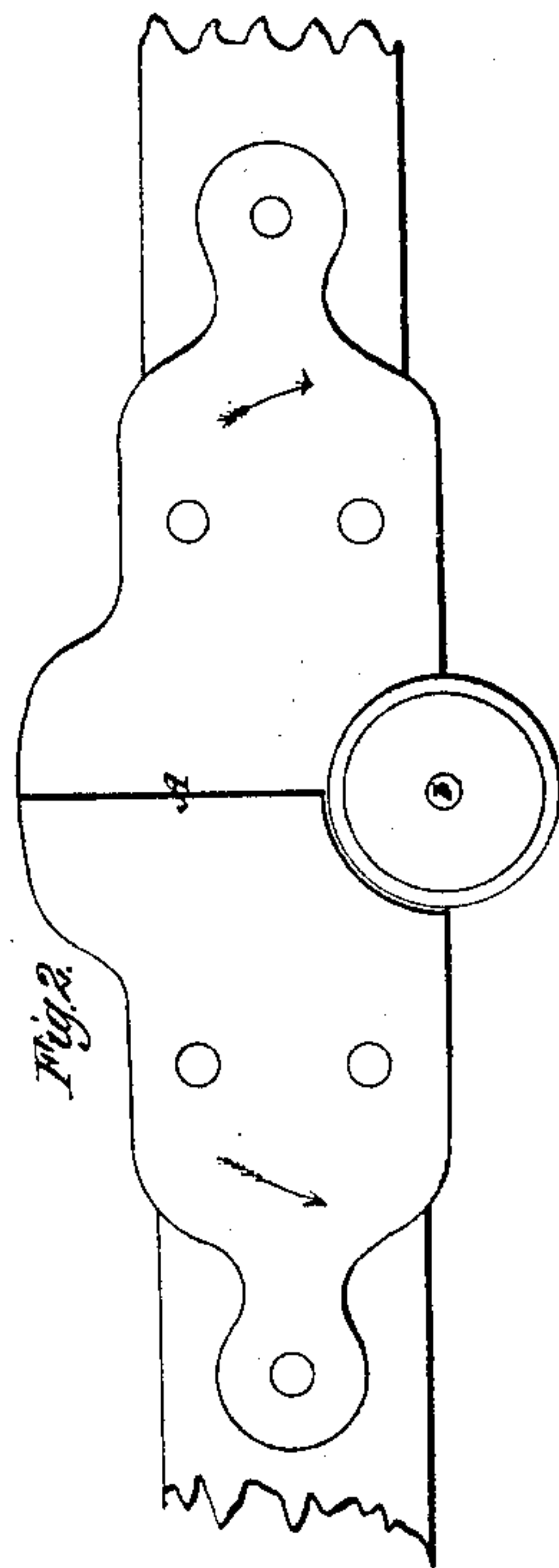
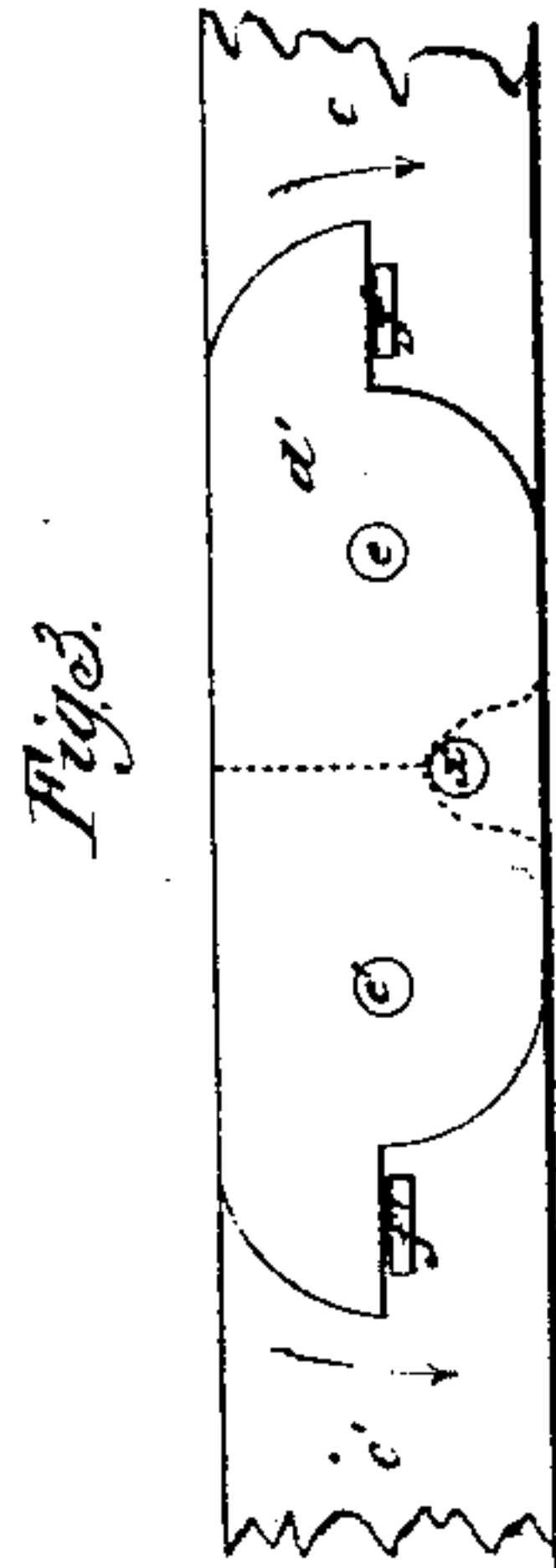
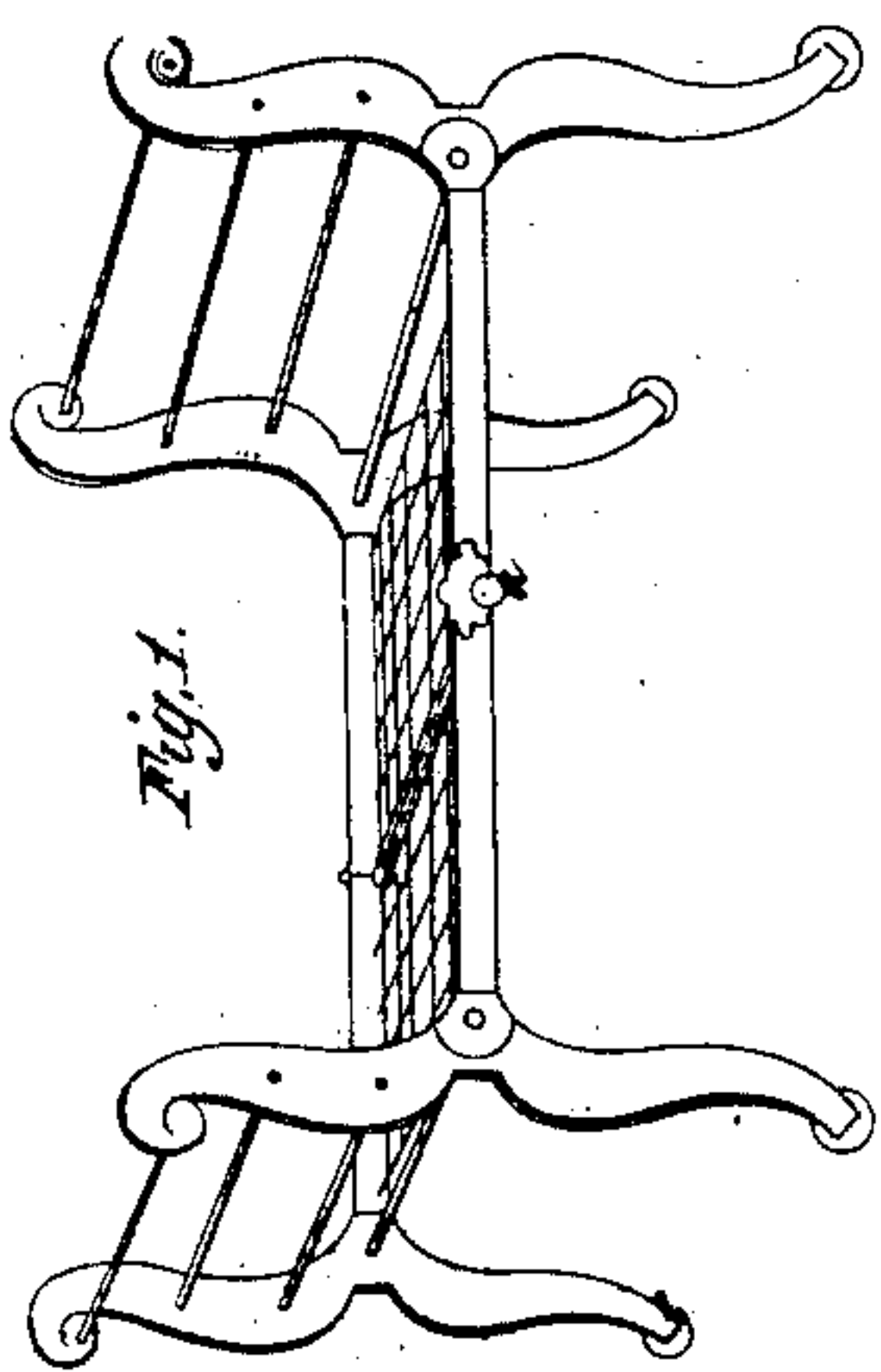
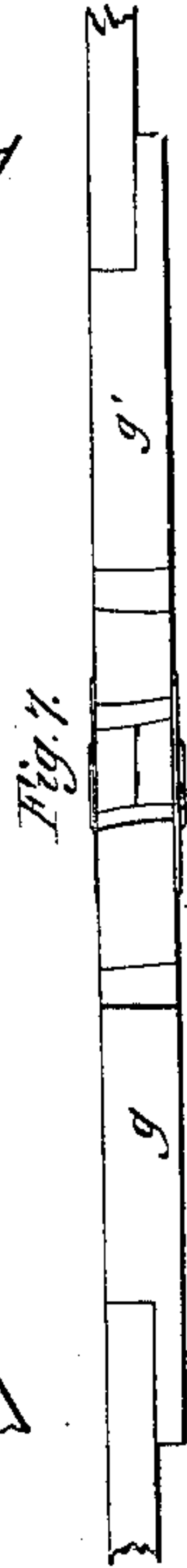
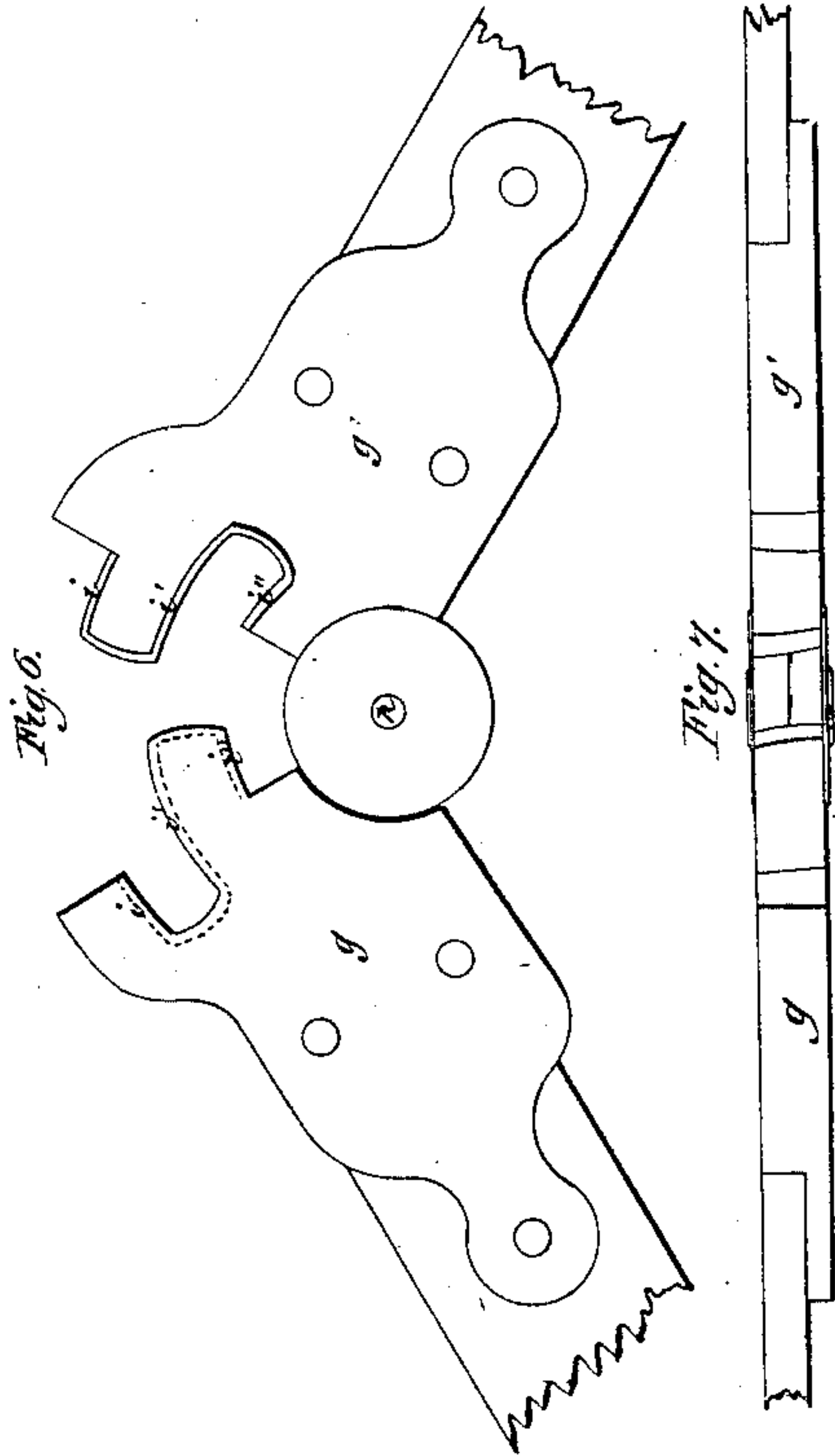
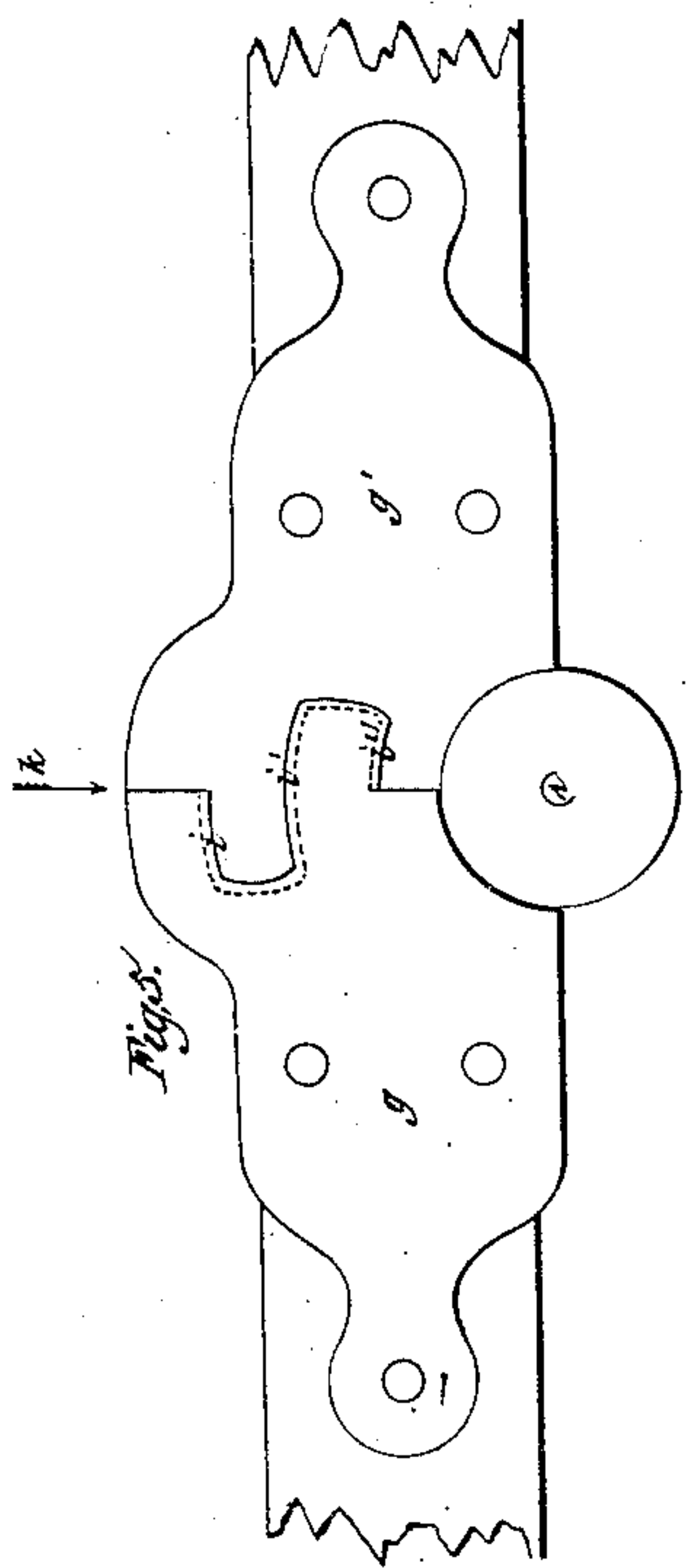


J. BINDER.  
FOLDING BEDSTEAD.

No. 9,933.

Patented Aug. 16, 1853.



# UNITED STATES PATENT OFFICE.

JOHN BINDER, OF CHELSEA, MASSACHUSETTS.

## HINGE FOR FOLDING BEDSTEADS.

Specification of Letters Patent No. 9,933, dated August 16, 1853.

*To all whom it may concern:*

Be it known that I, JOHN BINDER, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Hinges Applicable to the Joints of Iron Bedsteads and for other Purposes; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this description, in which—

Figure 1 is a view of an iron bedstead with the hinge ordinarily used, applied to the middle of the rails. Fig. 2 is an enlarged view of this hinge. Fig. 3 is a view of a hinge for which I received Letters Patent of the United States January the 15th, 1850; Fig. 4, a plan of the same; Fig. 5, a view of my hinge as at present improved; Fig. 6, the same opened; Fig. 7, a plan of the same.

The hinge mostly in use upon iron bedsteads which fold at the point *a*, Fig. 1, are of the character represented in Fig. 2, the two halves of the hinge turning upon the pin *b*, and coming together at the straight joint *A*. It is evident that in a hinge of this description the strain upon the pin *b* must be very great when the bedstead is loaded, owing to the short bearing distance along the straight joint *A*. To remedy this evil and to diminish the friction upon the center pin I devised the hinge represented in Figs. 3 and 4, for which I have already obtained Letters Patent, as before stated.

*c, c'*, are the side rails of the bedstead.

*d, d'*, are side straps or plates which embrace the ends of the two half rails *c, c'*.

*e, e'*, are rivets or bolts passing through the rails and plates, and *f, f'*, are ears projecting from the rails *c, c'*, and upon which the ends of the plates *d'* rest.

*x*, is a pin uniting the plates *d* and *d'*, and upon which the ends of the levers *c* and *c'* bear when the hinge is in the position

represented in Figs. 3 and 4. The strain upon the hinge was thus taken from one center pin as it exists in Fig. 2, and transferred to points *f, f'* and *x*. It was necessary, however, that this hinge be constructed of wrought metal, and it was desirable that it should be so modified that the whole might be cast. It was furthermore more complicated than was requisite. To remove the strain more effectually from the pins upon which the hinge turns, and also to produce a hinge that could be made of cast metal, I have devised the arrangement represented in Figs. 5, 6, and 7. *g, g'*, are the two halves of the hinge; *h*, the pin upon which they turn. These two halves are toothed as represented in the drawings, the bearing surfaces *i, i', i''*, being arcs of a circle, whose center is the center of the pin *h*. The two leaves of the hinge are halved together, as seen in Fig. 7, which effectually prevents any side motion in one direction of the different portions with reference to each other, and the jaws or teeth are chamfered, as seen at *i, i', i''* for the purpose of preventing lateral motion in the other direction. All strain is thus taken off the center pin of the hinge, which is its weakest point, and the point where it is most liable to fail, for the pin *h*, may be withdrawn when the hinge is in the position represented in Fig. 5, when it can neither be separated by a direct pull, forced open by pressure in the direction of the arrow *k*, nor by any pressure or blow in a lateral direction.

What I claim as my invention and desire to secure by Letters Patent is—

The method herein described of constructing a hinge with the circular bearing surfaces *i, i', i''*, for the purpose set forth.

JOHN BINDER.

Witnesses:

C. AUSTIN BROWN,

H. B. SPINNEY.