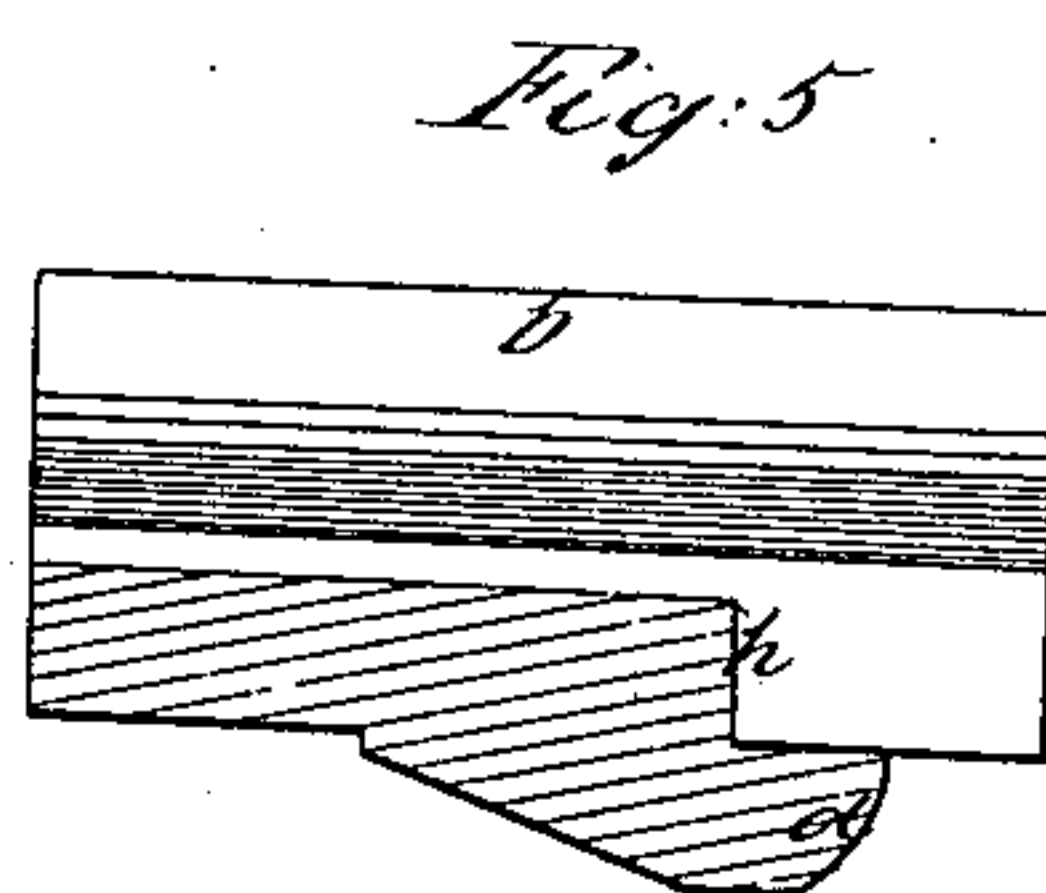
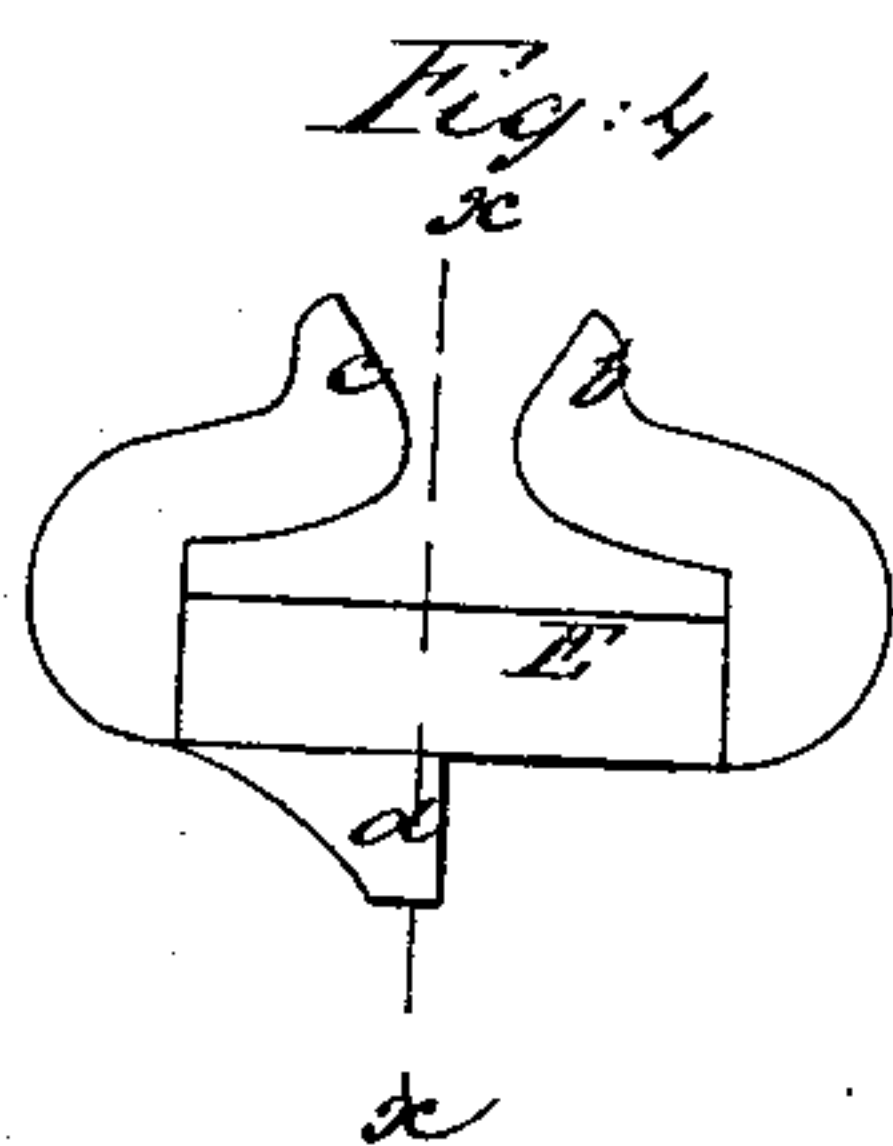
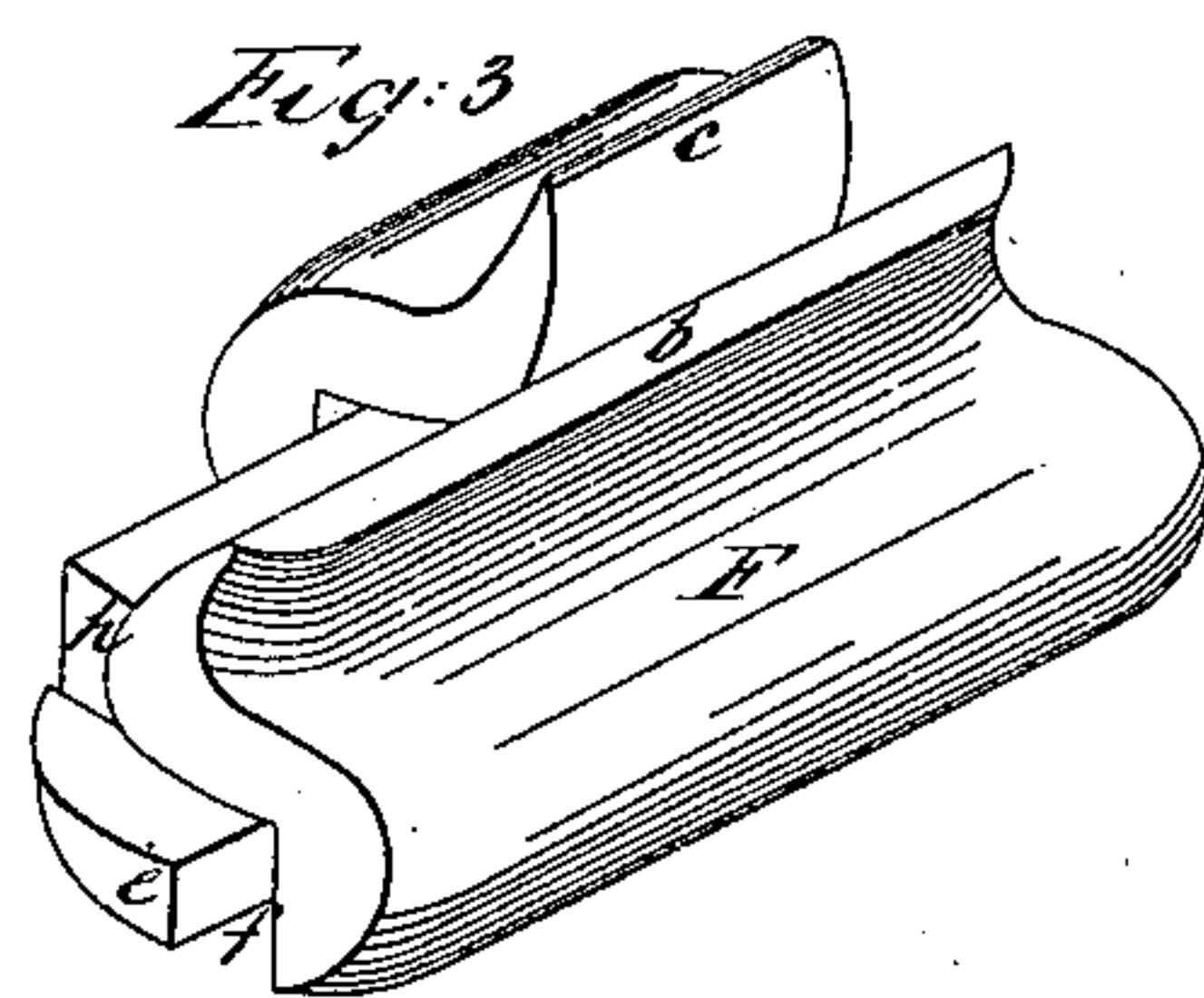
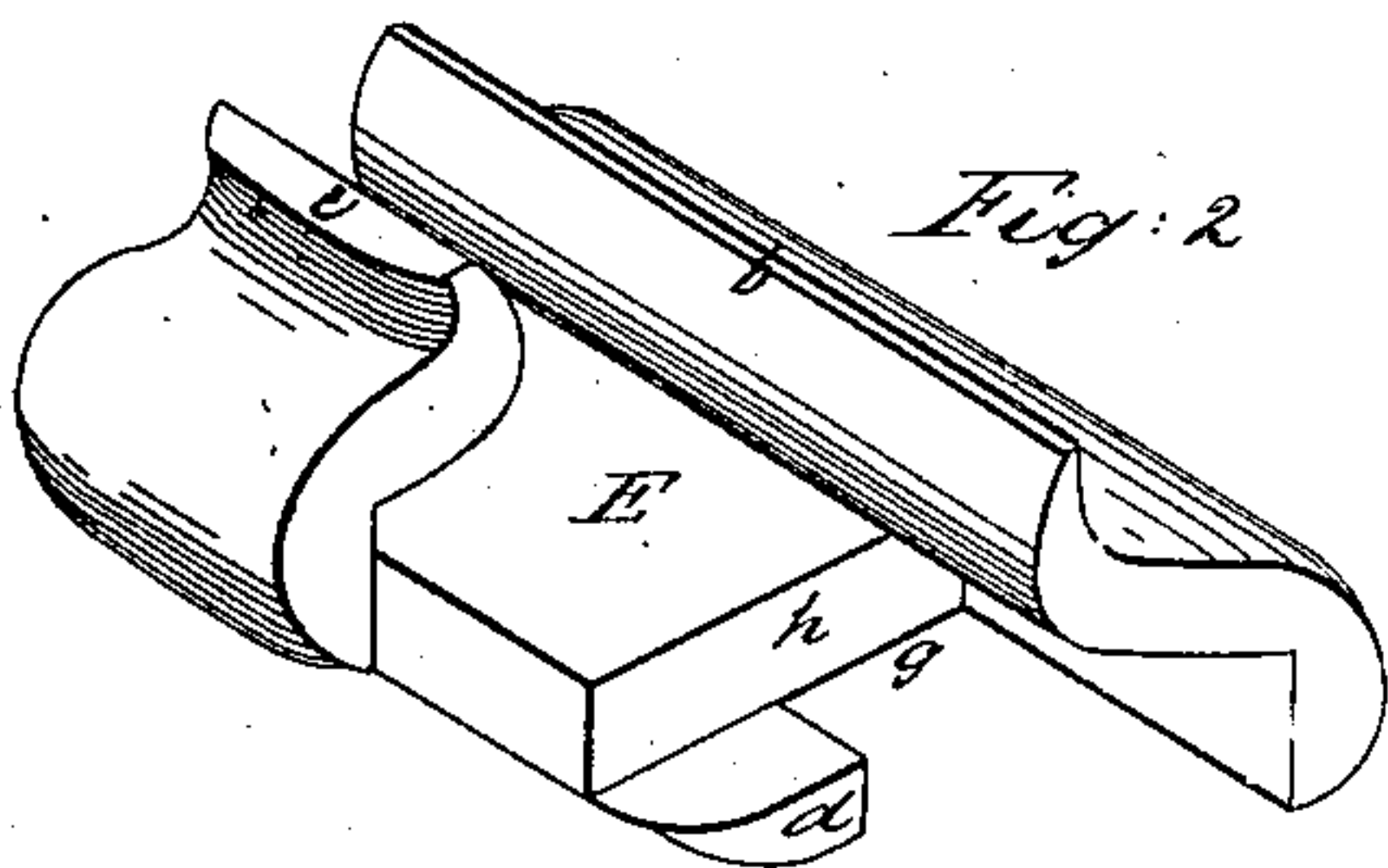
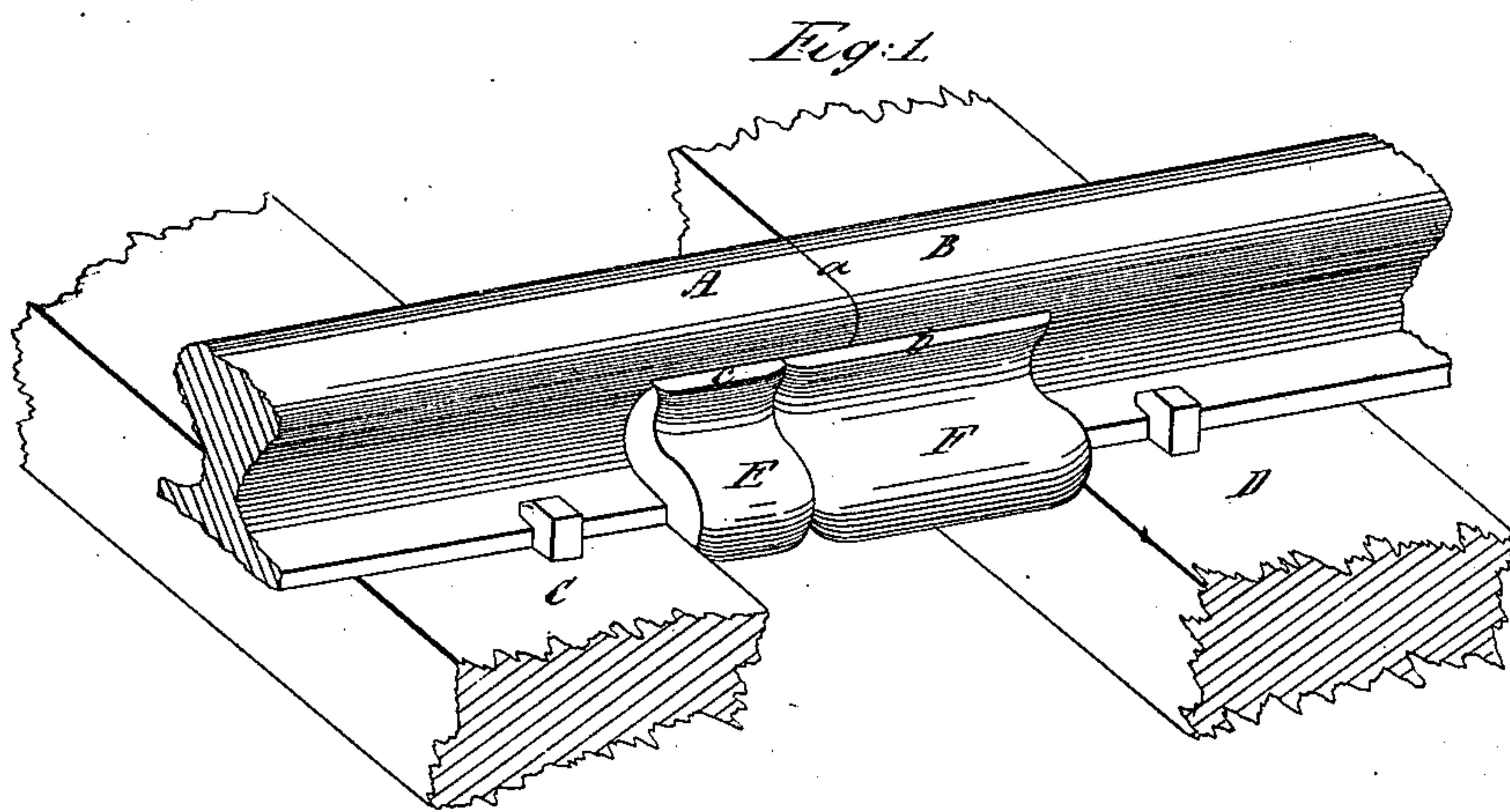


J. BISHOP.
RAILROAD CHAIR.

No. 19,124.

Patented Jan. 19, 1858.



UNITED STATES PATENT OFFICE.

JAMES BISHOP, OF OWEGO, NEW YORK.

RAILROAD-CHAIR.

Specification of Letters Patent No. 19,124, dated January 19, 1858.

To all whom it may concern:

Be it known that I, JAMES BISHOP, of Owego, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Chairs, Joints, or Lock-Couplings for Securing the Ends of Railroad-Rails; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, represents a perspective view of a rail joint, with the chair, lock, or coupling applied thereto, Figs. 2 and 3, represent in perspective, the two parts which compose the chair, lock, or coupling, Fig. 4, represents an end view of the chair or lock, Fig. 5, represents a longitudinal vertical section through the chair, at the line *x, x*, of Fig. 4.

Similar letters of reference where they occur in the several figures, denote like parts of the chair in all of them.

The weak part of a rail road track, is at the joints of the rails; and the difficulty does not rest solely in the yielding of the rails at that point, for it extends also, to the battering of the ends of the rails, which destroys them,—to the hammering or pounding sensation or motion to the rolling stock—the swaying or rocking of the engine, and to the safety of the passing trains. Many attempts, and many devices, have been essayed, for curing this evil, and that it has not been accomplished, is evident from the fact that, the evil still exists. Among the many devices used for this purpose may be found splice-pieces, fish-pieces, compound rails, and chairs, applied both, to the joints when over the sill or cross-tie, and also to it, when between the sill, or cross tie. It would be tedious to describe the defects attending each of the heretofore tried plans. But it is an unavoidable condition to the prevention of the defect that, the joint, and coupling, should be between the sills or cross ties, and not rest upon them, for however strong the splice may be, the sill will settle or rock on its foundation, and then the joint must give way. It is also a condition that, the splice piece, chair, or coupling, should not be fastened or connected to the rails, or to the sills, because in adjusting one of the rails, or one of the sills (the splice being rigid), they would become

cramped, and when so cramped, and a train passes over the joint, the coupling must give way, on account of the unequal yielding of the parts at and about the joint. So long as the joint is the weaker part of the rail (and it always will be so, however spliced), it will yield at that point, and being entirely incurable, the next best thing to a preventive, is to at least cure the consequences that follow the defect.

I do not pretend that, in my invention, the joint does not yield to the weight of the passing train; but in yielding, it does not produce the evil heretofore encountered. By my plan, both ends of the rails, are kept in the same planes vertically and horizontally—one end not being able to move without carrying its fellow, or other abutting end with it. The rails, cannot in adjusting them, be cramped in the chair, which would make them liable to be broken; and either rail may be removed without affecting the other as effectually as in the commonest chair—there being no intricate fastenings to undo—the said chair, lock, or coupling, and the ends of the rails united by it forming within themselves their own lock, and support, independent of any sill underneath them.

My invention may be said to consist in a two-part chair, lock, or joint coupling, to be applied to the joints of rail-road rails, between the sills, said parts or sections meeting in a broken transverse line, so that portions of the sections on each of the ends of the rails, shall extend over, and break-joint with each other, and with the joint between the rails, as will be described—said two parts or sections, together with the rail to which each is attached forming a self support within themselves.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A, B, represent the two abutting ends of a line of railroad rails, and C, D, the ties or cross sills supporting them near their joint *a*, which comes between said sills.

E, F, Figs. 2, 3, represent the two parts composing the chair, or joint lock—they being separated from each other, and from the ends of the rails, to better show their component parts. These two parts or sections, E, F, are both exactly alike, and may be cast from the same pattern, and will

fit either end of the abutting rails, so that in replacing a part of the chair there is no difficulty in its fitting either rail, or locking with any other part or section. This is important because one of the sections will fit into its place regardless of which rail, or which end of the rail, it is to be attached to. Each section or part of the chair has upon it a long lip or jaw *b*, and a shorter one *c*, both of which fit into the waist of the rail, and extend up under the cap portion of the rail as far as will admit, and leave a clear space for the flange of the wheels of the rolling stock. The long jaw *b*, of one of the sections butts up against the short one *c*, of its mate or fellow—and in doing so each long jaw passes beyond or across the joint *a* of the rails as seen in Fig. 1, and make both a horizontal and vertical support to the projecting ends of the rails A, B. Underneath each of the sections or parts E, F, are cast lugs, or projections *d*, *e*, which when the two parts are slipped together extend past the joint which they make in coming together—the one *d*, passing into the space *f*, and the other *e*, into the space *g*, and thus each breaking that joint horizontally, and vertically. The joint of the rails (*a*), may come directly over the joint *h*, where the two parts meet at their base, but the vertical joint of said two parts elsewhere are so broken, and overlapped, as to make the chair when in place a support to the ends of the rails, while the ends of the rails in turn form the support of the chair or lock. As

the ends of the rails yield, which they will do to some extent, it brings all the bearings of the chair into action, and said ends will maintain their "line and surface position"—both yielding together—now as there is no regular vertical joint or line through the rails and chair, but on the contrary each and every joint broken or overlapped by solid metal, the sinking is found to be very little, and the joint maintains its position without causing the pounding, cramping, or difficulty in adjusting or moving one of the rails, without the other.

The chair is easily and cheaply made, both parts being exactly alike, their removal and replacement, are made with the same facility as that of an ordinary chair, and either rail may be adjusted, without the other, and without cramping and endangering the breaking of the joint splice.

Having thus fully described the nature and object of my invention, what I claim therein as new and desire to secure by Letters Patent is—

A railroad chair, a joint-coupling, composed of two parts E, F, furnished with jaws *c*, *b*, and projections *d*, *e*, fitting to each other, and to the ends of the rails A, B, substantially in the manner, and for the purpose set forth.

JAMES BISHOP.

Witnesses:

CHAS. W. WARREN,
JAS. S. THURSTON.