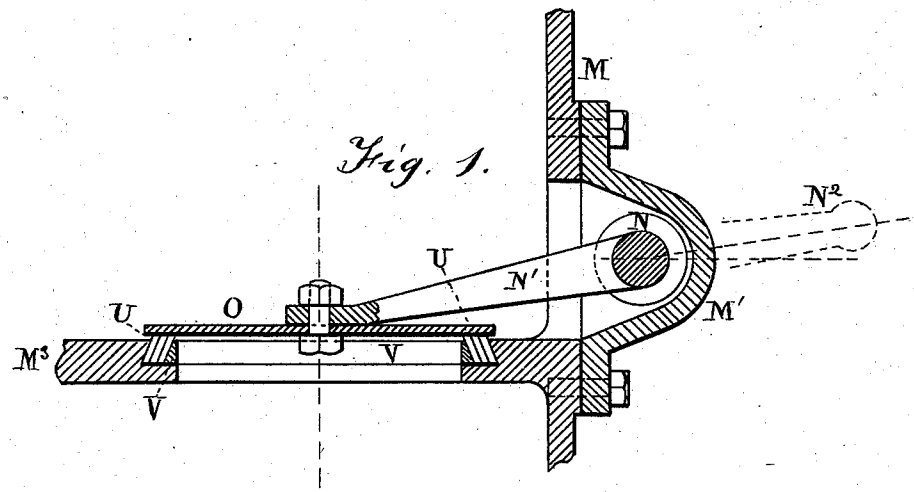
(No Model.)

G. H. CORLISS.

Valve Seat for Pumps.

No. 235,747. Patented Dec. 21, 1880.

Fig. 1.



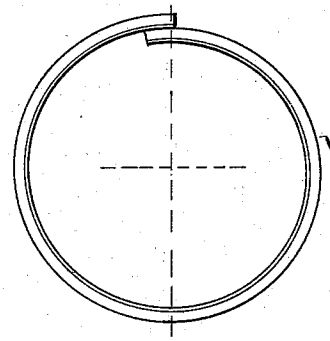


Fig. 2.

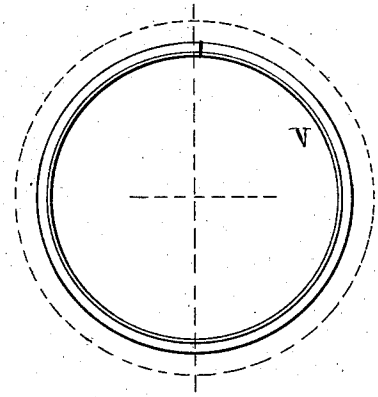


Fig. 3.

Witnesses:-
W. Colborne Brookes
Charles C. Stetson

Inventor:-
George H. Corliss,
by his attorney
C. L. Stetson.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE H. CORLISS, OF PROVIDENCE, RHODE ISLAND.

VALVE-SEAT FOR PUMPS.

SPECIFICATION forming part of Letters Patent No. 235,747, dated December 21, 1880.

Application filed June 14, 1880. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. CORLISS, of Providence, in the county of Providence and State of Rhode Island, a citizen of the United States, have invented certain new and useful Improvements relating to Pumps, of which the following is a specification.

The invention lies in the seats on which the valves strike in closing, or to corresponding surfaces produced on the valves, which, by striking on the seats, relieve the shock and produce a tight fit. I have discovered and practically wrought out a construction of such seats or surfaces which possesses marked advantages over any before known to me.

The invention is intended more especially for large pumps, such as are used in pumping the supply for towns and large manufactories; but it may be of much advantage on smaller pumps.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a central vertical section through the valve and seat. Fig. 2 represents a portion detached. It is shown in the condition in which it is inserted into its place; and Fig. 3 shows the same in its proper relations to the other parts when fully adjusted for use.

Similar letters of reference indicate like parts in all the figures where they occur.

In the drawings, M^3 represents a horizontal plate of cast-iron, in which is formed the opening for the passage of water controlled by the valve. O is the valve, and N′ an arm which connects the valve to a rocking shaft, N, which is mounted in a concave bonnet, M′, bolted on the outer case, M, of the pump, so that the valve and its attachments may be removed with the bonnet.

I produce around the edge of the valve-seat a shoulder of considerable width, as indicated in Fig. 1, and place thereon several strips of leather coiled on edge, as indicated by U. Within this I fix a cut ring of metal, as shown by V. The width of the strip or strips of leather U should be such as to protrude the upper edge considerably above the upper face of the metal M^3. The width or height of the ring V should be such as to hold its upper edge about flush with the top M^3. The cut ring V is of such dimensions that by forcing out, by wedging or otherwise, it may compress a proper quantity of leather and be sprung into position with its ends abutting firmly together, as seen in Fig. 3. The protruding portion of the leather compressed by the action of the valve spreads and forms a smooth, uniform, and just sufficiently yielding seat, on which the valve may strike with much violence and repeat rapidly with little concussion or noise. The swelling of the leather in wetting may induce a slight further tightening of the hold thereon; but my experiments indicate no difficulty from any excess of strain in wetting or loosening in drying.

Modifications may be made by any good mechanic. I can make the valve much thicker, can use rubber or other yielding material instead of leather, and especially can carry the pliable packing in the valve instead of in the fixed part. In either position I consider it a valve-seat, and properly described by those words. In either position it is a continuous ring of pliable packing held by the cut ring forcibly spread within it. I attach much importance to the bevel or inclination of the rings of leather U. They dovetail or lock together the parts.

I do not in this patent claim the valve, shaft, and arms, which allow the application of mechanism to aid the prompt closing of the valve, such being made the subject of a separate application for patent.

I claim as my invention—

The leather or equivalent pliable material U, arranged in a ring, in combination with the holding-plate M^3 and cut ring V, and arranged to serve relatively to the valve O, as herein specified.

In testimony whereof I have hereunto set my hand, at Providence, Rhode Island, this 9th day of June, 1880, in the presence of two subscribing witnesses.

GEO. H. CORLISS.

Witnesses:
EDGAR PENNEY,
ED. W. RAYNSFORD.