No. 656,173. Patented Aug. 21, 1900.

# H. N. CRAWFORD.

## SAFETY BAIL FOR WELL BUCKETS.

(Application filed Oct. 5, 1899.)

(No Model.)

Fig. 1.

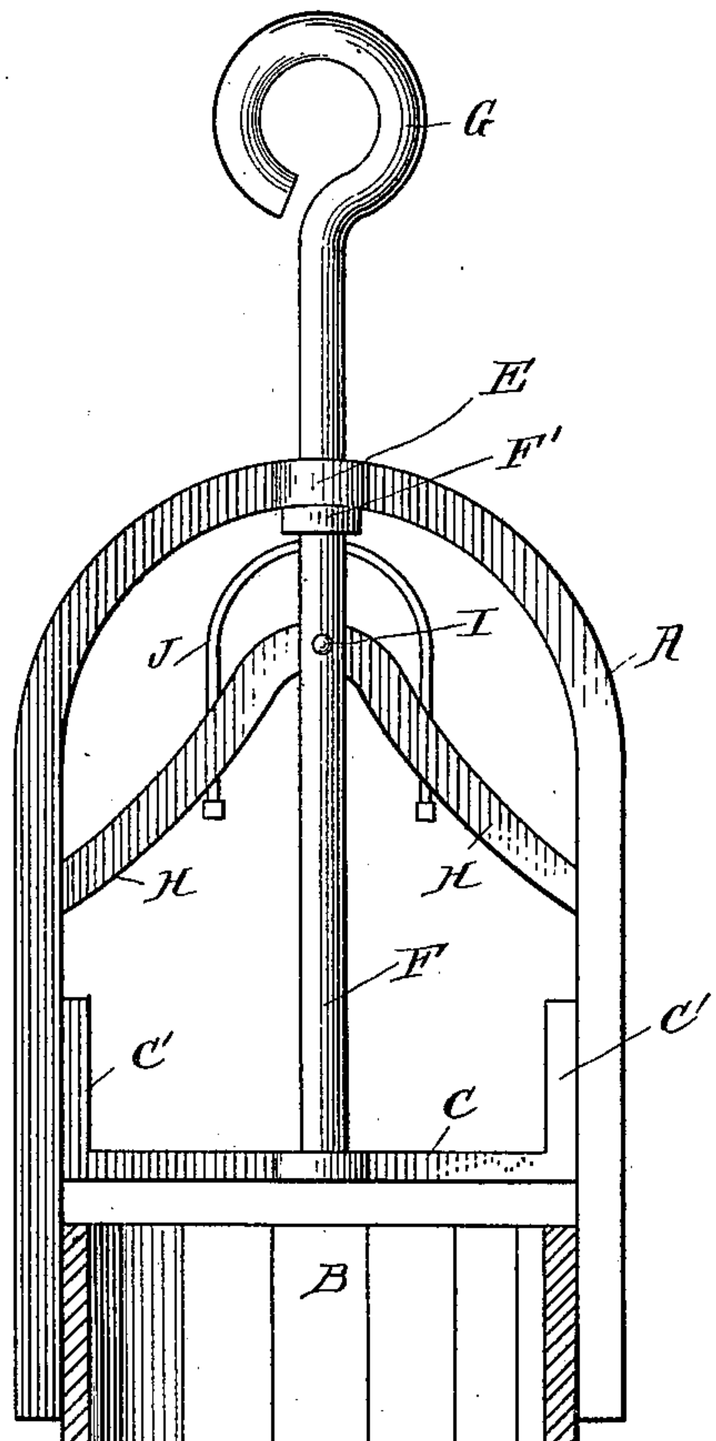
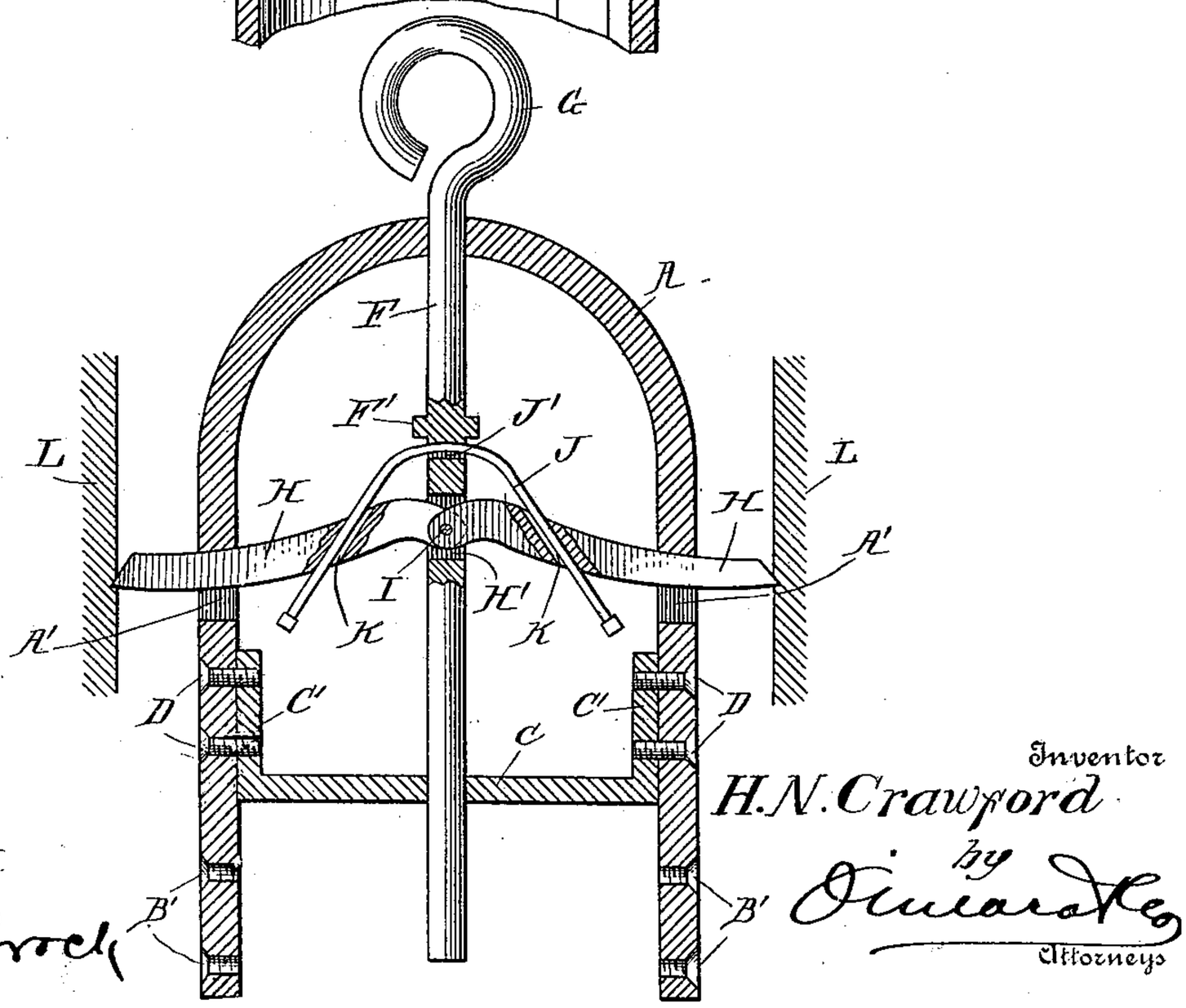



Fig. 2.




Witnesses
T. P. Britt
Chas. E. Brock

Inventor
H. N. Crawford
by Dewey & Co
Attorneys

# UNITED STATES PATENT OFFICE.

HENRY N. CRAWFORD, OF TOPISAW, MISSISSIPPI, ASSIGNOR OF ONE-HALF TO NEEDHAM E. BALL, OF MAGNOLIA, MISSISSIPPI.

## SAFETY-BAIL FOR WELL-BUCKETS.

SPECIFICATION forming part of Letters Patent No. 656,173, dated August 21, 1900.

Application filed October 5, 1899. Serial No. 732,684. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY N. CRAWFORD, a citizen of the United States, residing at Topisaw, in the county of Pike and State of Mississippi, have invented a new and useful Safety-Bail for Well-Buckets, of which the following is a specification.

My invention relates to well-buckets, and more particularly to buckets for use in bored wells, the object of the invention being to provide a bail for attachment to such buckets, by means of which the bucket will be prevented from dropping to the bottom of the well when the rope breaks or other accident occurs permitting the well-bucket to start to fall into the well.

My invention consists in certain details of construction and combination of parts, which will be hereinafter fully described, recited in the claims, and illustrated in the drawings forming a part hereof, and in which—

Figure 1 is a view of a bail constructed in accordance with my invention attached to a bucket, the bail and attachments being shown in elevation and the bucket in section with the lower part of the bucket broken away. Fig. 2 is a view partly in section and partly in elevation, the bucket being removed and the parts of the bail being in the position in which the device serves its purpose as a stop or guard.

Like parts are indicated by the same letters of reference in both figures.

Referring to the drawings by letters, A indicates the main frame of the bail or the bail proper, which is of inverted-U shape, the lower ends of its parallel legs being secured to a bucket B by screws passing through holes B′ or in any other suitable manner, the legs of the bail being diametrically opposite and preferably secured to the outside of the bucket.

C indicates a brace secured to the bail in a horizontal position between its legs and above the bucket by means of screws D passing through holes in the legs and into threaded holes in the upright ends C′ of the brace.

The bail is formed at its center upper end into a boss or hub E, which is provided with a vertical opening in line with a similar central vertical opening in the brace C, and these openings serve to receive a vertical draft-rod F, said rod being provided with a flange F′ to prevent its being pulled through the opening in hub or boss E when supporting the weight of the bail and bucket. The draft-rod is bent into the form of an eye or hook G at the top for facilitating the attachment thereto of the rope for drawing up the bucket.

The bail A is provided in its legs above the bucket with vertical slots A′, through which project and work the outer ends of a pair of pointed toggle bars or pawls H, the inner ends of which are loosely pivoted together and to the draft-rod F in a vertical slot H′ therein by means of a pin I. J indicates a spring-bar, which is loosely seated at its center in a slot J′ in the draft-rod F above the pivot of the toggle-pawls and below the annular flange, the ends of the spring-bar passing downward and outward through inclined slots K in the pawls with a normal tendency to raise the outer ends of the pawls.

The parts are proportionately constructed, so that when the weight of the bucket is supported by the bail the draft-rod will be drawn to its uppermost position and the bail carrying the bucket is supported on the annular flange of the draft-rod, and the points of the pawls are drawn far enough inward to be entirely within the slots A′ of the bail, thereby avoiding any liability of the pawls rubbing against the well curb or lining (shown at L in Fig. 2) during the ordinary raising and lowering of the bucket. When the rope breaks or any accident occurs which deprives the bucket of its support, it will at once start to fall rapidly into the well. The pawls will now spread outward on their pivotal pin until their pointed ends engage the well curb, wall, or lining, as shown in Fig. 2, and catch and hold the bucket, the spring-bar J assisting and insuring this operation of the parts.

From the foregoing it will be seen that I have produced a simple, strong, cheap, and reliable bail, which will at once stop the falling bucket and hold it securely until raised out of the well.

Having thus fully described my invention, what I claim as new, and desire to obtain by Letters Patent of the United States, is—

1. The combination with the inverted-U-shaped frame provided with vertical slots in its parallel legs, of a vertical draft-rod slidably mounted in said bail and provided with a vertical slot in the same plane with the vertical slots of the legs, a pair of pawls having their outer ends in the vertical slots of the bail and their inner ends in the slot of the draft-bar, a pin pivotally connecting the inner ends of the pawls together, and a spring passing through a slot in the draft-rod above the pawls and engaging in inclined slots in the pawls, substantially as described.

2. The herein-described safety-bail for well-buckets comprising an inverted-U-shaped frame provided with vertical slots in its upper end, a cross-brace having vertical ends secured to the legs of the frame and provided with a central vertical opening in line with the opening in the top of the bail, a vertical draft-rod slidably mounted in the vertical openings of the frame and brace and provided with a stop-flange between them, a pair of toggle-pawls pivoted together at their inner ends and to the draft-rod, and having their outer ends in vertical slots in the legs of the bail, said pawls having slots intermediate their ends and a spring-bar in an opening in the draft-bar having its outer ends projected into and slidably movable in the slots in the pawls, all combined and operating substantially in the manner and for the purpose set forth.

HENRY N. CRAWFORD.

Witnesses:
JNO. A. LAMKIN,
A. P. SPARKMAN.