

*Chas. E. Roper & Henry Fisher*  
*Universal Joint Coupling*

No. 123,049.

Patented Jan. 23, 1872.

Fig. 1.

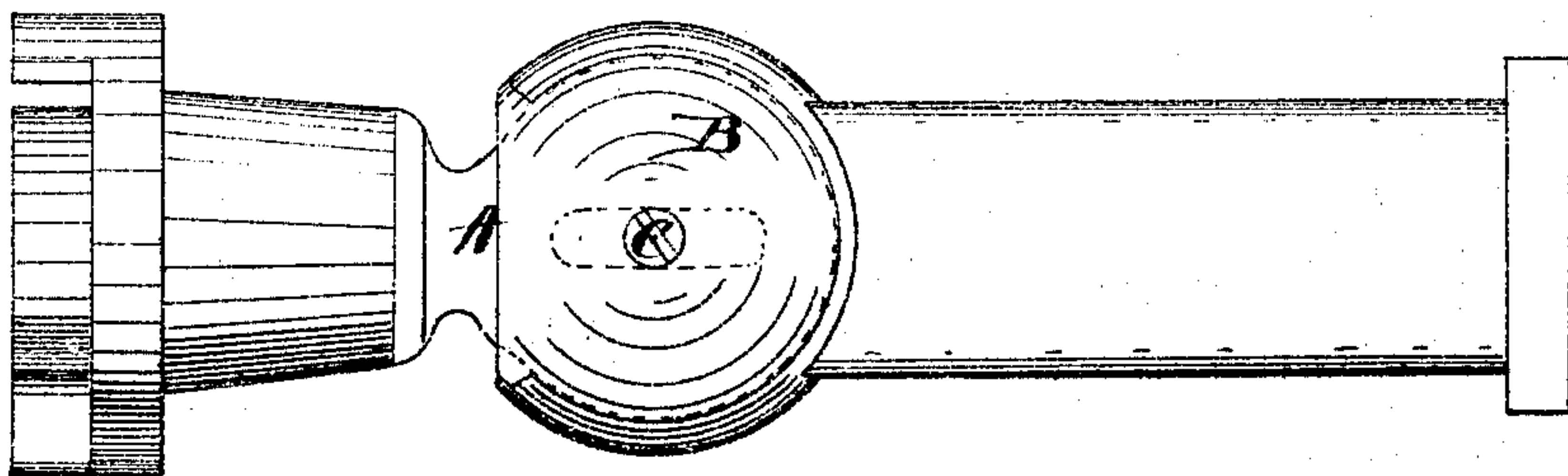


Fig. 2.

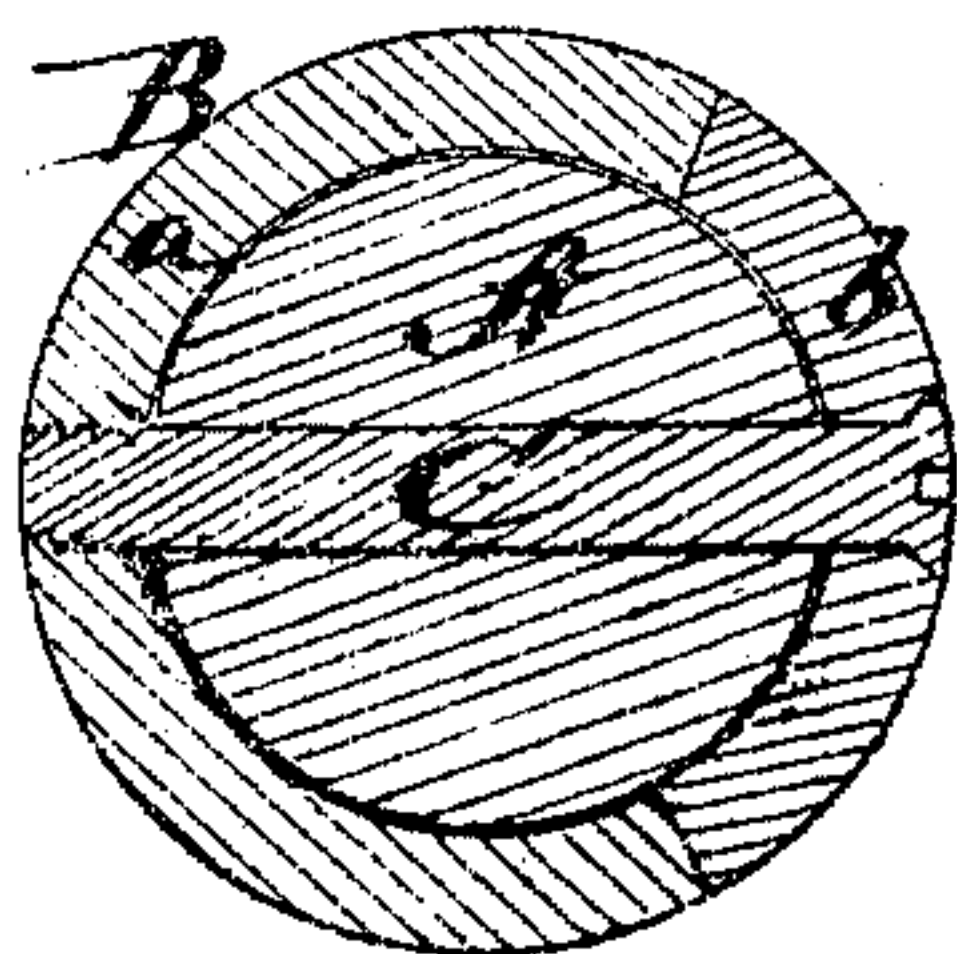
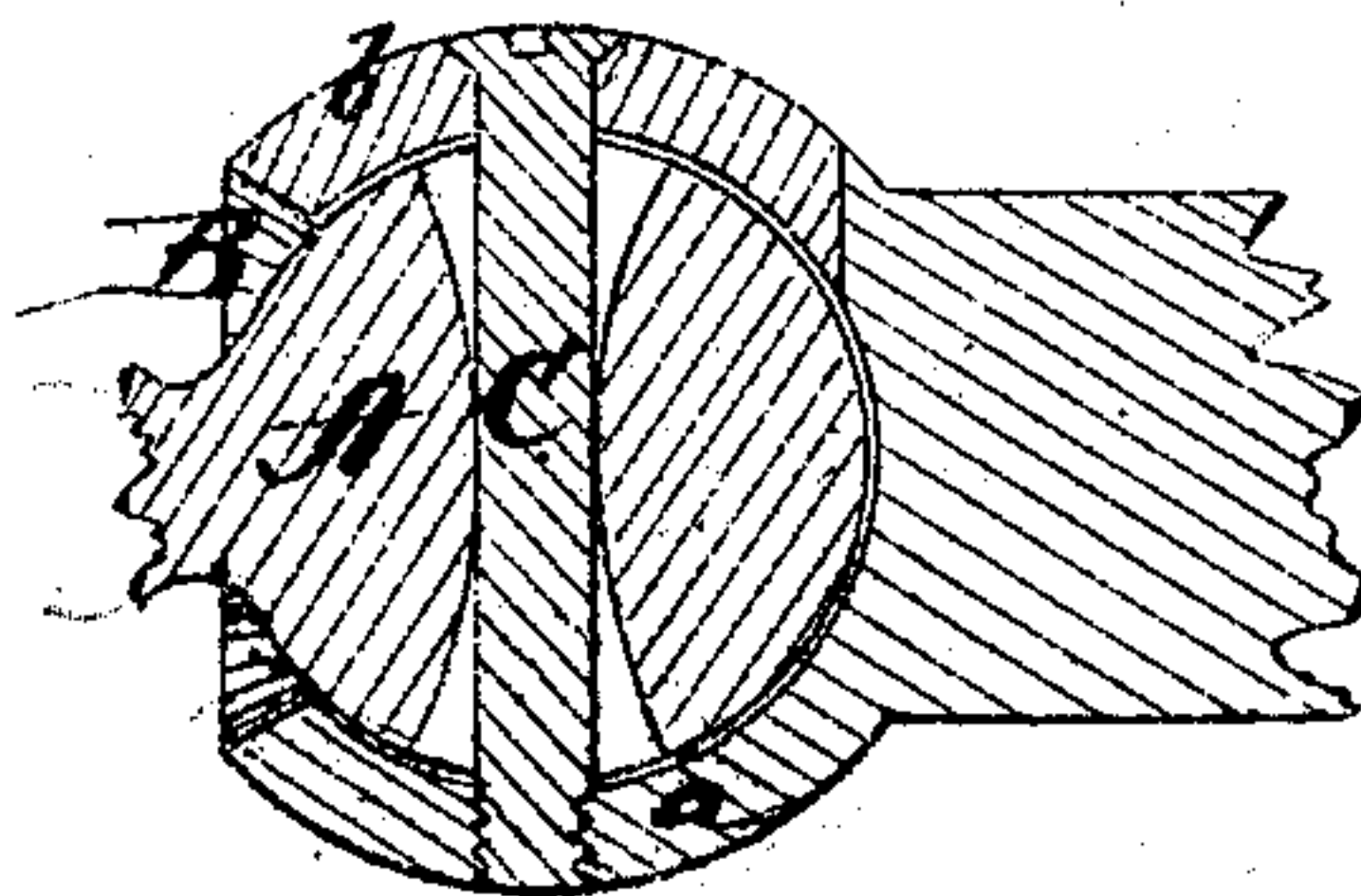


Fig. 3.



Witnesses.

*Jas. E. Hutchinson*  
*G. L. Ewert*

Inventor.

*Chas. E. Roper.*  
*Henry Fisher.*

*Alexander Mead*

*Attys.*

## UNITED STATES PATENT OFFICE.

CHARLES E. ROPER AND HENRY FISHER, OF CANTON, OHIO.

## IMPROVEMENT IN UNIVERSAL-JOINT COUPLINGS.

Specification forming part of Letters Patent No. 123,049, dated January 23, 1872; antedated January 8, 1872.

*To all whom it may concern:*

Be it known that we, CHARLES E. ROPER and HENRY FISHER, of Canton, in the county of Stark and in the State of Ohio, have invented certain new and useful Improvements in Universal-Joint Couplings; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of our invention consists in the construction and arrangement of a "universal-joint coupling," of the class commonly called a ball-and-socket joint, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view; Fig. 2 is a transverse vertical section; and Fig. 3 is a longitudinal vertical section of the joint.

A represents the ball, and B the socket of our universal joint-coupling. Through the center of the ball A is made a curved slot, as shown in Fig. 3, said slot being in the center of the ball of just such size that a pin, C, can pass through, while at each end the slot is enlarged, as shown. The socket B is made in two parts—the main bowl *a* and the cap *b*—

which are secured together by means of the pin C, which passes through the ball. The socket is made so as to inclose almost the entire ball, thus completely covering the joint and preventing any straw or other material from getting into the same. It also prevents accidents from the operator's clothes catching in the joint, which is often the case where the joint is not at all or only partially covered.

It will be seen that the pin C which passes through the ball A not only secures the ball within the socket and acts as a pivot around which the ball moves, but secures the two parts of the socket *a* and *b* together.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of socket B, made in two parts, *a b*, as described, the ball A, with curved slot, and the stationary pin C, which passes through the ball A and secures it and the parts of the socket B, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 27th day of May, 1871.

CHAS. E. ROPER.  
HENRY FISHER.

Witnesses:

ALEX. BIERN,  
C. L. EVERT.