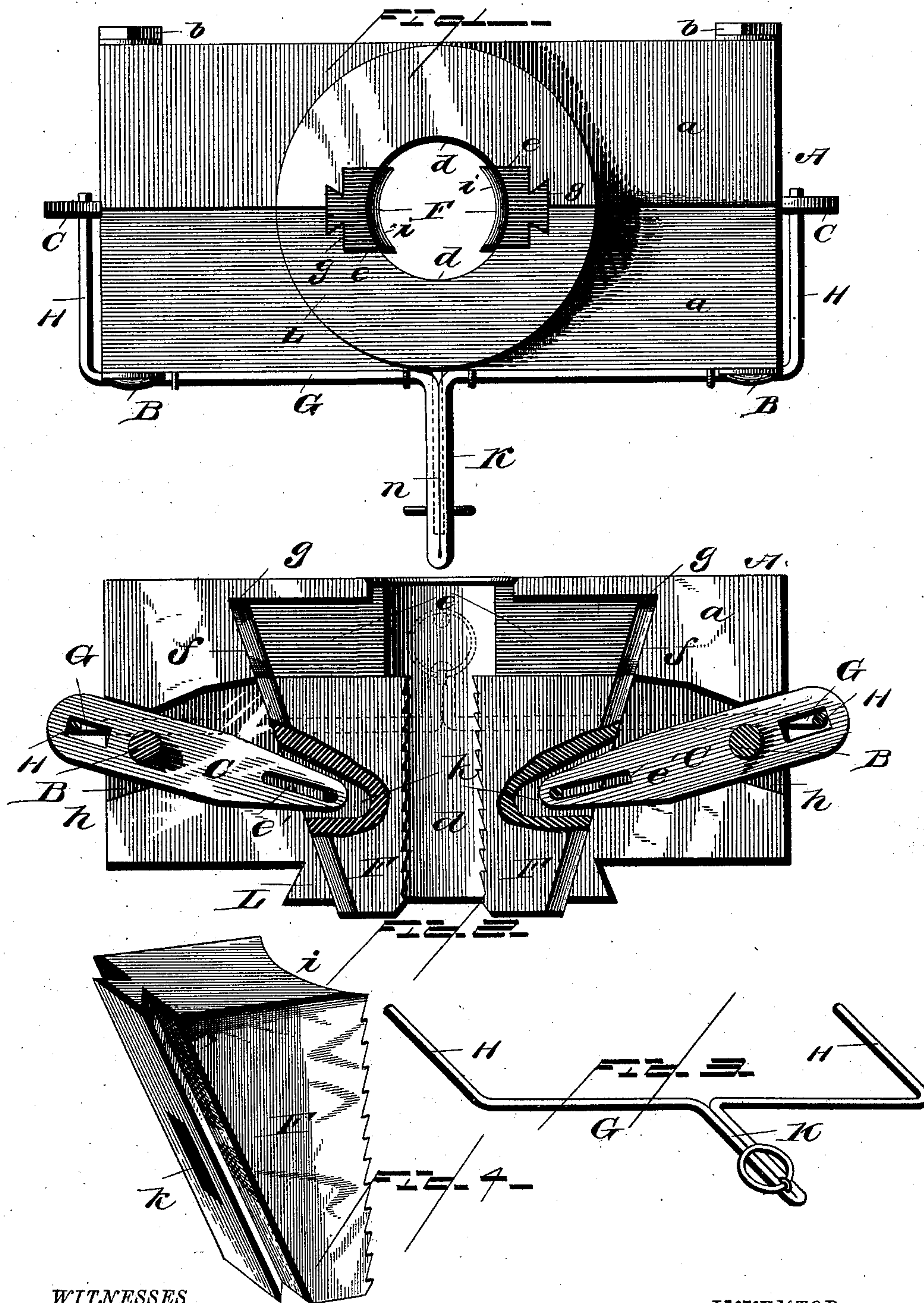


(No Model.)

F. MIXER.
TUBING CATCHER.

No. 370,744.

Patented Sept. 27, 1887.



WITNESSES

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FRANK MIXER, OF BRADFORD, PENNSYLVANIA.

TUBING-CATCHER.

SPECIFICATION forming part of Letters Patent No. 370,744, dated September 27, 1887.

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To all whom it may concern:

Be it known that I, FRANK MIXER, a citizen of the United States, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Tubing - Catchers; and I do 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.

This invention has relation to tube-catchers for wells; and the improvements consist in the construction, novel arrangement, and adaptation of parts, as will be hereinafter more fully set forth and claimed.

In tubing - wells the pump and working valves are placed at the bottom of the well and worked by sucker-rods. In order to attain access to the valves for repair or the replacement of new ones it is often necessary to pull out the tubing and rods.

In the operation it frequently happens that the tubing parts or something about the machinery or derrick breaks, allowing the tubing to fall to the bottom of the well with great velocity and force, which so wedges it fast, or doubles and breaks it, that a long and costly fishing job is the result.

The object of my invention is to overcome these objectionable necessities and to provide cheap and simple means for attachment to or on the casing, or casing-head, which will not interfere with the putting in or removing of the tubing, and which will quickly grasp the same should any accident occur which would cause injury to the tube by falling down into the well. These several objects I accomplish by means illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my improved device. Fig. 2 is an interior view taken centrally and longitudinally, showing the wedging jaws or clamps in section. Fig. 3 is a perspective view of the manipulating-lever, and Fig. 4 is a perspective view of the jaws removed.

Referring by letter to the said drawings, A indicates a block, which is preferably of metal, such as cast-iron. This block is composed of two longitudinal sections, *a a*, which are held together by means of transverse bolts

B and nuts *b*. These bolts are passed through the sections *a* near their outer ends, and also pass loosely through arms C and form fulcrums therefor, as more fully shown in Figs. 2 and 3.

The sections *a a* of the block A are provided on their adjacent faces about midway of their length with a vertical semicircular groove, *d*, which, when the sections are brought together, forms an annular aperture for the passage of the well-tubing. These sections *a* on their inner or meeting sides are recessed, as at *e*, the said recesses extending from the vertical grooves outwardly, or in opposite directions, where they terminate in vertically - inclined walls *f*, the inclination being from below upwardly, and formed in these inclined walls are dovetail grooves *g*, which serve as guides for the wedging-clamps, as will be presently explained.

It will be observed that one wall of these grooves is formed in each of the sections, respectively, so that when both sections are properly secured together an inclined dovetail groove will be formed in the block at diametrically-opposite points of the well-tube aperture D, to receive and retain the wedging clamps or jaws in their movements. The adjacent faces of these sections are also recessed, as shown at *h*, in a form substantially as shown in Fig. 2, so as to receive and allow a free vibratory movement of the pivoted and slotted levers C. These levers C have their fulcrum-bearings upon the bolts which connect the sections of the block, as shown, and the inner ends of these levers are pivotally connected with the wedging-clamps F. The clamps F are approximately of wedge form in outline, having their vertical walls semicircularly grooved at *i*, so as to coincide with the grooves *d* of the block in forming an annular aperture for the passage of the well-tube. The clamps are designed to move in the recesses *e* of the sections of the block, and their rear vertically-oblique walls are formed with dovetailed flanges, which are designed to enter the dovetailed groove in the section of the block. It will thus be seen that when these jaws are placed within the grooves of the block they may be moved by means of the slotted levers C so as to clamp the tubing, or be retracted

from the aperture D, so as to free themselves from the said tubing and allow the same to pass.

Through the dovetail flanges of these clamping-jaws, which are preferably made of steel, I form grooves *k*, and in these grooves I secure the inner ends of the levers C by passing a pin through the elongated slots *e'*. It will thus be seen that a loose pivotal connection will be had between the said levers and jaws, and that while the levers may describe a fraction of a circle from their fulcrum-point, yet the jaws will be moved vertically oblique and in and out with relation to the aperture D for the passage of the well-tube. These jaws may be held out of engagement with the tube, when desired, by means of a rock-shaft, G, which is journaled on the outer side of the vertical wall of one of the sections of the block A, as shown, having its ends terminating in rectangular branches H, which pass through oblong slots in the outer projected ends of the pivoted levers C, and this shaft has a handle portion, K, to rock the said shaft and bring into operation the clamping-jaws.

It will be observed in the foregoing description that the clamps, having inclined bearings, will fall by their own gravity so as to engage a pipe in the aperture of the block, but will allow the pipe to move upwardly without obstruction, thereby rendering the device automatic in its actions. It will thus be seen that a tube or pipe may be drawn from a well without requiring the attention of any one to my improved device, the only thing being necessary to observe is that the shaft G is free to rock and that its terminal branches are arranged in the slotted extensions of the levers C. Sometimes it is desirable in sinking a new tube to hold the wedging-clamps out of action, and in this case I have provided a means for locking the clamping-jaws in an elevated position. This means consists simply of a ring pivoted or hinged to the handle portion of the rock-shaft,

so that it may be turned over a stud or wire, as *n*, for locking it, the said stud or wire being secured to one of the sections of the block below the handle of the rock-shaft. The block is provided on its under side with a securing-flange, L, whereby the same may be firmly secured to the casing of a well. This flange flares outwardly and annularly, as shown, so that when properly placed in a casing of a well it will be prevented from pulling out during operation and will serve effectively in holding the block carrying the wedge-clamps.

Having described my invention, what I claim is—

1. The combination, with a block having a tube-aperture and means for securing the same to the cap of a well, of wedge-clamps having inclined bearings and means for raising the said clamps, substantially as specified.

2. The combination, with two clamps having inclined bearings, of pivoted levers loosely connected therewith, and a rock-shaft loosely connected with the opposite ends of said levers, substantially as specified.

3. A block consisting of two separable sections having curved grooves in their adjacent faces at opposite points and recesses opening therein, having inclined bearing-walls, in combination with two clamps bearing in the said recesses, pivoted levers connected with the said clamps, and a shaft connected with the levers for moving the clamps, substantially as specified.

4. The combination, with wedging-clamps and pivoted levers connected therewith, as described, of a rock-shaft, a movable ring, and a stud for receiving the ring, substantially as specified.

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

FRANK MIXER.

Witnesses:

E. E. TAIT,

W. C. LEONARD.