

No. 692,768.

Patented Feb. 4, 1902.

C. COMSTOCK.
SHAFT COUPLING.

(Application filed May 20, 1901.)

(No Model.)

Fig. 1.

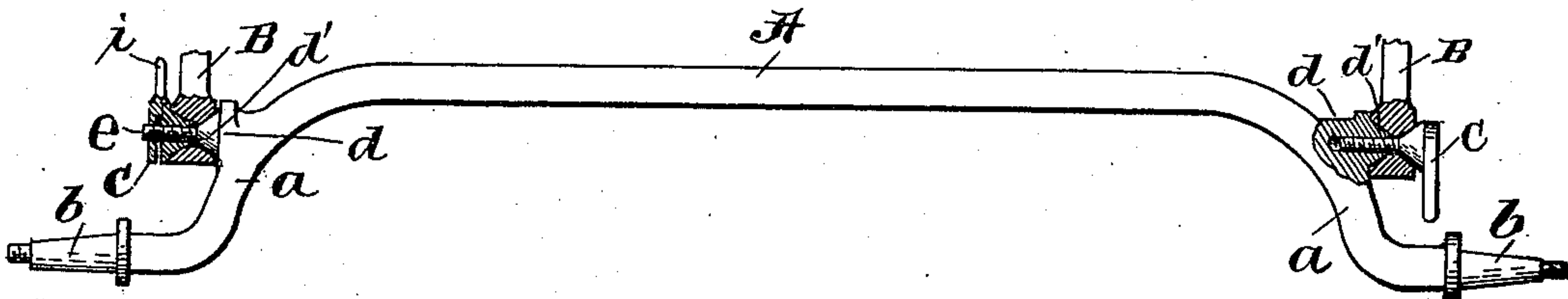


Fig. 2.

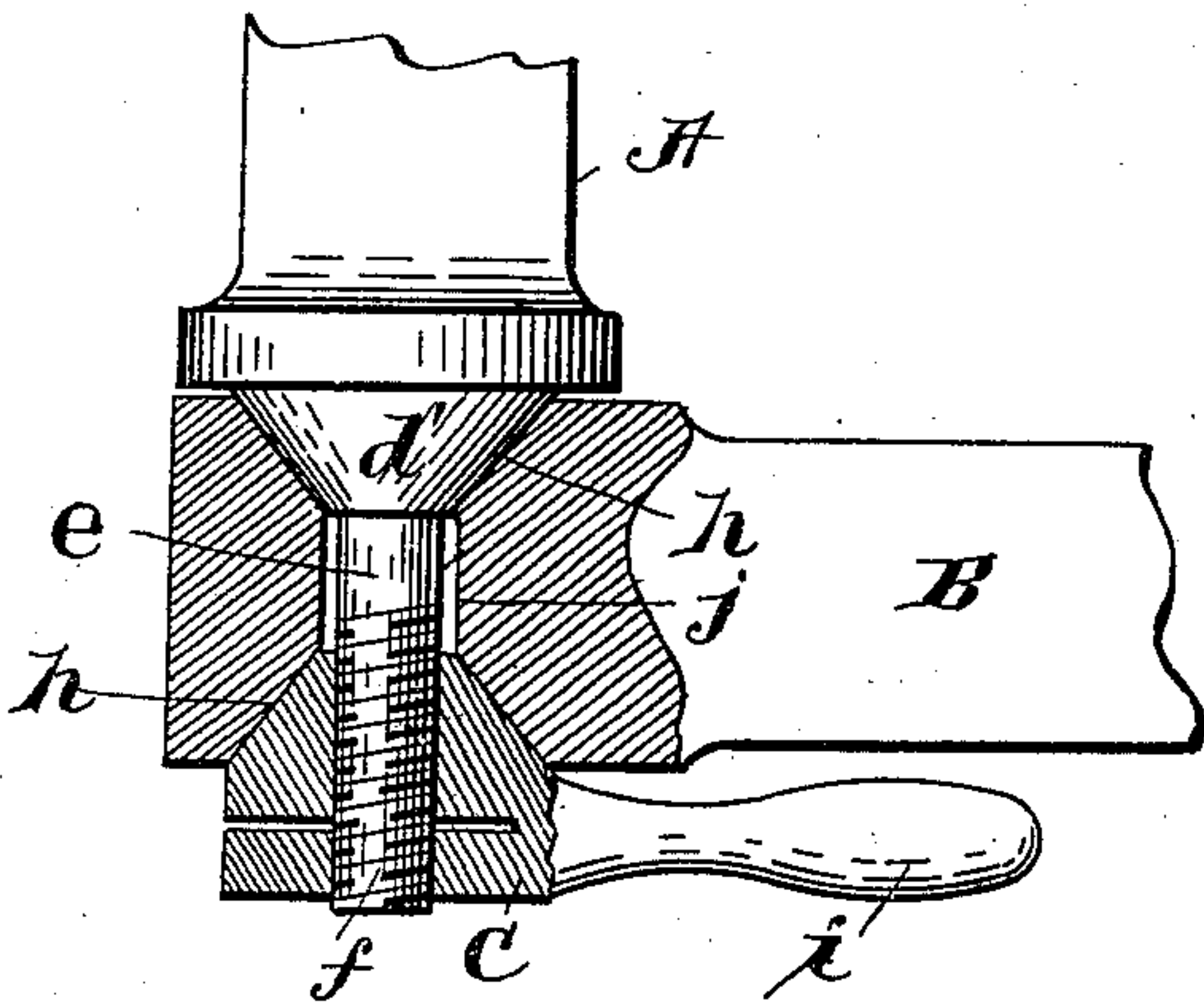
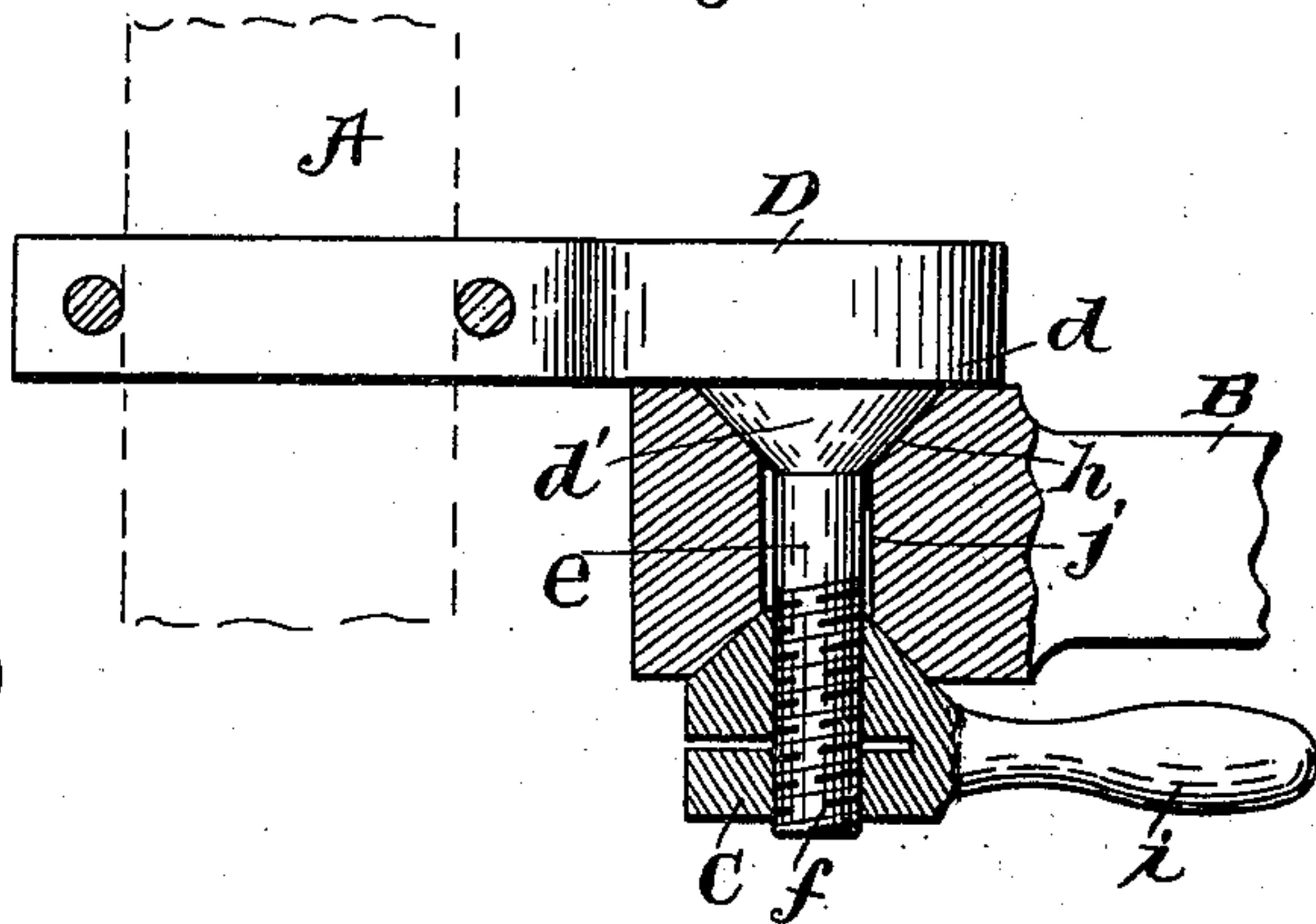


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES COMSTOCK, OF NORWALK, CONNECTICUT.

SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 692,768, dated February 4, 1902.

Application filed May 20, 1901. Serial No. 61,154. (No model.)

To all whom it may concern:

Be it known that I, CHARLES COMSTOCK, a citizen of the United States, residing at Norwalk, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Shaft-Couplings, of which the following is a specification.

My invention relates to improvements in shaft-couplings, and pertains to a coupling comprising adjustable cone-bearings whereby a free and easy connection is provided and which at the same time is adapted to be so nicely and accurately adjusted as to prevent any rattle or looseness whatever.

In the accompanying drawings, Figure 1 is an elevation of a "bike-axle" with my invention applied thereto. Fig. 2 is an enlarged section of the construction shown in Fig. 1. Fig. 3 is a view of the same construction as that shown in Figs. 1 and 2, with the exception that it is adapted to be clipped to the ordinary vehicle-axle.

Referring now to the drawings, and particularly to Figs. 1 and 2, A is an axle of the form usually used for bike-buggies, and these axles are usually of the approximately U shape shown in Fig. 1, having at their ends the curved portion *a*, situated between the spindles *b* and the main or body portion of the axle proper. In this use my invention consists in providing outwardly and longitudinally extending arms *d*, which project from the curved portion *a* of the axle and lie in a plane above but at a point inside of the spindles *b*. These projections are made, preferably, integral with the axle A, as here shown, though they may be clipped to the curved portion *a* in any desired manner, as will be readily understood by those skilled in the art and without departing from the scope and spirit of my invention. The projection *d* has at its outer end the cone *d'*, and projecting centrally from the cone *b* is the rod *e*, having its outer end screw-threaded, as shown at *f*. The shaft-eye B is provided with the transverse opening *j*; having its ends provided with the cone-shaped cavities *h*, the inner cavity adapted to receive the cone *b* and the outer cavity adapted to receive the adjustable cone C, which is adapted to be moved upon the screw-threaded end *f* of the rod *e*. This adjustable cone C preferably is provided with

a handle, by means of which the cone is readily and quickly adjusted for the purpose of adjusting the bearing and also quickly and readily unscrewed from the rod *e* for the purpose of detaching the shafts or attaching them to the axle, as occasion requires. Especial attention in this connection is called to the fact that the bearing or projection *d* projects outward from the curved portion *a* and in a line longitudinal the axle and the spindle.

In Fig. 3 I show a slight modification and in which the projections *d*, the cone-bearings, and the shaft-eye are constructed the same as in Figs. 1 and 2, the modification consisting in having the projections *d* formed upon an arm D, extending at right angles to the projections or bearings *d* and adapted to be clipped to the ordinary axle A in the well-known way.

A coupling of the construction herein shown and described is exceedingly simple and cheap, and yet effective in providing a bearing capable of fine adjustment to prevent any looseness or rattle. By means of this construction the shafts can be turned in a vertical position and clamped by a slight turning movement of the adjustable cones, making a very simple construction for that purpose.

It will be advisable in some constructions to make the screw-rod *e* as a part of the adjustable cone *d'* and have its inner end screw-threaded, as shown at the right-hand side of Fig. 1. The reason for this construction is to avoid the necessity of springing apart the shafts to permit the rigid bolt *e* to pass through the eyes thereof.

For the purpose of making a lock for the adjustable cone I split the cone, as shown at *a'*, whereby a locking-nut *b'* is provided and leaving merely a spring connection *b''* between the cone and the locking-nut. This construction is found to provide a very effective lock for the cone when it has been adjusted to prevent the movement of the shaft-eye affecting or moving the adjustable rod.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A shaft-coupling comprising a shaft-iron having at opposite sides of one end, cone-bearing portions and a transverse concentric opening, stationary and adjustable co-

acting cone-bearing members, one of which is provided with a rigid concentric projecting threaded rod passing through the shaft-iron opening, and the other member provided with
5 a concentric threaded opening receiving said threaded rod, substantially as described.

2. A shaft-coupling comprising an axle having curved ends, projections extending from the outer side of the curve and carrying a
10 cone-bearing, and a shaft-eye having cone-shaped recesses adapted to coact with the cone-bearing and means for holding said eye on said cone, substantially as described.

3. A shaft-coupling comprising an axle having
15 ing downwardly-curved ends, outwardly-projecting arms carrying at the inner portion a rigid and an outwardly-projecting screw-threaded rod, an adjustable cone upon the screw-threaded end of the rod, and an eye
20 having cone-shaped recesses adapted to receive the said rigid and adjustable cone.

4. A shaft-coupling comprising an axle having downwardly-curved ends, the down-

wardly-curved ends provided with outwardly-extending arms, the outwardly-extending
25 arms having their inner portions provided with a bearing-cone, the bearing-cone provided with an outwardly-extending screw-threaded rod, an adjustable cone upon the
30 screw-threaded rod, the adjustable cone carrying a handle, and an eye having cone-shaped recesses adapted to receive the said rigid and adjustable cones.

5. A shaft-coupling comprising a stationary
35 cone having an outwardly-extending screw-threaded rod, and an adjustable cone adapted to receive said rod and having a transverse slit adjacent its outer end, substantially as described.

In testimony whereof I have hereunto set
40 my hand in the presence of two subscribing witnesses.

CHARLES COMSTOCK.

Witnesses:

F. G. HENRY,
EDWARD OAKES.