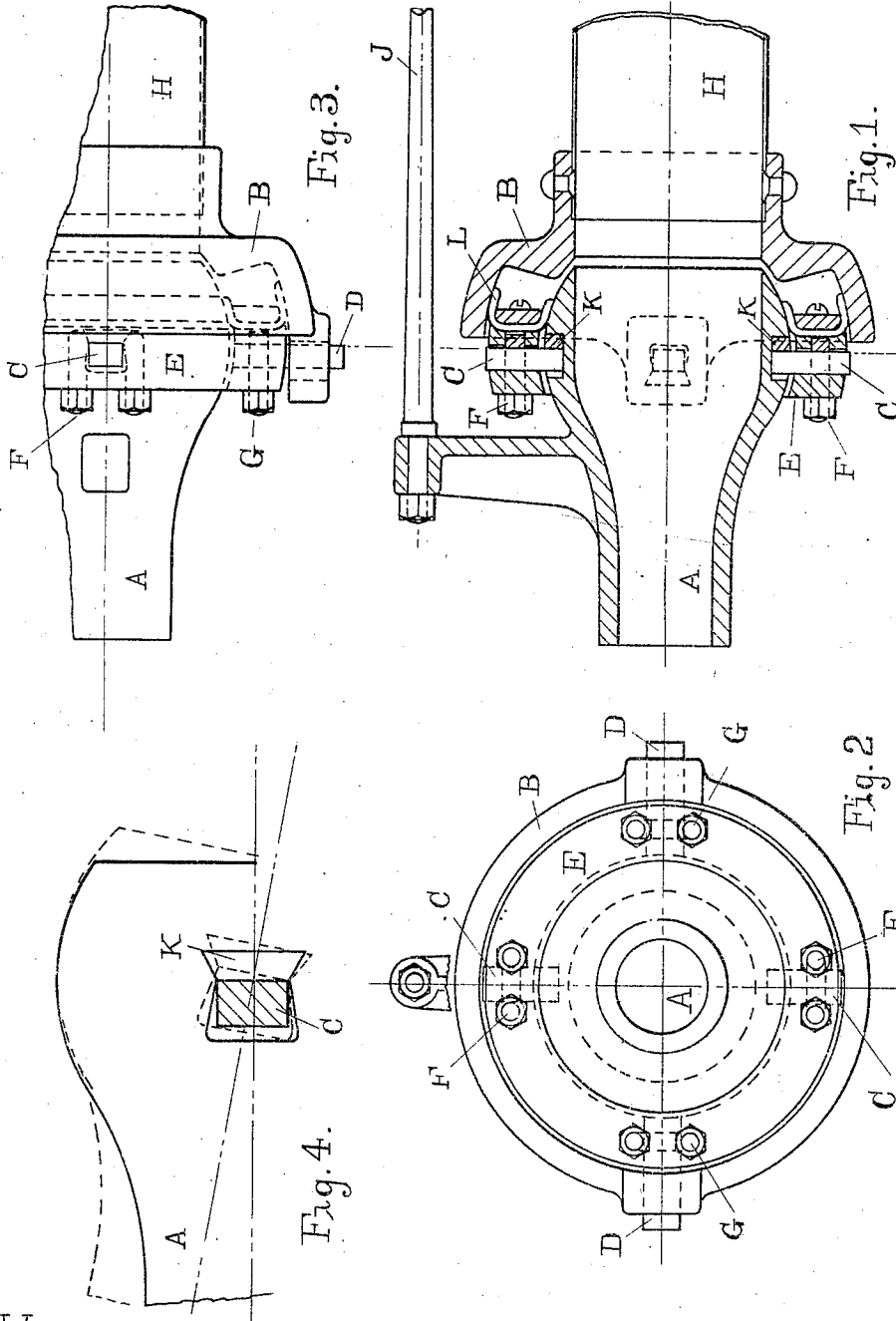


S. L. BERRY.
 DEFLECTING NOZZLE.
 APPLICATION FILED FEB. 21, 1911.

1,009,377.

Patented Nov. 21, 1911.



WITNESSES.

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DEFLECTING-NOZZLE.

1,009,377.

Specification of Letters Patent.

Patented Nov. 21, 1911.

Application filed February 21, 1911. Serial No. 610,107.

To all whom it may concern:

Be it known that I, SENECA LUCIEN BERRY, a citizen of the United States, residing at Sunnyvale, in the county of Santa Clara, State of California, have invented certain new and useful Improvements in Deflecting-Nozzles, of which the following is a specification.

My invention relates to that class of deflecting nozzles which is used on hydraulic monitors or giants to assist the operator in directing the stream of water toward any desired point, and the object of my improvement is to provide a self-centering nozzle, having an improved water way and arranged in such a manner that leakage due to wear of the packing will not interfere with the operator. This object is attained by the construction shown in the accompanying drawing, in which—

Figure 1, is a vertical section through the center of the nozzle; Fig. 2, an end view; Fig. 3, a partial plan view, and Fig. 4, a diagram showing the nozzle in its central and deflected positions.

Similar letters refer to similar parts throughout the several views.

Deflecting nozzles of the class described, and having four fulcra, forming a gimbal joint, are well known; and it is not my intention to claim such a combination broadly, but all such nozzles have been defective inasmuch as they are not self-centering, and have, therefore, proven to be dangerous when operated under the higher pressures. The fulcra have been round pins placed on the center lines of pressure, resulting in a joint which remained balanced when deflected, with no tendency to return to its central position.

Referring to the several views, the nozzle A is shown attached to the socket B by means of the rectangular fulcrum pins C—C, D—D clamped to the fulcrum ring E by the bolts F—F and G—G. The socket B is secured, directly or indirectly, to the discharge pipe H of the monitor. The movement of the nozzle in any direction is controlled by the lever J attached to the ball portion of the nozzle and which is moved by the operator in the direction of the desired

change. The effect of diverting the stream from its straight path is to produce reaction on the monitor discharge pipe which moves it about its pivotal points, the action continuing until the nozzle is returned to its central position.

Fig. 4, shows the nozzle A in its central and deflected positions. In the central position the hardened block K, inserted in the ball portion, is held by the water pressure fairly against the rectangular fulcrum pin C, and deflection is accompanied by a displacement in a direction contrary to said water pressure by an amount controlled by the width of the rectangular pin C. When the lever J is released the water pressure will immediately and automatically return the nozzle to its central position. The connection between the ring E and the socket B is of the same nature and operates in a similar manner. Leakage is prevented by the packing L, attached to the fulcrum ring E, and which rests on the outside of the ball and inside of the socket.

By the construction shown an almost unbroken water way can be provided and leakage past the packing can not reach the operator.

It is evident that the nozzle A can be separated from the ball portion and attached thereto in any desirable manner, and that the socket B can be removably attached to the discharge pipe of the monitor, without departing from the spirit of my invention.

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

In a deflecting nozzle, the combination of a ball, ring, rectangular fulcrum pins, socket and packing secured to said ring and resting on said ball and said socket, substantially as described.

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

SENECA LUCIEN BERRY

Witnesses:

ANNA BERRY,
JOHN FAULDS.