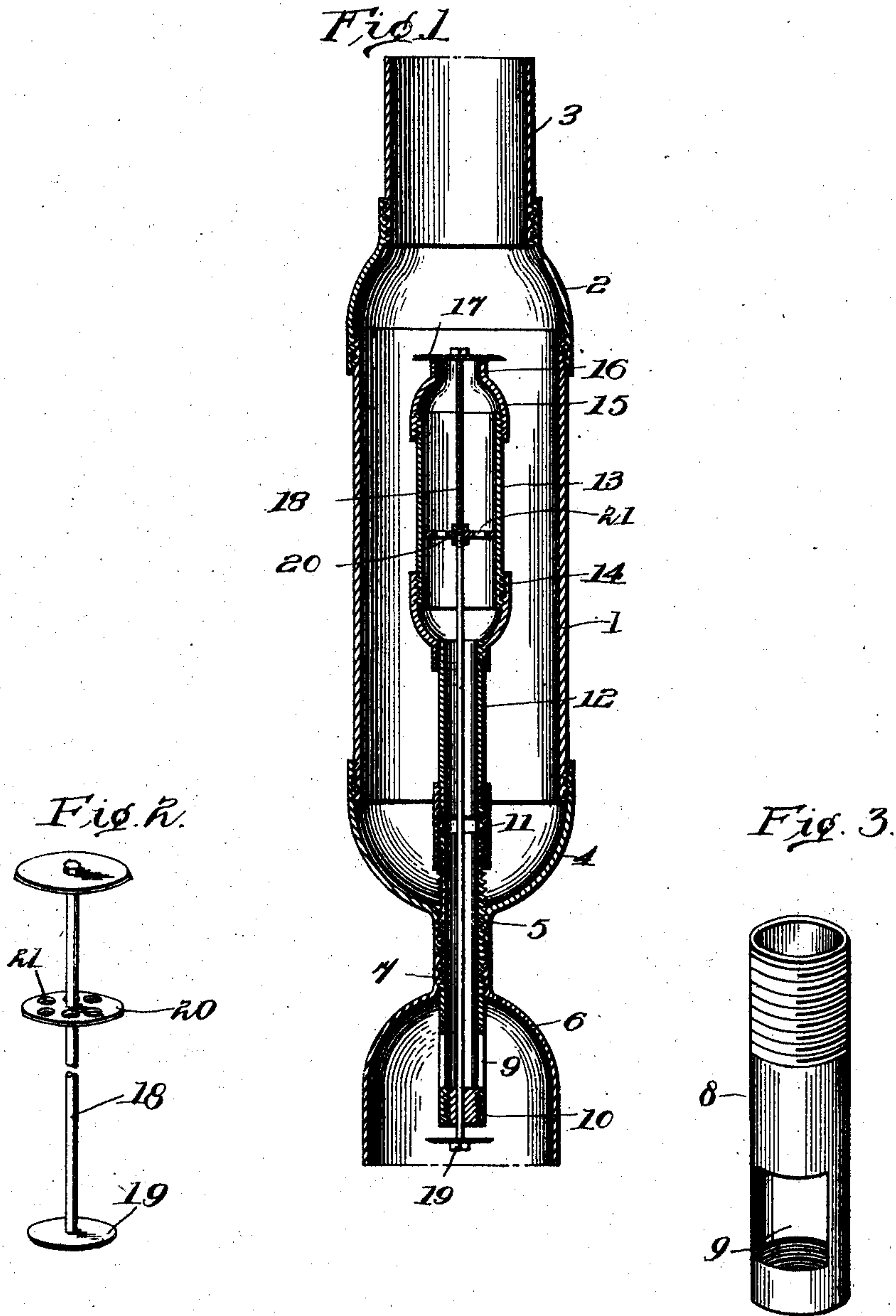


W. N. RIDDLE.
PUMP BARREL ATTACHMENT.
APPLICATION FILED DEC. 28, 1909.

970,352.

Patented Sept. 13, 1910.



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UNITED STATES PATENT OFFICE.

WILLIAM NELSON RIDDLE, OF CROWLEY, TEXAS.

PUMP-BARREL ATTACHMENT.

970,352.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM NELSON RIDDLE, a citizen of the United States, residing at Crowley, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Pump-Barrel Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in check valves for pump barrels.

In the general arrangement of valves for pumps it is frequently found that scales of iron break off from the pump barrel or pipe and fall to the bottom of the same, where they sometimes clog up the valve and interfere with the proper working of the pump.

One of the objects of this invention is to provide a particular form of valve provided with a trap arrangement, whereby any dropping scales will not interfere with the working of the valve.

Other objects and advantages will appear from the following description, and the particular features of novelty will be pointed out more succinctly in the claims.

While the invention is not restricted to the exact details shown and described, still for the purpose of disclosure reference is had to the accompanying drawings illustrating a practical embodiment of the invention, in which like letters designate the same parts in the several views, and in which—

Figure 1 is a longitudinal sectional view through a pump barrel provided with my improved valve and trap arrangement. Fig. 2 is a detail view of the piston valve and valve rod, and Fig. 3 is an enlarged detail view of the slotted end nipple of the inlet, with the bearing plug removed.

1 designates a sediment cylinder or barrel provided at its top with a reducing member 2 threaded thereon, which reducing member is in turn threaded with the pump barrel 3 of suitable dimensions. At the lower end the sediment cylinder is provided with a reducing member 4 of bowl-shaped construction, provided with a hollow nipple 5 of restricted diameter. The bowl-shaped member 4 is threaded to the bottom of the cylinder 1, and the nipple 5 is internally screw threaded.

6 designates a hollow dome-shaped member of substantially the same construction

as the member 4, but disposed in an inverted position, the member 6 being provided with an internally screw threaded nipple 7 of the same diameter, and adapted to abut against the end of the nipple 5. Threaded through these nipples 5 and 7, and securely holding the same together, is an end pipe or nipple 8 slotted at its lower end, as at 9, and provided with a bearing plug 10 threaded within said lower end and apertured to receive the spindle of the valve hereinafter referred to. The lower or slotted end of the section 8 is disposed within the hollow dome-shaped member 6, the upper end of the pipe threading with the internally screw threaded union 11, which in turn is threaded with a second section of pipe 12 supporting the valve casing. The valve casing is preferably formed by the cylinder 13 having the reducing member 14 at the bottom thereof threading with the pipe section 12, and said casing being provided at its top with a hollow dome-shaped member 15 provided with a hollow nipple 16 forming a seat for the valve 17 connected with the valve spindle 18. This valve spindle 18 passes through the valve casing 13, the slotted end pipe 8 and the intermediate pipe 12, the lower end of the valve spindle being guided through the aperture in the plug bearing 10, and said spindle extending a short distance below the bottom of the slotted pipe 8 and being provided with the disk 19 to limit the upward movement of the valve, but allowing sufficient play for a full flow of water there-through when elevated.

At 20 there is shown a piston or disk within the valve cylinder, said piston or disk being perforated, as at 21, to allow the water to flow therethrough, and acting as a guiding member for the upper end of the valve spindle.

The pump barrel is provided with the usual sucker and sucker rod (not shown), and it will be observed that upon operation of the sucker upwardly the valve 17 will be raised from its seat, allowing the water or other liquid to pass upwardly through the pipes 8, 12 and valve casing 13, and upon the down stroke the valve 17 is closed by the pressure above and the weight of the valve and its stem.

It will thus be observed that should any iron scale fall down through the pump barrel the same will fall to the bottom of the sediment chamber 1, in a position so far be-

low the valve proper that it will not in any way interfere with the operation of the valve.

Having thus described the invention, what

5 I claim is:—

1. An attachment for the lower end of pump barrels, comprising a sediment chamber having a downwardly disposed bell or dome-shaped member, a fluid inlet conduit
10 terminating at its lower end within said bell and at its other end projecting upwardly within said sediment chamber, a valve controlling said inlet conduit, means guiding said valve and means limiting its movement,
15 substantially as described.

2. An attachment for the lower end of pump barrels, comprising a sediment chamber, a fluid inlet conduit extending through the lower end of said chamber and project-
20 ing upwardly therein, a valve casing surmounting said fluid inlet conduit, a valve mounted on said valve casing, a valve spindle extending through said casing and said fluid inlet conduit, said valve spindle nor-
25 mally projecting below said fluid inlet conduit and being provided at its lower end with a stop disk, and being also provided with a perforated guiding disk within the valve casing, substantially as described.

3. An attachment for the lower end of pump barrels, comprising a sediment chamber having a downwardly disposed bell or dome-shaped member, a fluid inlet conduit
30 terminating at its lower end within said bell and having slots opening therein and an apertured bearing plug, the other end of said conduit projecting upwardly within said chamber, a valve controlling said con-
35 duct, a spindle connected to said valve and extending downwardly through said aper-

tured plug and normally terminating a short distance below same, said spindle at its lower end being provided with a stop disk, substantially as described.

4. An attachment for the lower end of 45 pump barrels, comprising an enlarged sediment chamber connected with the pump barrel, and at its lower end provided with a restricted hollow nipple internally screw threaded, a dome-shaped member provided 50 with an internally screw threaded nipple alining with said first mentioned nipple, a pipe threading through said nipples and extending upwardly within said sediment chamber, said pipe being provided at its 55 lower end with slots and with an apertured bearing plug, the lower end of said slotted pipe extending downwardly within said dome-shaped member, a valve casing within said sediment chamber, an intermediate pipe 60 between said valve casing and said slotted pipe for supporting said valve casing in a position substantially at the top of said sediment cylinder, said valve casing being open at its upper end providing a valve seat, a 65 valve spindle passing through said casing, said slotted pipe, intermediate pipe and apertured bearing plug, a perforated bearing disk carried by said spindle within said valve casing, a valve disk connected to the 70 top of said spindle, and a stop disk connected to the bottom of said spindle, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

WILLIAM NELSON RIDDLE.

Witnesses:

J. W. GRAMMER,
C. F. DICKISON.