W. A. SPOONER.

Pump-Box.

No. 161,563. Patented March 30, 1875.

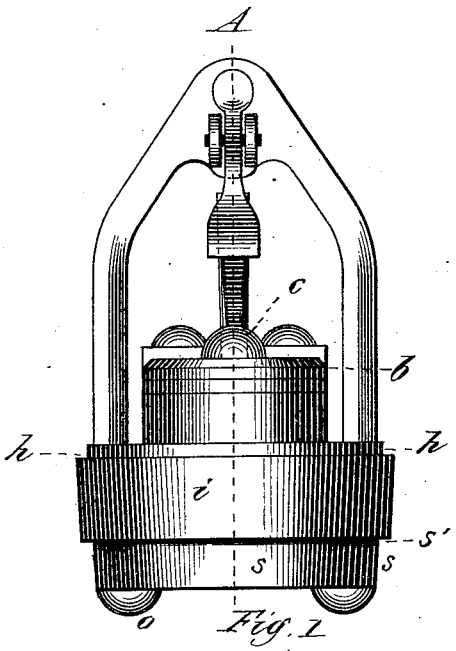

Fig. 1

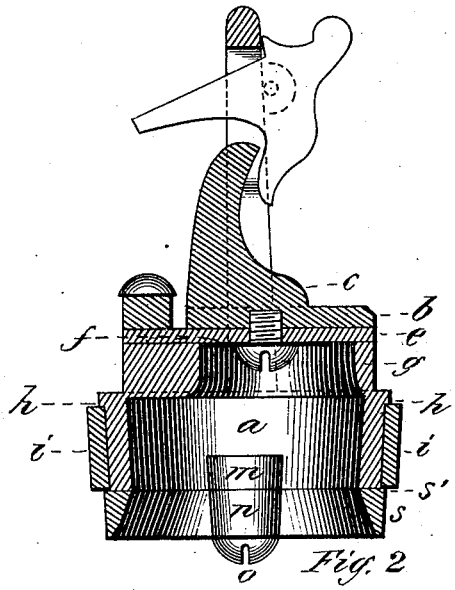

Fig. 2

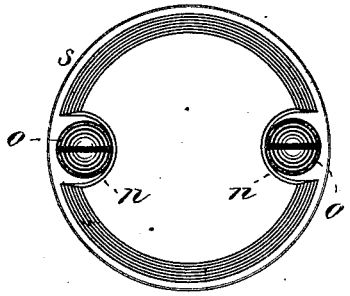

Fig. 5

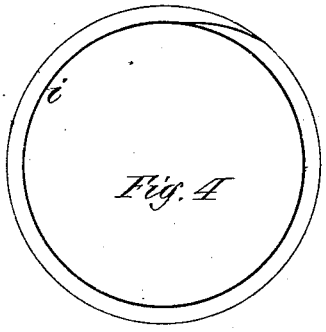

Fig. 4

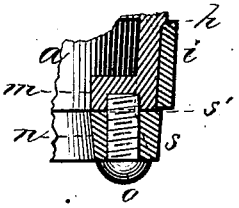

Fig. 3

Witnesses,

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Inventor,

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his atty.

UNITED STATES PATENT OFFICE.

WILLIAM A. SPOONER, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN PUMP-BOXES.

Specification forming part of Letters Patent No. **161,563**, dated March 30, 1875; application filed January 7, 1874.

To all whom it may concern:

Be it known that I, WILLIAM A. SPOONER, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Pump-Boxes; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view of a pump-box having my invention applied. Fig. 2 is a central vertical section through line A. Fig. 3 is a vertical section of the lower part of the box at line B. Fig. 4 is a plan view of the leather packing-ring, showing the manner of its construction; and Fig. 5 is a plan view of the metallic retaining-ring.

My invention relates to an improvement in pump-boxes designed for use in lifting-pumps; and consists, first, of a protuberance made upon the upper side of the valve, and a metallic washer placed against the lower side of the valve-leather, so that a screw passing up through the washer, valve-leather, and valve, and into said protuberance, secures the leather firmly to the valve, obviating any holes through the latter to cause a leak; and it also consists of a tapered ring, made to fit, and placed upon, the main part of the box, and which is secured thereon by a metallic ring, of the same general form as the lower part of the box, by placing said ring up against the lower end of the box, and also against the lower end of the leather ring, and turning two or more screws up through the metallic ring into the lower part of the box, or through and into lugs made upon one or both for that purpose, so that said screws shall hold the tapered packing in place, but shall not pass entirely through the box, whereby any leak through the holes made for the screws could occur.

In the drawings, *a* represents the lower main part of the pump-box; *b*, the valve, and *c* a protuberance made upon the top of said valve. The valve-leather is shown at *e*, and *f* is a metallic washer, which is placed up against the lower side of the leather, and a screw, *g*, is turned up through the washer, leather, and valve into a threaded hole made up into the protuberance *c*, so that as the head of the screw is turned up snugly against the washer the latter holds the leather up in place against the valve. By this construction the screw-holes usually made through the valve, and which are so many sources of leakage, are entirely dispensed with, and the valve rendered absolutely tight. The lower main part of the box *a* is turned off upon the outside to a taper, and with an annular shoulder at *h*, as shown in Fig. 2, and a leather ring, *i*, is made upon the same taper as that of the box *a*, and is made to fit it snugly when the ring is forced up to the shoulder *h*, and the height of the leather ring is the same as the length of the tapered part of the box from the shoulder *h* to the bottom, and the outside diameter of the said ring is a little larger than the largest diameter of the box. A metallic ring, *s*, is made of a little larger diameter outside than the outside diameter of the lower part of the box, and may be provided with two or more lugs, *n*, on the inside, corresponding lugs *m* being also made upon the inside of the box. The tapered leather ring *i* is first placed upon the tapered part of the box, and forced up against the shoulder *h*, and the metallic ring *s* is then placed up against the lower end of the box, and against the lower end of the leather ring *i*, and the screws *o* are then turned up through holes in the lugs *n* into threaded holes in the lugs *m* snugly, as shown in Figs. 2 and 3, and the leather ring is then firmly secured in place upon the box.

If the box is sufficiently thick, the screws *o* may be turned up into threaded holes made in the bottom of the box to secure the rings in place. These leather rings may be made in quantities by cutting strips of suitable leather of the proper size and length, skiving or beveling their ends, and cementing or riveting the beveled ends together around a tapered mandrel, as shown in Fig. 4, and may be sold in the market, so that any person may purchase a leather ring and attach it to a pump-box in place of one worn out without requiring the services of a plumber.

I am aware that pump-boxes have been made in two cylindrical sections, between which a flat packing-ring was rigidly grasped, as shown in the patent to B. H. Naves, dated

December 31, 1867, No. 72,884; and also in the patent to Merrill and Lawrence, August 13, 1867, No. 67,666; and I do not claim the same, nor any portion thereof, irrespective of my construction and arrangement thereof.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement of the valve *b*, provided with the protuberance *c*, the valve-leather *e*, metallic washer *f*, and the screw *g*, extending up into, but not through, the said valve, whereby the leather is secured thereto without liability of leakage through the valve, substantially as set forth.

2. The combination of a tapered pump-box, *a*, having a shoulder, *h*, with a tapered leather packing-ring, *i*, and metallic ring *s*, secured in place by screws *o* passing up into, but not through, the main part of the box, substantially as described.

WILLIAM A. SPOONER.

Witnesses:
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C. E. BUCKLAND.