

(No Model.)

T. DIFFLEY.
PUMP ATTACHMENT.

No. 385,104.

Patented June 26, 1888.

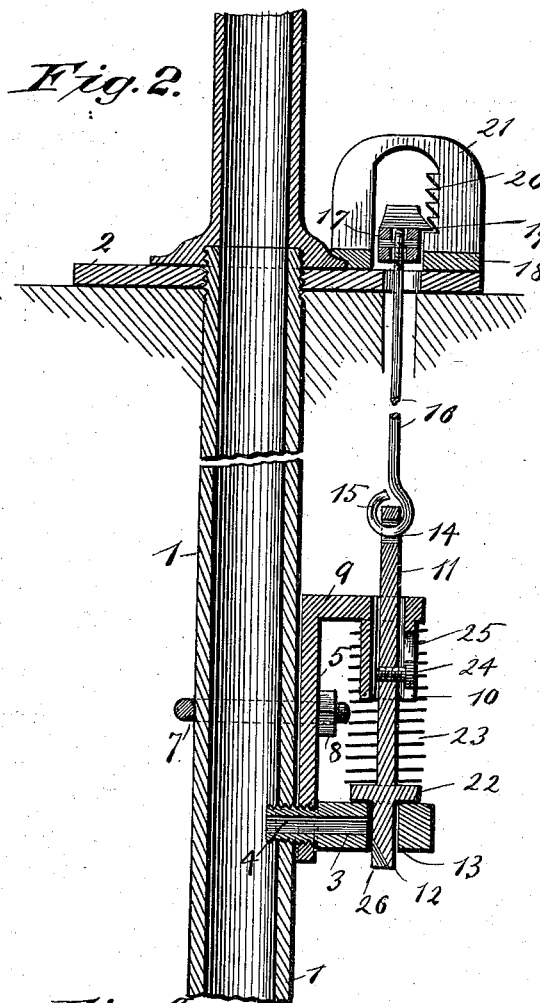
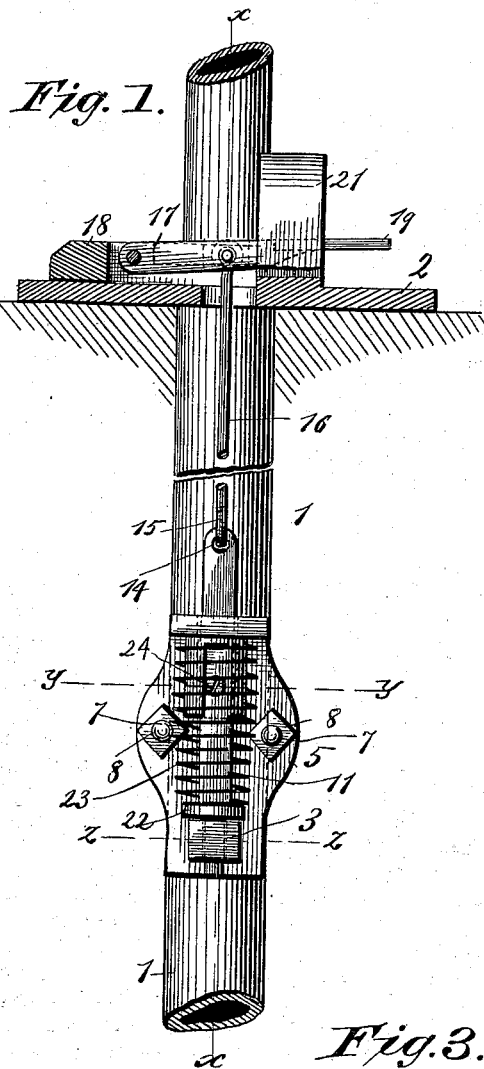
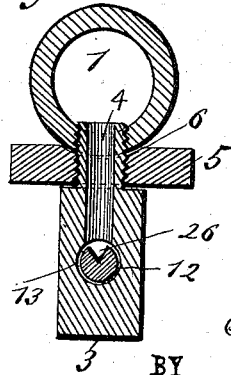
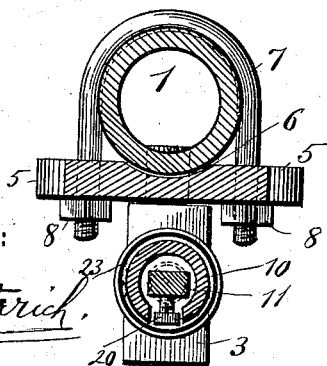


Fig. 3. Fig. 4.



WITNESSES:

Phil. Dietrich.
W. S. S. S. S.
W. S. S. S. S.

INVENTOR:

T. Diffley.

Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOMAS DIFFLEY, OF ROSEMOUNT, MINNESOTA.

PUMP ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 385,104, dated June 26, 1888.

Application filed February 23, 1888. Serial No. 264,900. (No model.)

To all whom it may concern:

Be it known that I, THOMAS DIFFLEY, of Rosemount, in the county of Dakota and State of Minnesota, have invented a new and Improved Pump Attachment, of which the following is a full, clear, and exact description.

This invention relates to pump attachments to prevent water in pumps from freezing, and has for its object to provide a durable and effective attachment for this purpose, constructed and arranged as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 illustrates the invention applied to a well-tube, shown as broken away. Fig. 2 is a vertical section through the line *xx*, Fig. 1. Fig. 3 is a horizontal section through line *yy*, Fig. 1; and Fig. 4 is a horizontal section through line *zz*, Fig. 1.

To prevent the water in pumps from freezing, it has been the practice to form a vent in the pump-tube to permit the water to run out of the pump into the well, and to provide a cover for said vent which may be operated from the top of the well to open and close the vent. An attachment of this kind should be so constructed and applied as to be strong and durable.

1 indicates a pump-tube mounted in a curb, 2. At a suitable distance below the curb 2, generally about eight feet, a vent-tube, 3, is secured in the tube 1, in any suitable manner, and, as here shown, by means of an end, 4, screwed into the pump-tube. To hold the vent-tube 3 rigidly in place and prevent its working loose, a plate, 5, is provided, having a curved recess, 6, to adapt the plate to fit snugly against the tube 1.

The plate 5 is firmly clamped against the pump-tube by means of a U-shaped metal band, 7, having its ends projecting through plate 5 and secured by nuts 8. By means of this form of clamp tearing and bending of the pump-tube are avoided. The end 4 of vent-tube 3 is also screwed through plate 5, the latter thereby giving additional support to the tube 3. The plate 5 is formed with a bracket, 9, having a depending tubular portion, 10, through which projects a sliding arm, 11, formed with a valve or cut-off slide, 12, located in a perforation, 13, in tube 3. The upper end of arm 11 is connected by means of a

perforation, 14, with the hooked end 15 of a rod, 16, pivoted to a lever, 17, mounted in a block, 18, on curb 2. The valve 12 is operated by the lever 17, and is adjustably held in position by means of a lip, 19, on the lever 17 engaging a rack, 20, on a frame, 21, mounted on the curb 2.

The valve 12 is prevented from passing below the passage in tube 3 by means of the flange or shoulder 22, and is automatically thrown into closed position and held there by a spring, 23, upon the disengagement of lip 19 with rack 20. The ends of the coiled spring 23 abut against the bracket 9 and flange 22.

The arm 11 is limited in its upward movement by a screw-pin, 24, moving in a slot, 25, in projection 10. To permit the water to escape slowly from tube 1, the valve 12 is formed with an inclined recess, 26, whereby the escape-opening is gradually enlarged upon raising the valve. It will thus be seen that a durable and effective attachment is provided, which will be firmly secured to the pump-tube, will prevent the vent-tube from working loose, will not injure the pump-tube, and by means of which the escape of water from the pump-tube may be easily regulated at the top of the well. The parts can be readily taken apart, if desired.

While I have described a specific construction of parts, I do not intend to limit myself thereto, as they may be varied in form without departing from the essential features of my invention.

This invention is especially adapted for small iron pump-tubes by reason of the plate 5 and attaching parts.

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

A pump attachment for pump-tubes, consisting of plate 5, secured to tube 1 by metal band 7 and nuts 8, vent-tube 3, fastened in plate 5 and tube 1, valve 12, having groove 26, mounted in vent-tube 3, and formed with flange 22, and arm 11, with guide-pin 24, located in slotted projection 10, coiled spring 23, connecting-rod 16, pivoted lever 17, having lip 19, and frame 21, with rack 20 on well-curb 2, substantially as described.

THOMAS DIFFLEY.

Witnesses:

S. M. MAGOFFIN,
W. H. WILLIAMS.