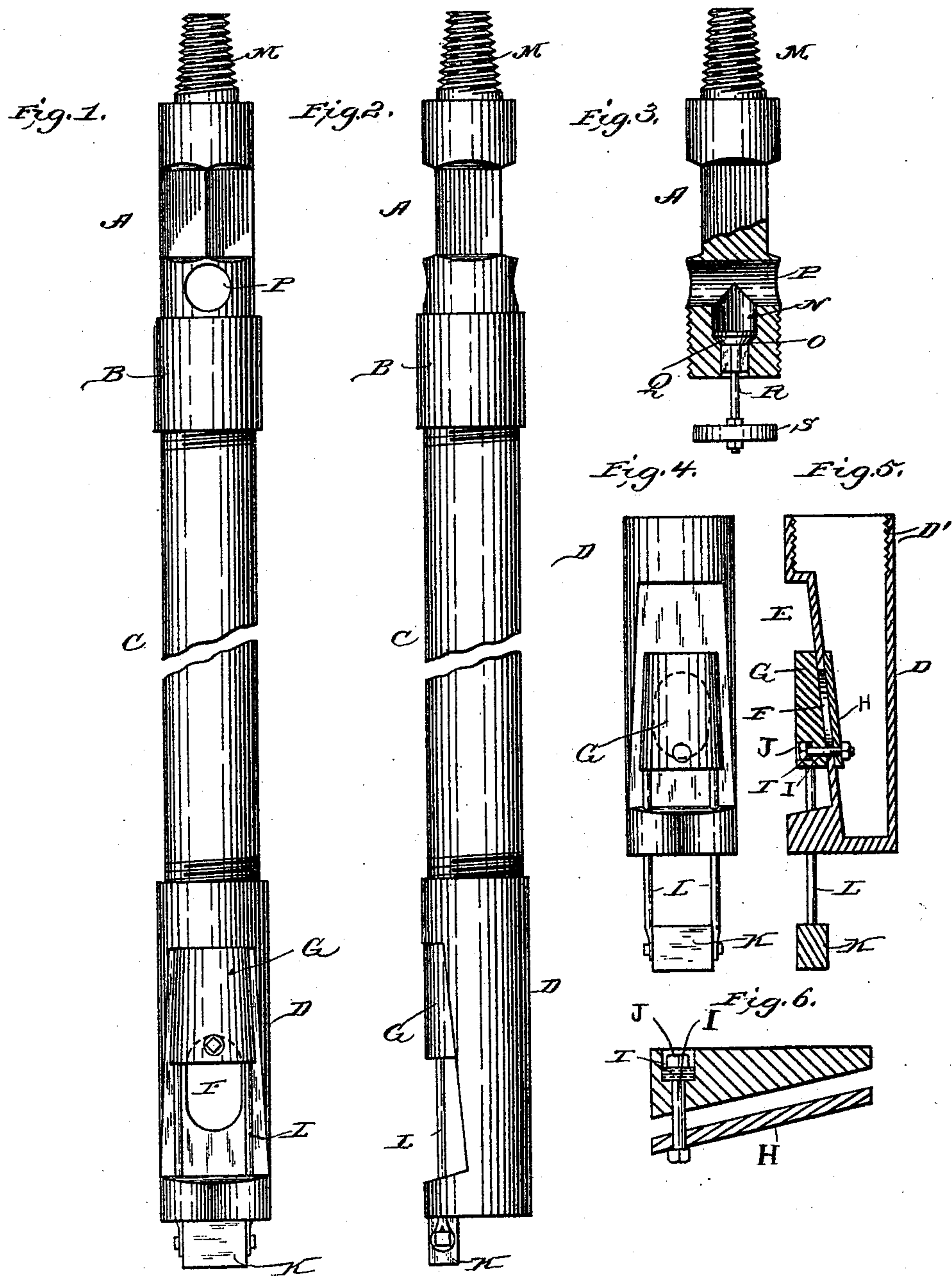


(No Model.)

W. PLOTTS.
BAILER FOR OIL OR ARTESIAN WELLS.

No. 496,323.

Patented Apr. 25, 1893.



witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM PLOTTS, OF MOUNT JEWETT, PENNSYLVANIA.

BAILER FOR OIL OR ARTESIAN WELLS.

SPECIFICATION forming part of Letters Patent No. 496,323, dated April 25, 1893.

Application filed December 10, 1892. Serial No. 454,781. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PLOTTS, a citizen of the United States, residing at Mount Jewett, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in a Bailer for Oil or Artesian Wells, of which the following is a specification.

My invention relates to improvements in 10 bailers for oil or Artesian wells which are designed to overcome the objections and disadvantages incident to the form of bailer commonly used. The bailers commonly used are constructed with an open top and a valve se- 15 cured in the bottom aperture in the shell, and on lowering these bailers they fill up as soon as they enter the fluid, which is invariably some hundred feet from the bottom of the well. Thus when the bailer reaches the bottom of 20 the well where the sediment is, and which the bailer is designed to remove, it is already filled with the fluid, and there is no power or mechanism there to expel the fluid from the bailer and fill it with sediment, so that each 25 time a bailer is run down a well, it raises a very small percentage of sediment in proportion to its capacity.

The object of my invention is to provide a bailer that in lowering it into the well will 30 not allow the fluid to enter until it reaches the bottom, at which point only, the bottom valve will be opened, and by the pressure of the column of fluid in the well to have the sediment forced into the bailer, also when the 35 bailer is being raised from the well to have all the apertures closed immediately to prevent the escape of the contents until the bailer reaches the top of the well.

I attain the above-mentioned objects by the 40 mechanism shown in the accompanying drawings in which—

Figure 1 is a side elevation of the bailer, while Fig. 2 is a similar view taken at right angles to that shown in Fig. 1. Fig. 3 is a 45 view of the pin-substitute partly in section. Fig. 4 is a side elevation of the bailer bottom. Fig. 5 is an axial section of the bailer bottom shown in Fig. 4, and Fig. 6 is an enlarged sectional view of the bailer bottom valve.

50 Referring to the drawings:—A represents the pin-substitute which is connected to the

pipe C, forming the shell of the bailer, by means of the collar B.

D represents the bottom of the bailer, which is formed with the internal screw-thread D' 55 at its upper end for connecting it to the shell C, and the indented flat portion E provided with the orifice F through which the sediment passes into the shell. This indented portion E forms the seat for the sliding valve 60 G which is adapted to open and close the orifice F. The valve G consisting of the downwardly extending arms L and weight K is held closely to its seat by means of the inner plate H, counter-sunk bolt I and nut J, and 65 to make a yielding connection at this point and to allow of a free vertically-reciprocating movement a spring or washer T is interposed between the bolt-head and the valve. The vertically reciprocating movement of the 70 valve on its seat is limited by the bolt I.

The pin-substitute A is provided at its upper end with a screw-thread M which is adapted to connect the bailer with the drilling tools, and at its lower end with the transverse recess 75 N, which terminates at its upper end in the diametrical opening P. This transverse recess and diametrical opening furnish a means of escape for the air in the shell C when the bailer is at the bottom of the well. The con- 80 tracted portion O, of the recess N forms a seat for the valve Q which works in said recess and prevents the water from entering the shell through the diametrical opening when the bailer is being lowered into the well. 85 The valve Q has attached to it by means of a shank R, a float S the object of which will be hereinafter explained. It will be perceived that in lowering the bailer thus constructed, the valves cannot be raised on entering into 90 or passing down through the fluid in the well, and that the air that is in the shell at the time it is lowered remains there until the bailer reaches the bottom of the well when the valve G is raised by the bailer sliding 95 down the rods L of the arrested weight K, thus opening the orifice F. The weight of the column of fluid in the well forces the sediment into the shell, compressing the air therein, which causes it to raise the valve to let 100 the air escape. The sediment on reaching the float S in the shell forces it against the

bottom of the pin-substitute which makes a tight joint at that point. When the bailer is raised the weight draws the valve down and closes the orifice. Thus all the apertures being closed nothing can escape from the bailer until it reaches the top of the well, at which place it is emptied by the driller.

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

1. In a bailer for oil and Artesian wells, the combination with the shell, provided at its lower end with an orifice and a weighted valve and at its upper end with the pin-substitute, a transverse recess in said pin-substitute, terminating at its upper end in a diametrical opening, and a valve provided with a float, working in said recess substantially as and for the purpose set forth.

2. In a bailer for oil and Artesian wells, the combination of the shell, provided at its lower

end with an indented flat portion having an orifice, and at its upper end with a pin-substitute, and a weighted valve working on the exterior of said indented portion for opening and closing the orifice substantially as set forth.

3. In a bailer for oil and Artesian wells, the combination of the shell provided at its lower end with an indented portion having an orifice, and at its upper end with a pin-substitute, a weighted valve for closing or opening said orifice, a transverse recess in the pin-substitute which terminates in the diametrical opening, and a valve provided with a float working in said recess substantially as and for the purpose set forth.

WILLIAM PLOTTS.

Witnesses:

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