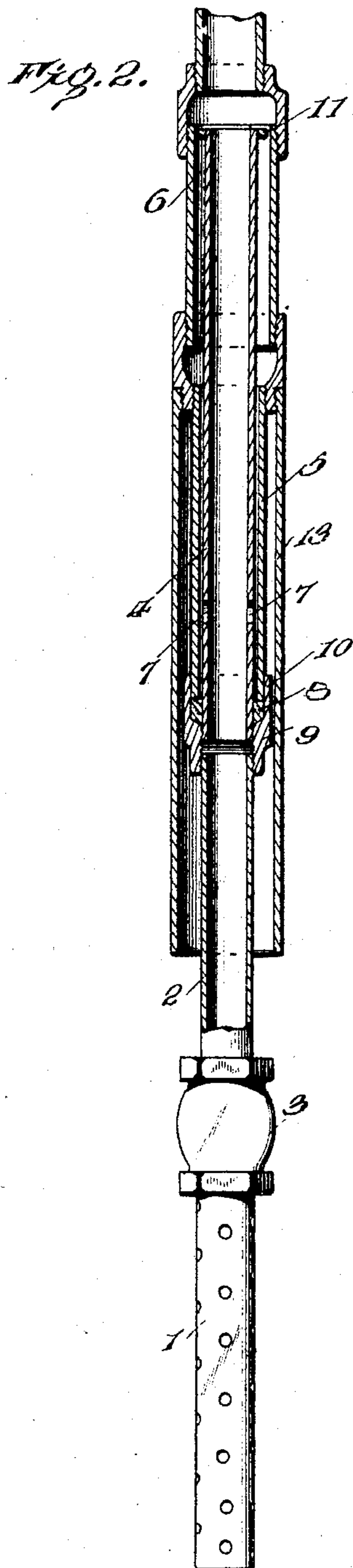
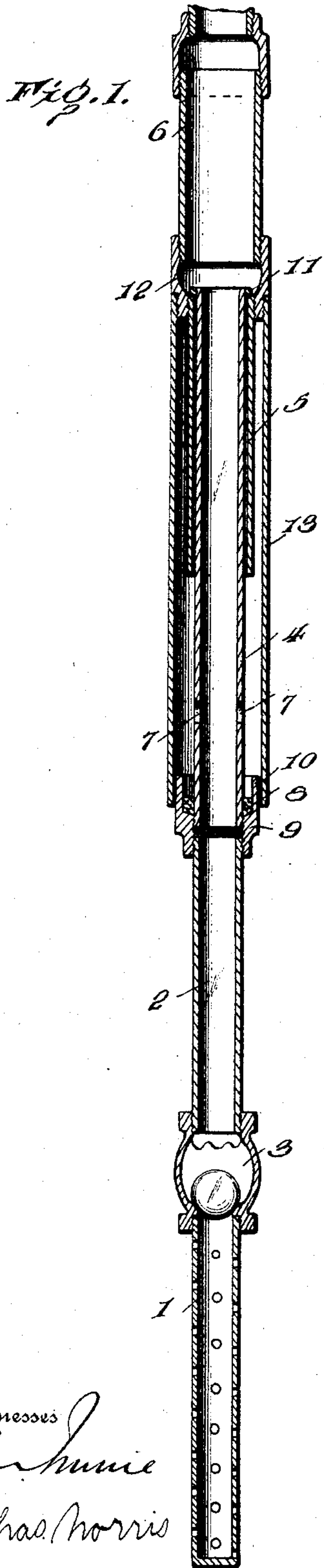


No. 794,104.

PATENTED JULY 4, 1905.

M. HUBER.
PUMP FOR OIL WELLS.
APPLICATION FILED NOV. 29, 1904.



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MICHAEL HUBER, OF MANNINGTON, WEST VIRGINIA.

PUMP FOR OIL-WELLS.

SPECIFICATION forming part of Letters Patent No. 794,104, dated July 4, 1905.

Application filed November 29, 1904. Serial No. 234,796.

To all whom it may concern:

Be it known that I, MICHAEL HUBER, a citizen of the United States, residing at Mannington, in the county of Marion and State of West Virginia, have invented certain new and useful Improvements in Pumps for Oil-Wells, of which the following is a specification.

In the operation of oil and other deep wells it is necessary to withdraw the tubing for one cause or another. Usually the tube remains full of oil or water, according to the nature of the well. If oil, it is lost at the surface. In either case the liquid escaping at the surface as the joints are uncoupled causes inconvenience and is otherwise objectionable, because of the nuisance created.

This invention provides a relief of novel formation which is closed under normal conditions and opened as a result of the initial pull upon the tubing to withdraw it from the well.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a vertical central section of the lower portion of the tubing of an oil-well embodying the invention, the telescopic relief being extended and the outlet uncovered to admit of the oil or liquid contents escape.

Fig. 2 is a view of the parts shown in Fig. 1, the telescopic relief being closed.

Corresponding and like parts are referred to in the following description and indicated in both views of the drawings by the same reference characters.

In order to distinguish the component parts of the tubing, the same are designated as follows: The lowermost section 1 is perforated and corresponds to the suction-pipe. The working barrel 2 is connected to the suction-

pipe by the casing of the foot or check valve

3. Immediately above the working barrel is the telescopic relief, comprising a vertical tube

4 and a pendent tube 5, and above the telescopic relief is the discharge-pipe 6, the lower

section being of such diameter as to receive the upper end of the vertical tube 4 when the

telescopic relief is closed, as indicated in Fig. 2.

The lower portion of the tube 4 is provided with one or more outlets 7, through

which the oil or liquid contents of the tubing escapes. The pendent tube 5 may fit the vertical

tube 4 sufficiently close to insure closing of the outlets 7 when the tube 5 is moved

downward. However, to insure the formation of a tight joint a seat 8 is provided near

the base of the vertical tube 4, and the lower end of the tube 5 rests thereon and forms, in

effect, a valve. A reducer-fitting 9 connects the vertical tube 4 and working barrel 2, and

its upper portion 10 constitutes a cup to receive the lower end of the tube 5 and a pack-

ing-gasket, of rubber, leather, or the like, forming the seat 8. The tubes comprising the tele-

scopic relief have a limited play and interlock when the discharge-pipe is drawn upward to

the limit of said play, so that a continued upward movement of the discharge-pipe effects

a corresponding movement of the tube 4, working barrel 2, and suction-pipe 1. An

outer shoulder 11 is provided at the upper end of the tube 4 and is adapted to engage

over the upper end of the tube 5, which is coupled to the lower end of the discharge-pipe

by a reducer-fitting 12. The shoulder 11 is formed by means of a collar or ring threaded

upon the upper portion of the tube 4 and secured thereon against casual displacement.

Fig. 2 shows the normal position of the parts when the well is in operation, the tube

5 being at the limit of its downward movement and closing the outlets 7 and resting

upon the seat 8. Should it become necessary to withdraw the tubing from the well

either to remove obstructing matter, to recover a portion of the rod or the valve, or for

any other purpose, the first movement of the discharge-pipe causes the tube 5 to move

upward, thereby uncovering the outlets 7 and permitting the oil or other liquid in the tub-

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ing to escape. When the discharge-pipe has moved upward a short distance, the tubes of the telescopic relief interlock by the upper end of the tube 5 coming in contact with the shoulder 11, thereby causing all of the tubing to be withdrawn. It is to be noted that the weight of the tubing above the telescopic relief is utilized to hold the lower end of the tube 5 upon the seat 8, and the initial lift upon the tubing when pulling the same uncovers the relief and permits the oil or liquid to discharge. In order to prevent sand or other matter obstructing the working parts of the telescopic relief, a housing 13 is provided and consists of a tube of sufficient length to inclose said relief when extended, as shown most clearly in Fig. 1. The housing 13 is threaded at its upper end to the fitting 12 and encircles the fitting 9, ample space being provided between said housing and the fitting 9 to admit of escape of the oil or liquid when the relief is open.

Having thus described the invention, what is claimed as new is—

1. In an oil-well, the combination of the tubing comprising a discharge-pipe and working barrel, a telescopic relief comprising a tube extended from the working barrel and having an outlet, a tube projected from the discharge-pipe and adapted to cover said outlet, and an interlocking connection between the two tubes to cause all the parts to move together after the tubes comprising the telescopic relief have reached the limit of their play in the upward pull upon the tubing when withdrawing the same from the well.

2. In an oil-well, the combination of the tubing comprising a discharge-pipe and work-

ing barrel, a telescopic relief consisting of a tube extended from the working barrel and having an outlet near its lower end and a second tube projected from the discharge-pipe and adapted to cover said outlet, interlocking means between the two tubes, and a seat below the aforesaid outlet to receive the lower end of the tube connected with the discharge-pipe to insure the formation of a tight joint.

3. In an oil-well, the combination of a working barrel, a tube having a lateral outlet near its lower end, a reducer-fitting connecting said tube and working barrel and having its upper portion forming a cup, a packing-gasket fitted in the lower portion of said cup, a discharge-pipe, a tube connected with the discharge-pipe and telescoping with the tube having the outlet and adapted to close upon the seat provided in said cup, and interlocking means between the two tubes.

4. In an oil-well, the combination of a working barrel, a discharge-pipe, a telescopic relief consisting of a tube extended from the working barrel and having a lateral outlet near its lower end, a tube projected from the discharge-pipe, interlocking means between the two tubes, and a housing connected with the discharge-pipe and adapted to inclose the telescopic relief both when extended and closed.

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

MICHAEL HUBER. [L. s.]

Witnesses:

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