No. 713,485. Patented Nov. 11, 1902.

J. NEUMEIER.

WELL TUBE LIFTER.

(Application filed May 15, 1902.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

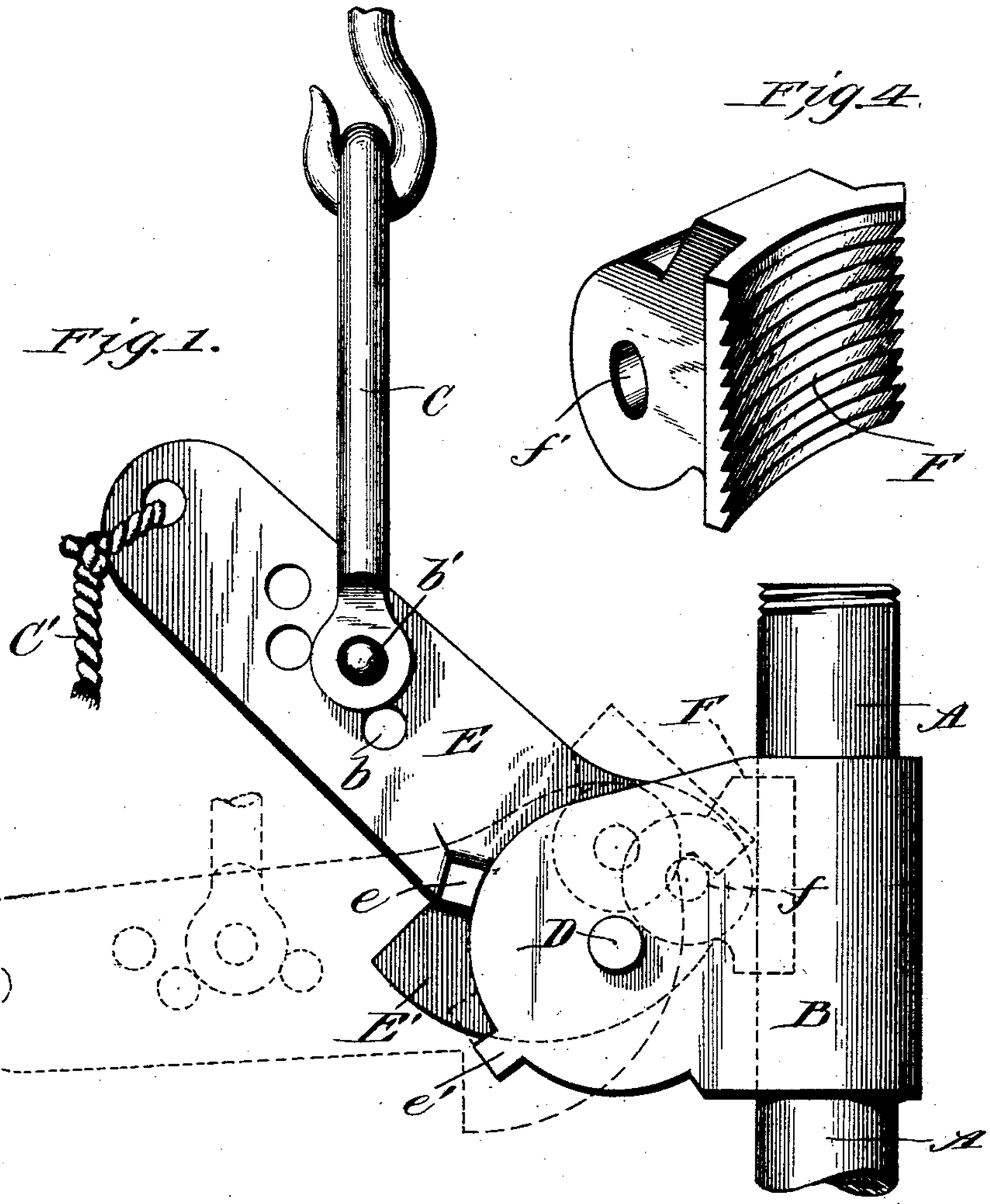

Fig. 4.

Fig. 2.

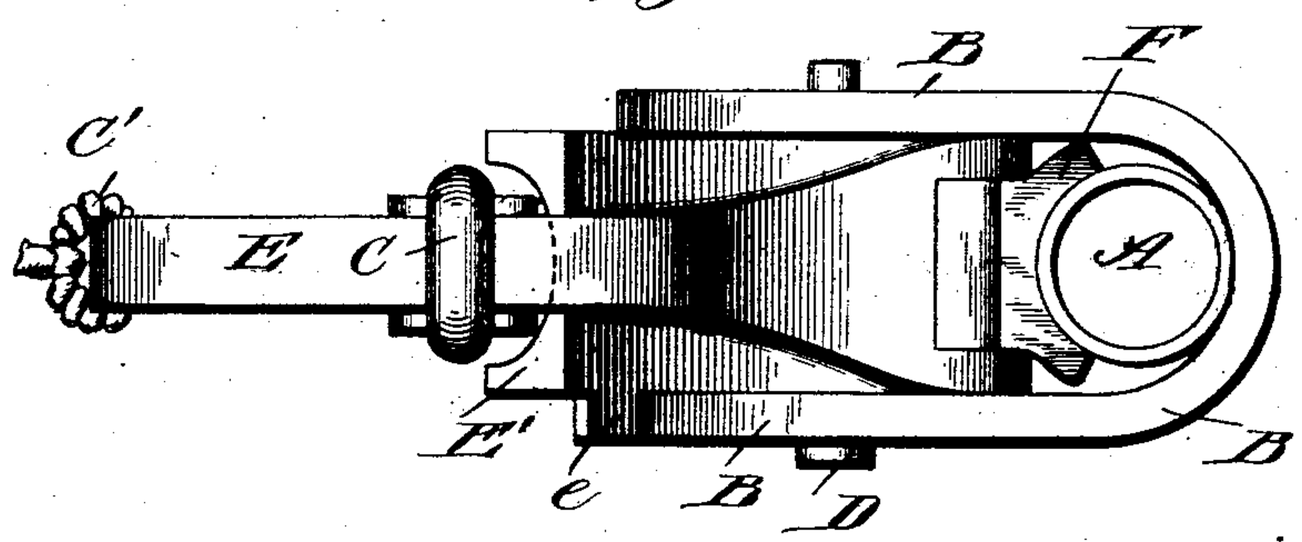

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Fig. 5.

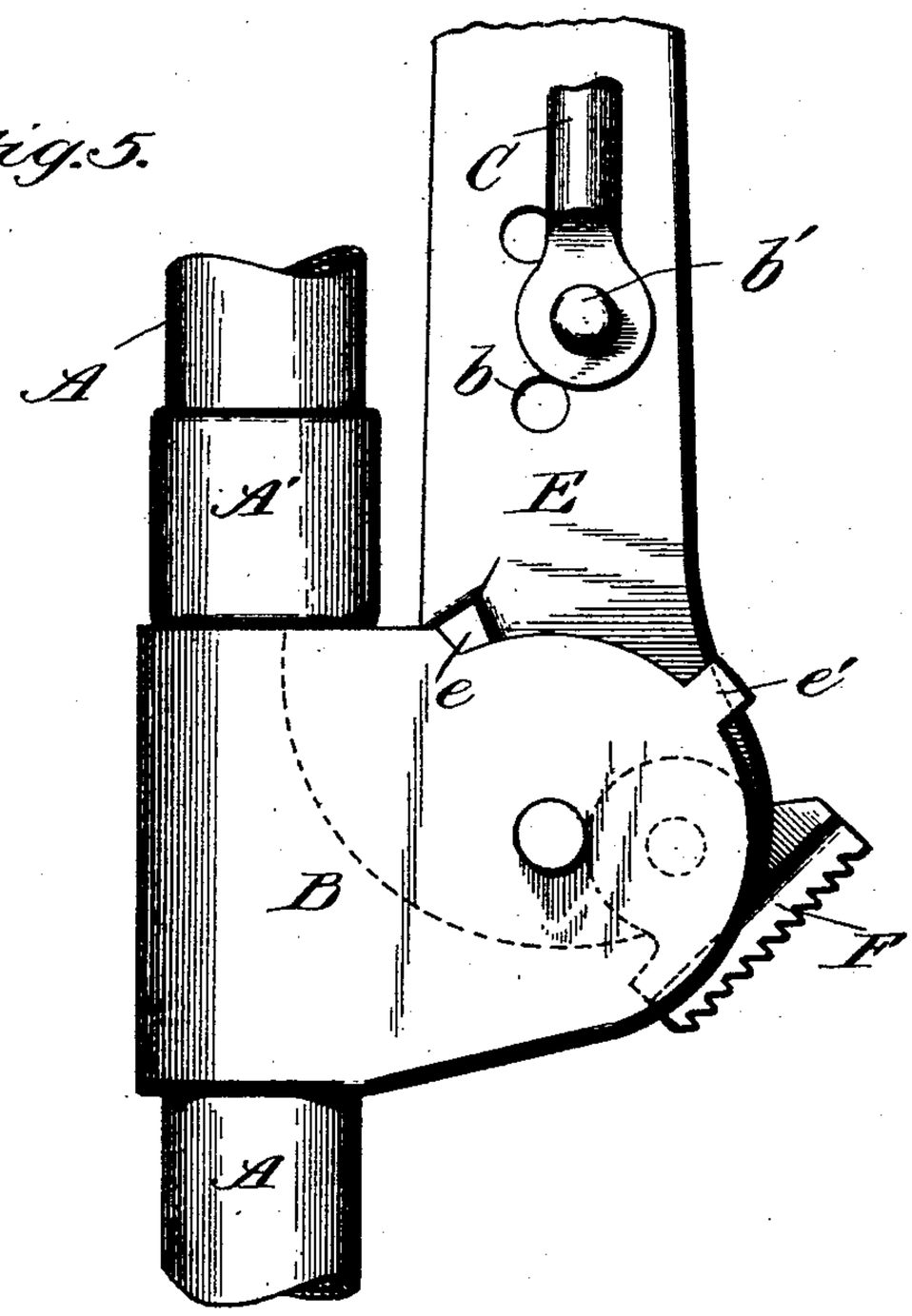
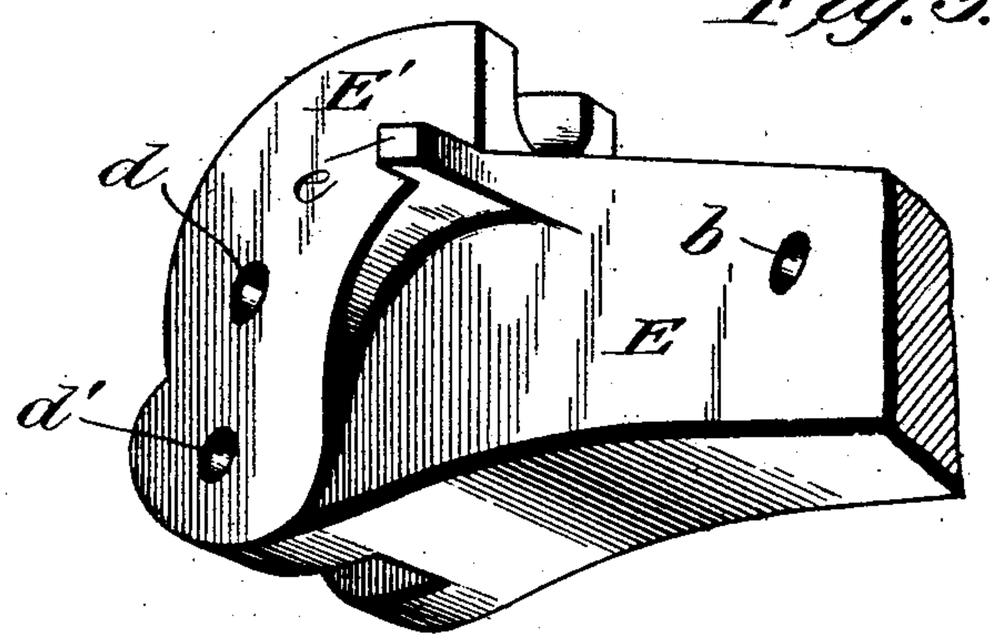


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH NEUMEIER, OF LA CROSSE, WISCONSIN.

WELL-TUBE LIFTER.

SPECIFICATION forming part of Letters Patent No. 713,485, dated November 11, 1902.

Application filed May 15, 1902. Serial No. 107,388. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH NEUMEIER, of La Crosse, in the county of La Crosse and State of Wisconsin, have invented a new and useful Improvement in Well-Tube Lifters, of which the following is a specification.

My invention is designed to provide an improved well-tube lifter for deep wells, the same being in the nature of a clutch for the well-tube to be connected with a grappling-hook at the end of a rope for pulling out a well-tube or for raising or lowering the same.

It relates to that form of well-tube lifter in which the hook is connected to the outer end of a short lever whose inner end is hung upon an axial pin passing through the two jaws of a yoke embracing the well-tube and the inner end of which lever is formed as a clutch or cam-head adapted to pinch against the well-tube when the outer end of the lever receives the pull of the lifting strain; and my improvement consists in such novel construction and arrangement of these parts as will permit these devices to clutch the side of a well-tube at any point along its length or will permit them to be reversed to lift the well-tube by loosely embracing the same at a point below the shoulder or enlargement of the coupling-section of the well-tube, as will be hereinafter fully described with reference to the drawings, in which—

Figure 1 is a side elevation of my tube-lifter shown applied to a tube between its ends. Fig. 2 is a plan view of the same. Fig. 3 is a detail perspective of the clutch-lever. Fig. 4 is a detail perspective view of the clutch-block, and Fig. 5 is a side elevation of my tube-lifter reversed and shown applied for lifting a tube by its coupling-section.

In the drawings, A represents a section of well-tube.

B is a stout steel yoke embracing the well-tube, and through the jaws of which yoke there passes an axial pin D, upon which is hung the short clutch-lever E. This lever has a hole *d* to receive the pin and on one side of it is formed a rigid cam-head E′, whose outer face is concaved to approximately fit the transverse contour of the well-tube. On the other side of the head of the lever is a hole *d′*, coinciding with a hole *f′* in the lug of a clutch-block F, whose face is concaved and serrated to bind against and clutch the well-tube. This clutch-block is hung upon a pin at *f*, Fig. 1, which passes through the lug of the clutch-block and the hole *d′* of the lever. The lever E has a series of holes *b* near its middle, which receive the pin *b′* of a clevis C, into which latter the hook of the lift-rope is inserted. The object of this series of holes is to give to the clevis a variable leverage and to the clutch-block a variable bite against the well-tube. By adjusting the clevis away from the well-tube the leverage and bite are increased as may be necessary for lifting out very long and heavy well-tubes. At the extreme outer end of the lever a releasing-rope C′ is secured. Near the head of the lever there is formed on the same a lug *e* on one or both sides, which lug is adapted to coöperate with a stop-lug *e′*, formed on one or both jaws of the yoke B.

In making use of my invention if the lifter is to be applied to any part of a section of tube the yoke B is first made to straddle the tube, then the lever E is placed between the jaws and the pin D inserted, the clutch-block F being on the upper side, as seen in Fig. 1. The lever E is sustained in the horizontal position shown in dotted lines by its lug *e* resting against the lug *e′* of the jaws. Now when the lifting strain of the clevis is applied the lever E turns upwardly to the position shown in full lines, in which the clutch-block F is forced tightly against the well-tube, firmly clutching the same between the clutch-block and the side of the tube, so that the greater the lifting strain the tighter the parts are held. To release the clutch-lever, a pull on the rope C′ turns the lever on the clevis-pin *b′* and loosens the grip of the clutch-block F.

If the well-tube is to be lifted by one of its couplings A′, as seen in Fig. 5, then the yoke B and lever E are turned upside down, with the clutch-block on the lower side, in which it is out of service. The lever E then stands in a vertical position parallel with the well-tube, and the concave shoulder of the cam-head E′ comes directly under the tube-coupling A and lifts the well-tube without pinching the same.

My well-tube lifter, it will be seen, is a very

simple and practical device and is applicable to operating upon the well-tube in the different ways described.

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

1. In a well-tube lifter, the combination with a yoke for embracing the well-tube; of a clutch-lever having a loosely-pivoted clutch-block on one side, and a rigid cam-head with concave seat for the well-tube on the other side substantially as described.

2. In a well-tube lifter, the combination with a yoke for embracing the well-tube; of a clutch-lever having a rigid grappling-face on one side and a pivoted grappling-face on the other side and adapted to be reversed substantially as and for the purpose set forth.

3. A well-tube lifter comprising a yoke for embracing the well-tube, a clutch-lever hung between the jaws of the yoke and having a rigid clutch-face on one side and a loose clutch-face on the other side, and a series of holes near its outer end, a clevis arranged in one of said holes, a releasing-rope secured to the end of the lever as described.

4. In a well-tube lifter, the combination of a yoke for embracing the well-tube, a clutch-lever hinged between its jaws and having a series of holes near its middle and stop-lugs, as described, a clevis secured in one of said holes, and a releasing connection for the outer end of the lever for deflecting the latter and releasing its bite on the well-tube as shown and described.

JOSEPH NEUMEIER.

Witnesses:
G. A. KELLER,
W. F. JUSTIN.