

(No Model.)

J. B. BRADEN.
BAILER FOR OIL OR LIKE WELLS.

No. 546,267.

Patented Sept. 10, 1895.

Fig. 2

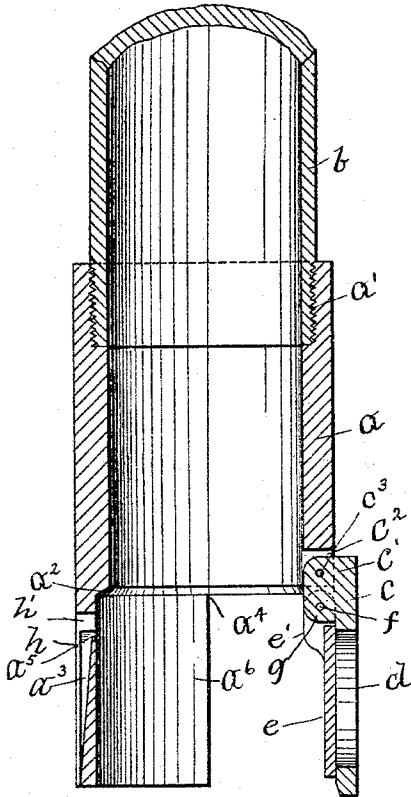


Fig. 1

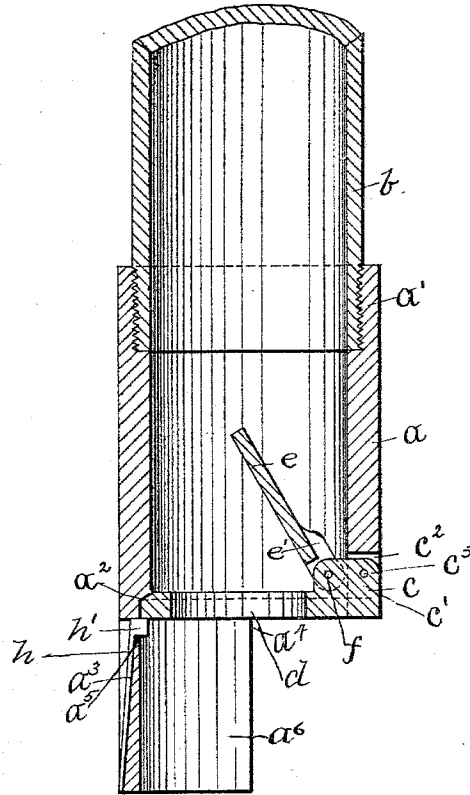
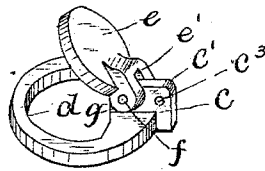


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN B. BRADEN, OF McDONALD, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO DAVID LAMB, OF SAME PLACE.

BAILER FOR OIL OR LIKE WELLS.

SPECIFICATION forming part of Letters Patent No. 546,267, dated September 10, 1895.

Application filed September 1, 1894. Serial No. 521,973. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. BRADEN, a resident of McDonald, in the county of Washington and State of Pennsylvania, have invented a new and useful Improvement in Bailers for Oil or Like Wells; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to bailers to be used in connection with the drilling of wells, prospecting for minerals, hydrographic operations, or other purposes for which such a device may be found applicable.

My invention relates more particularly to that class of bailers in which an inwardly-opening valve is arranged at the bottom thereof, so that when the bailer is lowered into the well said valve will open upwardly and allow the detritus to enter the tube, when upon the withdrawal of the bailer said valve will drop back into place and prevent the escape of said detritus. The difficulty with the employment of this form of bailer lies in the fact that it is necessary upon the withdrawal of the bailer from the well to invert the bailer and the tube connected thereto in order to allow for the escape of the detritus. Owing to the necessity of inverting the bailer and the said tube, it has necessarily been constructed of a short length for convenience in handling, as it would be practically impossible to invert a tube of any great length.

The object of my invention, therefore, is to overcome this difficulty and to provide means for allowing for the escape of the detritus from the lower end of the tube without inverting the same.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a vertical section of my improved bailer, showing the movable valve-seat locked in position. Fig. 2 is a like view showing the valve-seat unlocked. Fig. 3 is an enlarged perspective view of the valve and valve-seat.

Like letters indicate like parts in each.

The bailer *a*, which may be of any desired size, has the screw-threads *a'* at the upper end thereof, by which it may be attached to the

tube *b*, said tube being of any desired length. Hinged at the lower end of the bailer *a* is the valve-seat *c*, said valve-seat having the lug *c'* thereon, which fits within a seat *c²* in the bailer, while a pin *c³* passes through said lug *c'*, thus permitting of the swinging of the said valve-seat *c*. The bailer *a* is cut away, as at *a⁴*, to permit of the dropping of the valve-seat *c* to its full extent. This leaves the leg *a⁶*, upon which the bailer rests when it is lowered into the well, or when it has been raised and it is desired to discharge the contents, as will more fully hereinafter appear. The interior of the bailer *a* is provided with the shoulder *a²*, with which the valve-seat *c* engages when said valve-seat is locked in position. In this way when said valve-seat *c* is locked in place it is entirely within the circumference of the tubular body portion of the bailer, so that when the bailer is lowered into the well no part of the valve-seat projects beyond the circumference of the tubular body portion. The valve-seat *c* is furthermore provided with the opening *d*, which is normally closed by the clack-valve *e*, said clack-valve having the lugs *e'* thereon, through which the pin *f* passes through a lug *g* on said valve-seat, whereby said clack-valve is adapted to open upwardly within the bailer when said bailer is in position, as will hereinafter more fully appear. In order to hold said valve-seat up in engagement with shoulder *a²* of the bailer, I employ the spring *h*, said spring *h* being secured within a groove *a³*, formed in the exterior of the bailer, the front end of said spring having an inwardly-projecting clip *h'* passing through an opening *a⁵* in said bailer and adapted to engage with the valve-seat *c* and holding the same normally up against the shoulder *a²* within the said bailer *a*.

When my improved bailer is in use, it is lowered into the well in the ordinary manner until leg *a⁶* rests upon the bottom, whereupon the clack-valve *e* will be forced upwardly, a vacuum having been created above the said valve by suitable pumping apparatus to allow the contents of the well to fill the bailer and tube. As soon as the tube has become filled the bailer is withdrawn from the well in the ordinary manner, the clack-valve *e* of course falling back to its original position

upon the valve-seat *c*, and closing the opening *d* to prevent the escape of the contents. When the bailer has been withdrawn from the well, it is desired to empty the contents thereof.

5 The clip *h'* on the spring *h* is freed from engagement with the valve-seat *c* by forcing it out through an opening *a⁵*. This can be done while the leg *a⁶* is standing on the drilling-floor. This disengagement of the valve-seat
10 *c* from the clip *h'* permits of the lowering of the valve-seat *c* to the position shown in Fig. 2, when the contents of the bailer *a* and tube *b* are free to escape from the lower end of the bailer. It is thus readily apparent that the
15 tube *b* may be of any desired length, and yet all of its contents can readily be discharged therefrom. This construction obviates the necessity of inverting the tube in order to discharge the contents thereof, which has
20 been the only means heretofore of discharging the contents where a clack-valve was employed.

By having the valve-seat and its locking devices entirely within the circumference of
25 the tubular body portion of the bailer there is no liability of any portion of said valve-seat coming into contact with any obstruction on the walls of the well in the lowering of the bailer.

What I claim as my invention, and desire 30 to secure by Letters Patent, is—

1. A bailer for oil or like wells having a tubular body portion, a valve seat hinged to the base of said tubular body portion, a clack valve hinged to said valve seat and seating
35 itself thereon, and a supporting leg extending below the valve seat and in such position as to permit the valve seat to swing down when released, substantially as and for the purposes set forth.

2. A bailer for oil or like wells having a tubular body portion, a portion of said tubular body at the lower end thereof being cut away, a valve-seat hinged to the base of the solid portion of said tubular body on the side
45 thereof cut away, a fastening device for holding said valve seat in place, said valve seat being entirely within the circumference of the tubular body, and a clack-valve hinged to the valve-seat and seating itself thereon, substantially as set forth.

In testimony whereof I, the said JOHN B. BRADEN, have hereunto set my hand.

JOHN B. BRADEN.

Witnesses:

ROBT. D. TOTTEN,
ROBERT C. TOTTEN.