

No. 771,439.

PATENTED OCT. 4, 1904.

J. F. McELROY.
HOSE COUPLING.

APPLICATION FILED DEC. 10, 1903.

NO MODEL.

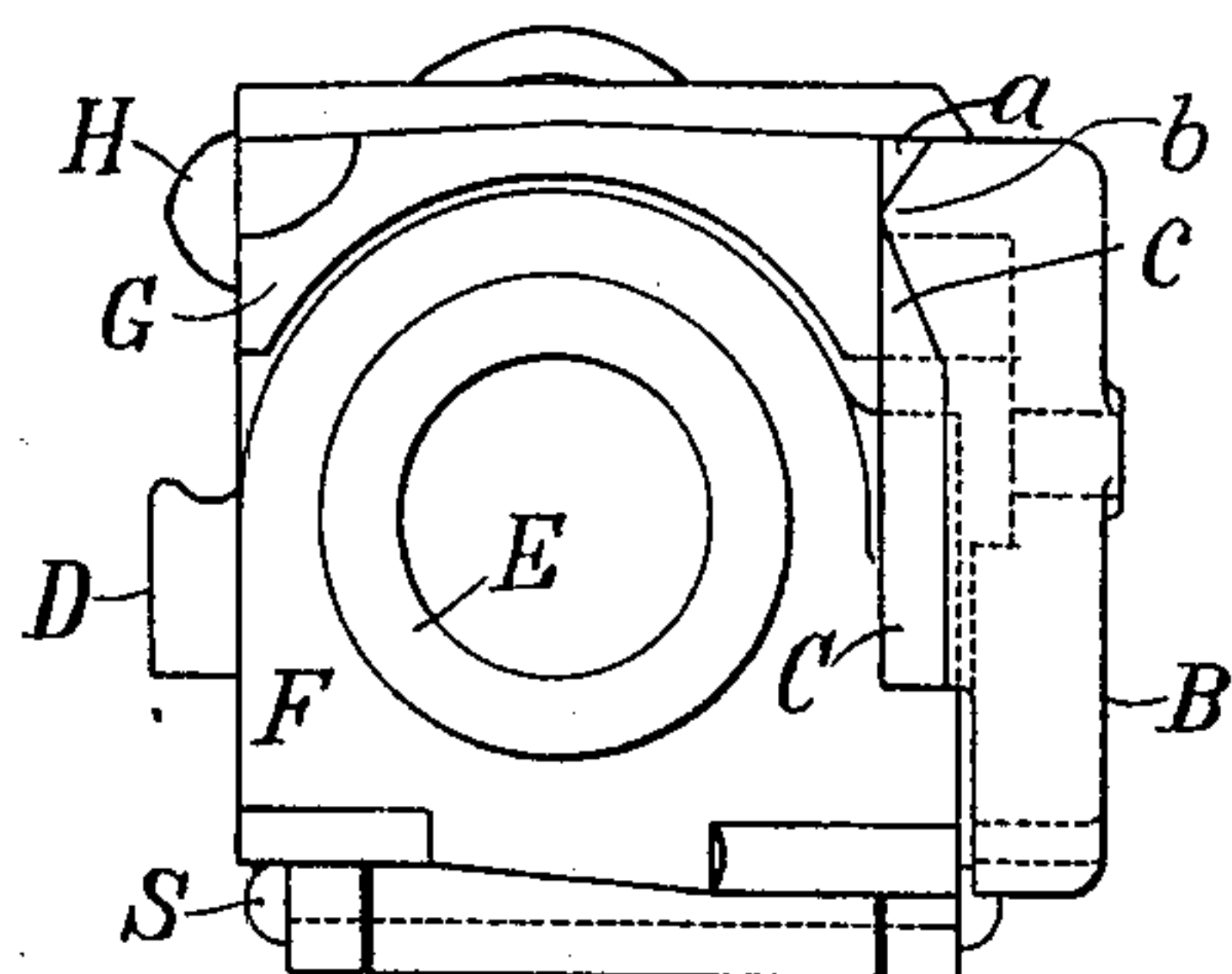


Fig. 1

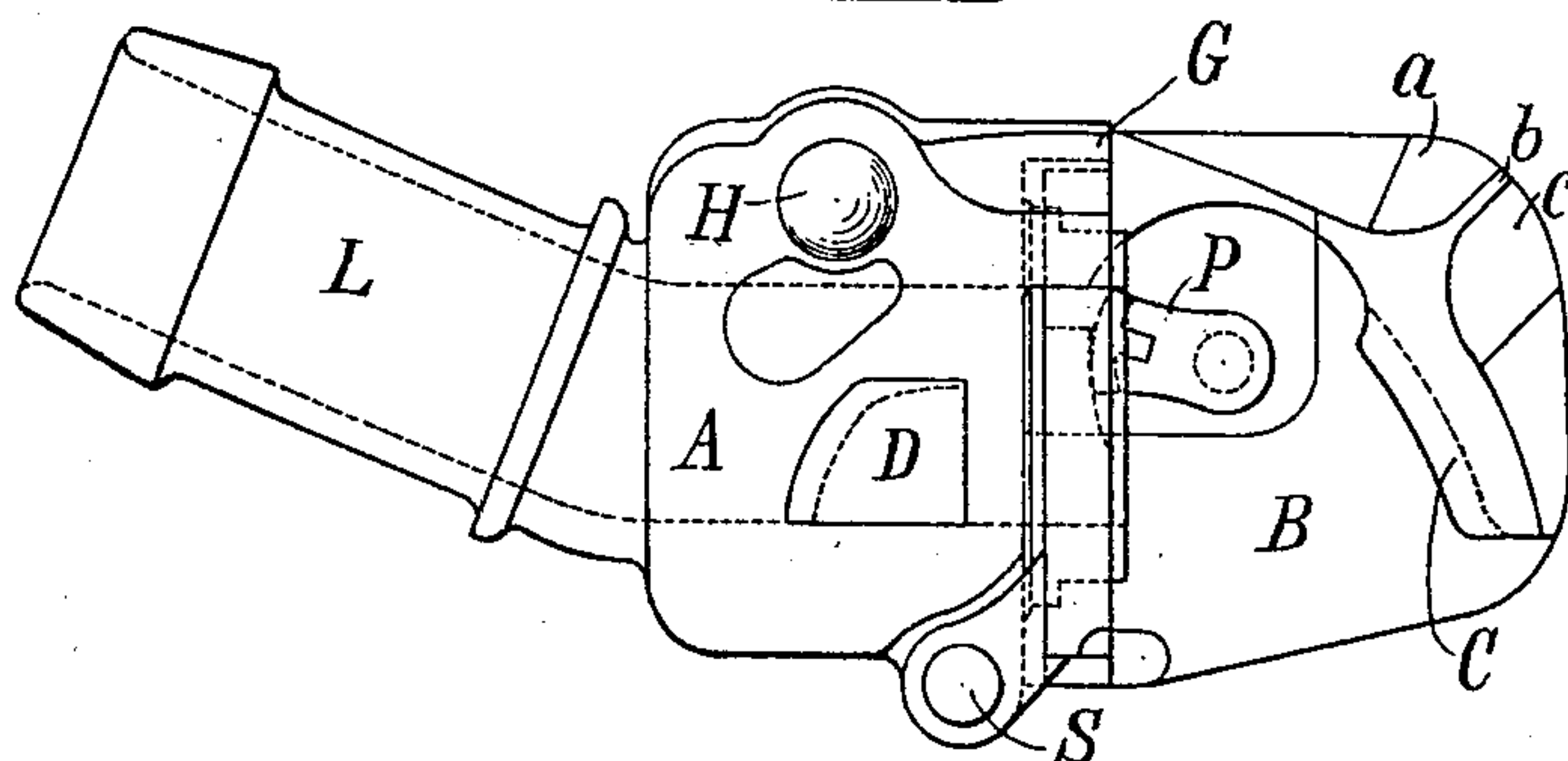


Fig. 2

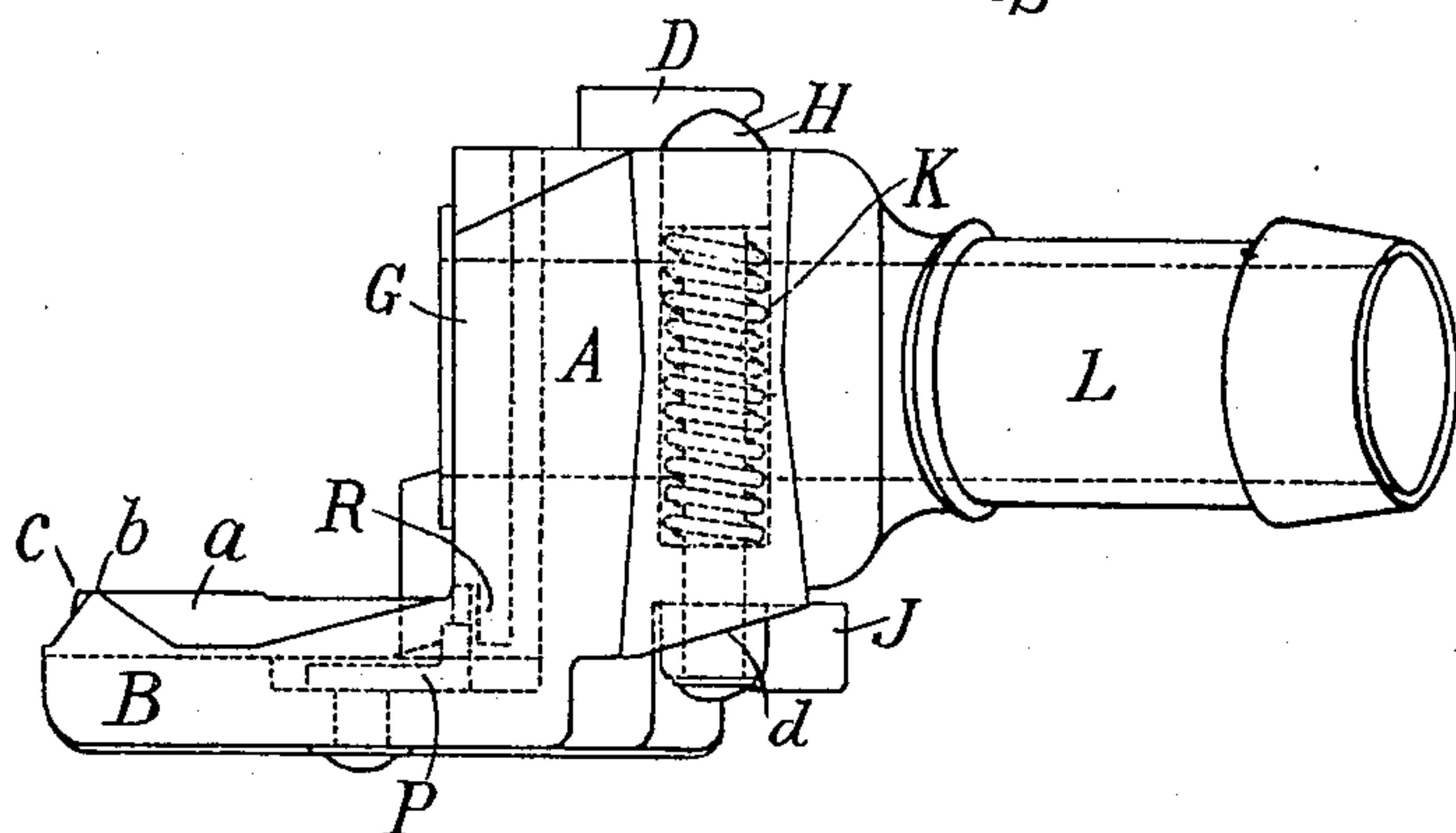


Fig. 3

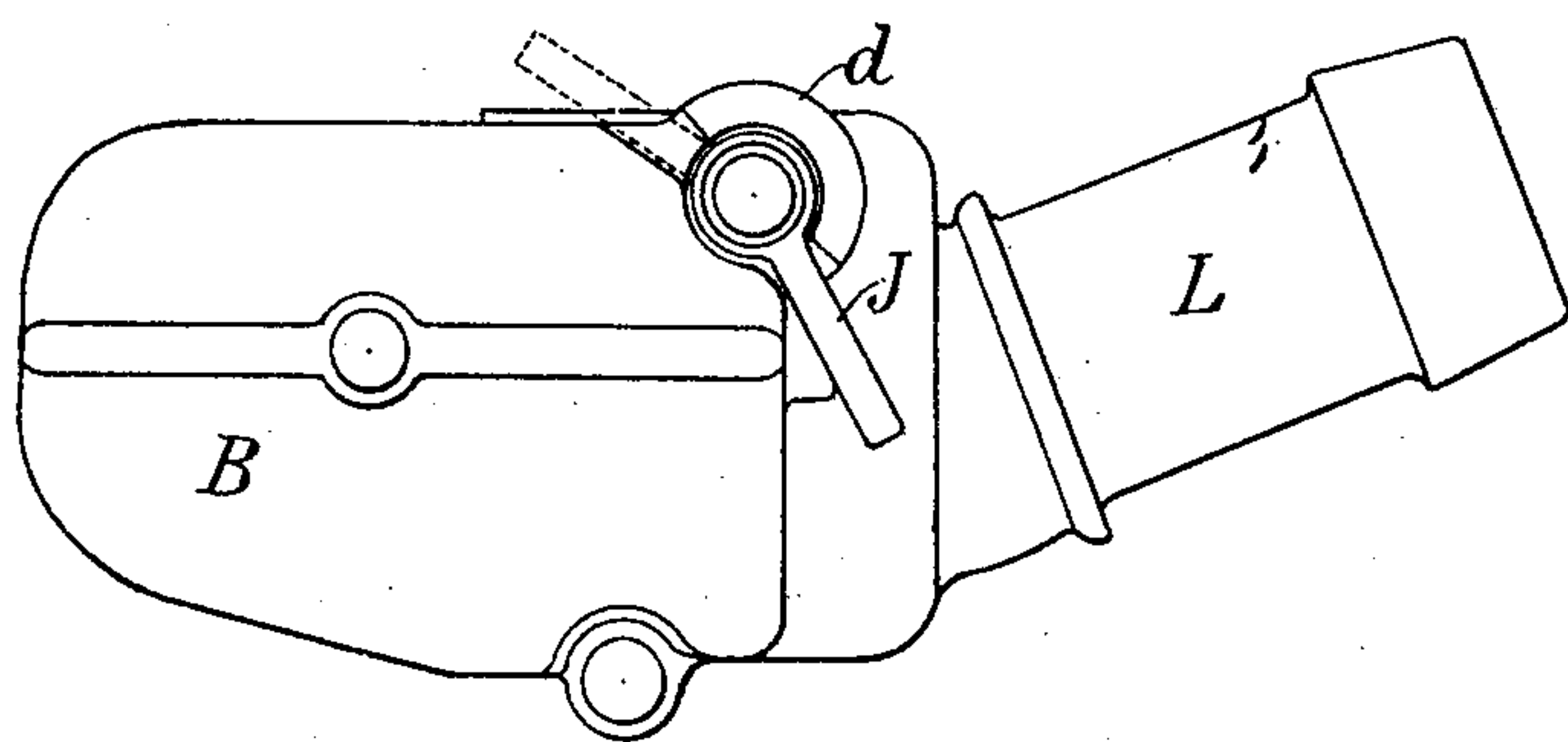


Fig. 4

Witnesses

L. T. Shaw
J. B. Gately

Inventor

James F. McElroy
E. M. Brimley

Att'y

UNITED STATES PATENT OFFICE.

JAMES F. McELROY, OF ALBANY, NEW YORK, ASSIGNOR TO CONSOLIDATED CAR HEATING COMPANY, OF ALBANY, NEW YORK, A CORPORATION OF VIRGINIA.

HOSE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 771,439, dated October 4, 1904.

Application filed December 10, 1903. Serial No. 184,520. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. McELROY, a citizen of the United States, residing at Albany, county of Albany, and State of New York, have invented certain new and useful Improvements in Hose-Couplers, of which the following is a specification, and accompanying drawings disclose, as an illustration, one embodiment thereof, which I now regard as the best out of the various forms in which the principles of the invention may be applied.

In the drawings, Figure 1 is an end elevation of my improved coupler. Fig. 2 is a side elevation thereof. Fig. 3 is a plan view thereof, and Fig. 4 the opposite side elevation.

My invention relates to a coupler of the well-known type used for joining the steam-heating pipes of railway-cars wherein there is a body portion connected on one side to a nozzle designed to be attached to the extremity of the hose and provided on the other side with a face adapted to meet the face of a complementary coupler, there being also a perforation through the body portion forming a continuation of the passage through the hose-nozzle and coming into line with a corresponding perforation in the body of the complementary coupler when the two are joined and locked together. This type of coupler has also a projecting wing extending forward from the body portion on one side thereof, so as to overlap the body portion of the complementary coupler and engage with an undercut lug thereon.

My present invention involves, first, a spring-pin extending transversely through the body portion of the coupler and having its projecting tip lying in line with the path of movement of the wing on the complementary coupler, so as to engage therewith and assist in maintaining it in its locked position. The surface of the wing when it engages the pin has oppositely-beveled surfaces, so that the pin acts thereon to press the wing downward into engagement with the locking-lug during the time that the parts are in their locked position and also acts to press the wing upward when the parts are being disengaged

and the tip of the spring-pin passes over the dividing-ridge that separates the two inclined or wedging surfaces. In the second place I have provided on the face of the coupler a bridging arch or ledge that overhangs and protects the gasket-holder, which, as shown in my previous Patent No. 669,960, of March 12, 1901, is hinged on the lower edge of the front face of the coupler and carries an annular gasket, forming the extremity of the perforation or passage-way through the body of the coupler and engaging with a similar gasket on the complementary coupler to form therewith a steam-tight joint.

Turning to the accompanying drawings, A is the body portion of the coupler connected on one side to the nozzle L and having an internal perforation which forms a continuation of the passage-way through the nozzle.

B is the forwardly-projecting wing on one side of the body A and adapted to overlap the body of a complementary coupler when the two are brought together. The wing B is provided with a diagonal undercut flange C, adapted to hook over an undercut lug D, projecting from the side of the body portion of the complementary coupler and by such engagement draw the two body portions together by a wedging action as the two faces are rotated toward each other in a well-known manner around a center nearly coincident with the adjacent lower edges of the meeting faces.

Through the body portion of the coupler is passed a transverse pin H. This pin is located near the center of the body and in the upper part thereof above the passage-way through the coupler. It is provided at one end with a beveled tip projecting slightly beyond the side of the body and at the other end it is either provided with a rivet-head or, preferably, with a short lever-arm J, secured rigidly thereto. A spring K surrounds the central portion of the pin and is seated at one end against a shoulder on the pin and at the other end against a shoulder in the socket wherein the pin is contained. A projecting tip of the pin lies in the path of movement of the wing

C of the complementary coupler when the said wing is being swung downward to bring the undercut flange C into engagement with the lug D. The inside surface of the said wing is formed, as more particularly appears in Fig. 2, with two beveled surfaces *a c* extending in opposite direction from a dividing-ridge *b*. It is these beveled surfaces which engage with the tip of the pin H. As the inclined wedging-surface *c* comes in contact with the tip of the spring-pin when the wing B is being turned downward into its locking position the pin is pressed inward against the force of its spring K until the ridge *b* passes the extremity of the pin, which thereupon travels along the oppositely-inclined surface *a* and gradually moves outward under the pressure of its spring K until the wing B is finally forced home with its flange C engaging the lug D and the meeting faces of the two body portions thereby pressed into intimate contact. In this locking position of the parts the tip of the spring-pin still bears against the inclined surface *a*, thereby having a constant tendency to wedge the wing downward into the locking position, where it is to be maintained. In order to disengage the two parts, it will be necessary to exercise some force in order to press the pin *h* inward by the cam action of the surface *a* against the force of the spring K; but after the parts are opened a short distance the tip of the pin passes over the dividing-ridge *b*, and thereafter as it passes over the surface *c* it tends to assist the further opening up of the couplers. I prefer to use the short lever-arm J, which is shown in Figs. 3 and 4 as secured to the inner end of the spring-pin. By means of this lever the pin can be rotated, and as the lever is moved upward into the position shown in dotted lines, Fig. 4, the lever J passes over the cam-surface *d* and draws the pin H inward against the force of the spring K until it is finally retracted completely within the body of the coupler and is wholly out of the way of the wing B. Thus by turning the lever J the pin may be thrown entirely out of action or may be retracted to assist in the disengagement of the parts should there be any difficulty in forcing the pin inward by means of the wedging-surface *a*.

The second portion of my invention resides in the construction of the face of the body portion of the coupler with the arch or projecting ledge G along the upper edge of the face which overhangs and protects the swinging gasket-holder F, that carries the annular gasket E. This gasket-holder is hinged on the pin S, extending transversely across the lower edge of the face of the coupler in the manner described and claimed in my aforesaid

patent, No. 669,960, of March 12, 1901. The gasket-holder and the gasket when in their normal position against the face of the coupler-body constitute the meeting surface, against which impinges a similar surface on the complementary coupler. In this position the holder is secured against displacement by a cam P, pivoted in a recess in the inner side face of the wing B and engaging a lug R, projecting from the side of the gasket-holder into the aforesaid recess. The arch or ledge G extends forward from the body of the coupler to a point flush with the front face of the gasket-holder, and the lower edge of the arch conforms to the contour of the upper edge of the holder. By this means the gasket-holder is protected from displacement or injury from external causes, such as the blows from the hammer of the inspector, who in pursuance of his duties tests the coupling by a smart tap with his hammer that is liable to break the gasket-holder. This arrangement gives a solid exterior to the coupler free from delicate projecting parts, it being also noted that the spring-pin is likewise contained in the body of the coupler, and its tip bears against the inside of the wing, so as to be thereby covered and protected against outside blows.

What I claim as new, and desire to secure by Letters Patent, is—

1. A hose-coupler having a body portion provided on one side with a forwardly-projecting wing adapted to overlap and engage with a similar body portion of a complementary coupler and having also a spring-pin for retaining the parts in engagement which is provided with a rotating leverage device for throwing it into and out of its operative position.

2. A hose-coupler having a body portion provided on one side with a projecting wing adapted to overlap and engage with the body portion of a complementary coupler, and having also a spring-pin for retaining the parts in engagement, which is provided with a cam device for throwing it into and out of its operative position.

3. A hose-coupler having a body portion adapted to meet and engage with the body portion of a complementary coupler and provided with a hinged gasket-holder and a projecting ledge on the face of the body portion overhanging and protecting the gasket-holder.

In witness whereof I have hereunto set my hand, before two subscribing witnesses, this 4th day of December, 1903.

JAMES F. McELROY.

Witnesses:

ERNEST D. JANSEN,

WILLIAM A. MORRILL, Jr.