiral or convolute cam faces 5, which at their highest points 6 are straight, or occupy a position approximately at right angles to the pintle 8—4. The cam faces on one butt are pitched in the same curves but reversely to those on the adjacent end of the other butt, whereby the meeting ends of the butts will, when the leaves stand in closed position

as in Fig. 2, lie in close contact with the adjacent edges of the leaves overlapping.

In practice, when the door or other swinging closure is in closed position it will rest on the sill or other under-lying surface, thus not only to relieve the hinges of the weight of the closure, but in the instance of doors to provide for an air-tight joint at the bottom thereof to exclude wind, rain or snow. When the closure is moved to open position the convolute cams on the upper hinge butts will ride upwardly on the corresponding cams at the upper end of the companion butt, thereby raising the closure to cause the same to over-ride surface obstructions, the degree of lift imparted to the closure being, of course, dependent upon the length of spiral extension of the convolute cam ends of the hinge butts.

An important feature of the invention is the provision of efficient means whereby, when the door is half way open it may be held in this position, but be readily further opened, or closed. This result is secured by providing each of the cams with the flat or straight portions 6 that by coaction with the adjacent cam will secure the object sought.

Another important feature is the lug 7, which is an extension of knuckles 3, leaf 2, which gives the leaf 1, more bearing thus prolonging the life of hinge.

It will be noted that by simply reversing the pintle 8—4 the hinge will operate on either a right or left-hand door.

What I claim is:

A hinge made up of a leaf having apertured bosses upon one of its edges and spaced apart, the inner face of each boss being cam-outlined, portions of the inner end of each boss being in parallel planes and forming the inner walls of a recess between the bosses, a second leaf having an apertured boss with its opposite ends having parallel and cam surfaces corresponding to the parallel and cam surfaces upon the bosses of the other leaf, as shown and for the purpose set forth.

In testimony whereof, I affix my signature in presence of two witnesses.

JAMES W. DONALDSON.

Witnesses:

ROBT. H. HANNA,
H. FRANKLIN.