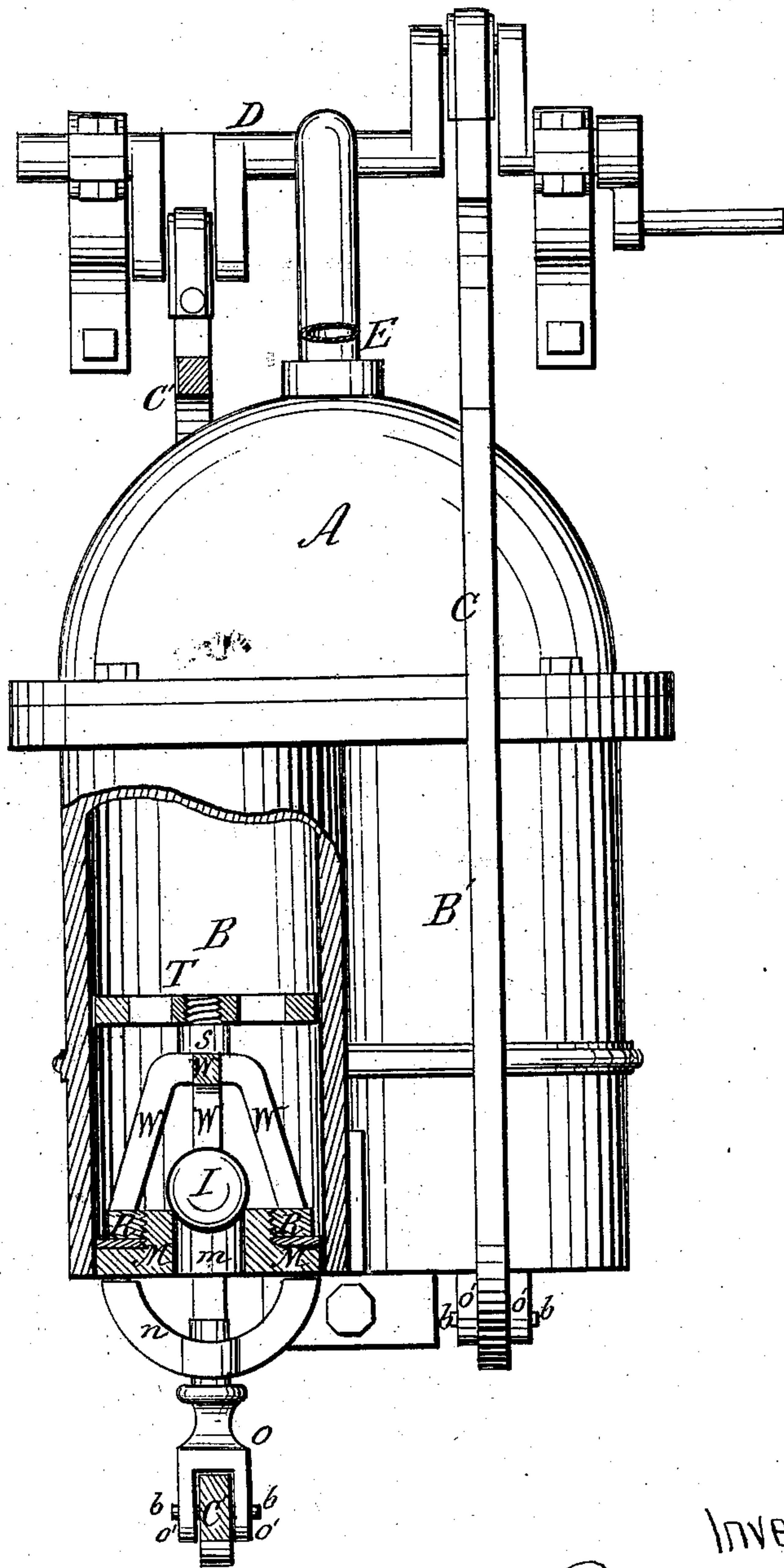


*R. W. Crouse.*

*Piston.*

*N<sup>o</sup> 93,810. Patented Aug. 17, 1869.*



Witnesses.

C. A. Pettit  
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# United States Patent Office.

R. W. CROUSE, OF WESTMINSTER, MARYLAND.

Letters Patent No. 93,810, dated August 17, 1869.

## IMPROVEMENT IN PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

### To all whom it may concern:

Be it known that I, R. W. CROUSE, of Westminster, in the county of Carroll, and State of Maryland, have invented a new and improved Pump; and I do hereby declare that the following is 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 my invention is represented by a side view, a portion of the wall being broken away.

The object of this invention is to provide for public use a double-acting pump, so constructed that it can be conveniently repaired when the packing becomes worn or injured.

In the drawings—

A represents the upper chamber, and

B B', the two cylinders connected with it, there being two valves, not shown, between the upper ends of the cylinders and the lower side of chamber A.

The plungers are worked at the lower end of the two cylinders by means of rods or straps C C', extending down alongside of or around the cylinders from a double-crank shaft, D.

The rotation of the shaft gives an alternate reciprocating action to the rods and plungers, as will be at once understood from the drawings, thereby forcing the water up through the cylinders into chamber A, and thence discharging it through the pipe E.

The plunger consists of a disk, M, fitting into the lower end of the cylinder, and having an opening, *m*, through its centre.

A curved brace-yoke, *n*, is suitably attached to the under side of the disk, and a vertical standard, *o*, screws into the latter at its centre, the lower end of

the standard terminating in two lugs *o' o'*, between which the lower end of rod C or C' passes, and to which it is fastened by a removable pin or bolt, *b*.

An arched dome, W, having apertures through its sides, is attached to the upper side of disk M, enclosing between it and the disk a ball-valve, I.

A stem, *s*, projects upward from the top of the arch or cover W, and screws into a guide-plate, T, having suitable openings in it to let the water pass through.

This whole apparatus, consisting of disk M, yoke *n*, standard *o*, arch W, valve I, and guide T, constitutes my improved plunger, its advantage over all others being that while it runs easily in the cylinder, and operates perfectly, its ball-valve not being liable to get out of order, it can, by removing the pin *b* and swinging the rod C C' to one side, be readily removed from the bottom of the cylinder for the purpose of repairing the packing, or cleaning it, or for any other purpose.

If preferred, the arch W may be cast to a ring, R, and the latter screwed to a suitable hollow stem on the upper side of the disk M, as shown in the drawing. The arch can then be detached from the disk for the purpose of inserting or removing the ball.

Having thus described my invention,

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

A pump-plunger, constructed of the guide T, valve I, ring R, disk M, yoke *n*, and standard *o o'*, combined and arranged as herein described and for the purposes set forth.

R. W. CROUSE.

Witnesses:

GEO. A. REESE,  
E. F. REESE.