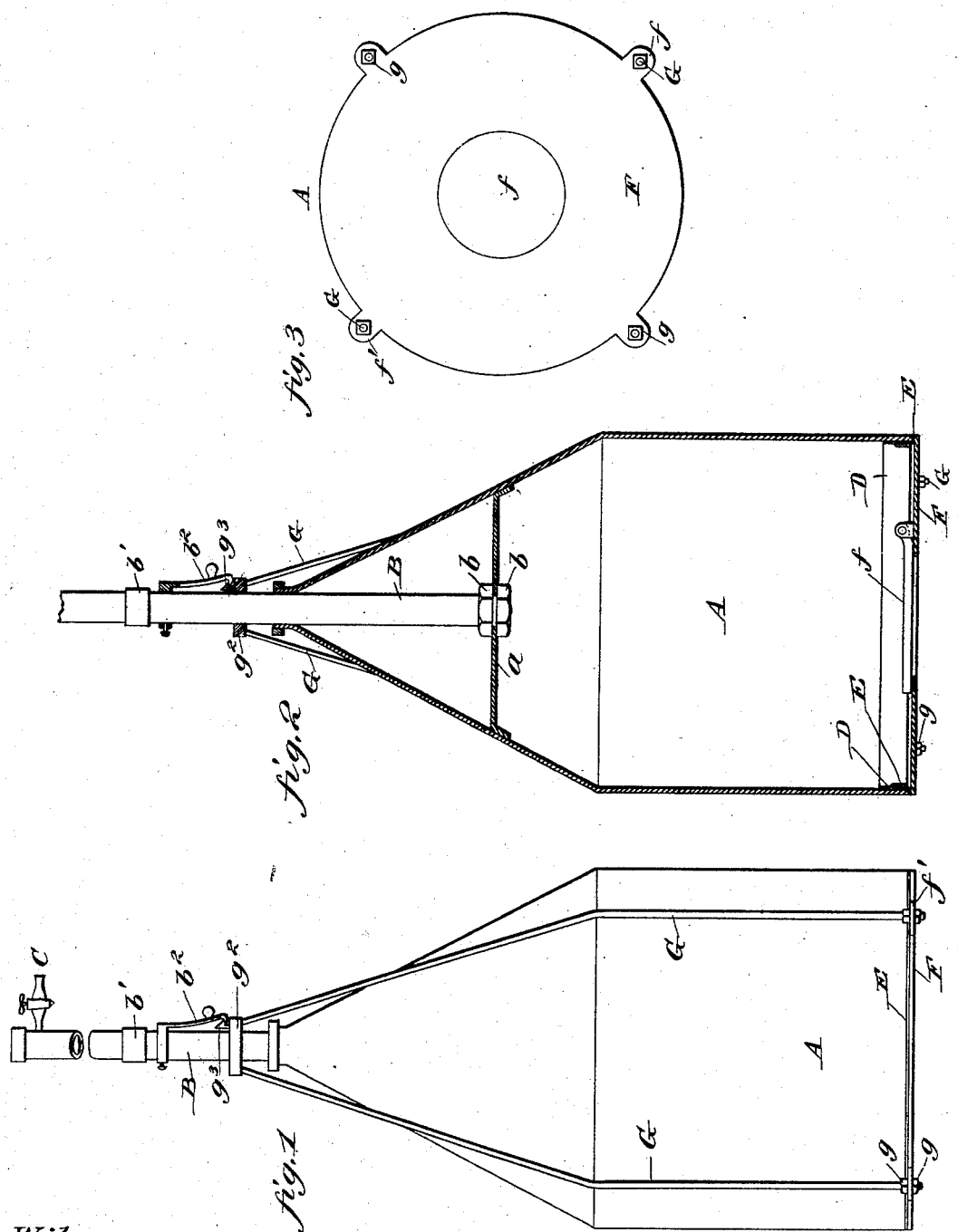


(No Model.)

G. W. LEE.
WELL CLEANING DEVICE.

No. 522,843.

Patented July 10, 1894.



Witnesses;

J. F. Coleman
A. B. Morgan

By Geo. W. Lee
S. B. Fitzgerald
Inventor
Atty.

UNITED STATES PATENT OFFICE.

GEORGE W. LEE, OF FARMINGTON, MICHIGAN.

WELL-CLEANING DEVICE.

SPECIFICATION forming part of Letters Patent No. 522,843, dated July 10, 1894.

Application filed January 20, 1894. Serial No. 497,517. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. LEE, a citizen of the United States, residing at Farmington, in the county of Oakland and State of Michigan, have invented certain new and useful Improvements in Well-Cleaning Devices; 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.

My invention relates to improvements in well-cleaning devices.

The invention will first be described in connection with the accompanying drawings, and then particularly pointed out in the claims.

In the drawings—Figure 1 is a side elevation of a cleaning device embodying my invention, in its closed position. Fig. 2 is a vertical section, partly in elevation, of the same. Fig. 3 is a bottom plan view.

Referring to the drawings, A is a bucket, or receptacle open at the bottom, preferably made of galvanized iron or tin and conical in form at its upper end, as shown. Through the top of the can projects an air pipe B, which extends a short distance inside the can, its lower end being screw-threaded and passing through a hole in the cross-brace *a*, a pair of jam-nuts *b* one above and one below the cross-brace serving to hold the bucket A firmly to the air-pipe.

The air-pipe B may be made in sections united by unions or thimbles *b'* in order that the length of the pipe may be altered to suit various depths of wells. The top of the pipe is provided with an air cock C for a purpose hereinafter described.

On the inside of the bucket A near its lower end is attached an inner ring D which holds a rubber or other suitable packing ring E projecting slightly beyond the lower edge of the receptacle.

F is a bottom-plate having a central upward or inward-opening valve *f*, and adapted to fit up against the lower edge of the bucket or receptacle A, bearing against the edge of the packing ring E. To hold the bottom-plate F in this position, it is provided with a series of outward or laterally extending lugs *f'* which have holes at the outward ends, through which holes are passed supporting

rods G which extend upward and meet above the apex of the conical top of the receptacle A, being provided at their lower ends with nuts *g*, by which means they are attached to the lugs *f'*. The upper ends of the supporting rods G are united to a collar *g*² which is arranged to move freely upon the air-pipe B, this collar being provided with a catch or tooth *g*³ which is arranged to be engaged by a leaf-spring *b'* which is fixed to the air pipe, whereby the supporting-rods are held in their normal or raised position, thus holding the bottom-plate F firmly against the rubber or other suitable packing ring E and making an air-tight joint between the receptacle and the bottom plate. By screwing or unscrewing the nuts, *g*, the bottom plate may be adjusted up or down on the rods G in order that when in its proper closed position the spring *b'* may engage the catch *g*³ on the collar *g*².

The operation of my device may be stated as follows: The air-cock C at the top of the air-pipe is closed and, by means of the air-pipe, which serves as a handle, the receptacle is lowered into the well or cistern to be cleaned until it rests on the bottom on top of the mud, dirt, &c. As the air inside cannot escape through the air-pipe the water in the well or cistern cannot enter the receptacle until the pressure of the water exceeds the air pressure and then can only partly fill the said receptacle. When the receptacle rests upon the mud or dirt in the cistern well, the air-cock C is opened, which permits the air to escape from the interior of the receptacle, whereupon the mud or dirt is driven into the receptacle through the valve, by the pressure of the water. By raising the receptacle to the surface it may be emptied by releasing the spring *b'* from the catch *g*³, thus permitting the supporting rods to drop and release the bottom plate from the receptacle, the mud, &c., flowing out around the edge of the plate.

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

1. In a well-cleaning device, the combination, with a receptacle having an open lower end and a conical upper end, an air-pipe passing through the top of the receptacle and opening inside the same, an air-cock secured

to the top of the air-pipe, a bottom plate provided with a valve and with lateral lugs, and a series of supporting rods passing through the lugs, a series of nuts on the ends of the supporting rods, a collar movable on the air pipe and connected to the supporting rods, a spring arranged to hold the collar, and a packing ring between the bottom plate and the lower end of the receptacle, substantially as described.

2. In a well cleaning device, the combination with a receptacle having an open lower end, and an air pipe supported within and extending through the upper end of the receptacle and having an air cock arranged

therein, of a valved bottom plate, a collar fitted loosely on the air pipe above the receptacle and provided with a tooth or catch, rods connecting said collar and the bottom plate, and a leaf spring attached to the air pipe, above the collar thereon, and adapted to engage the tooth or catch on said collar, substantially as and for the purpose described.

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

GEORGE W. LEE.

Witnesses:

WM. O. FISHER,
MARTHA E. HATTEN.