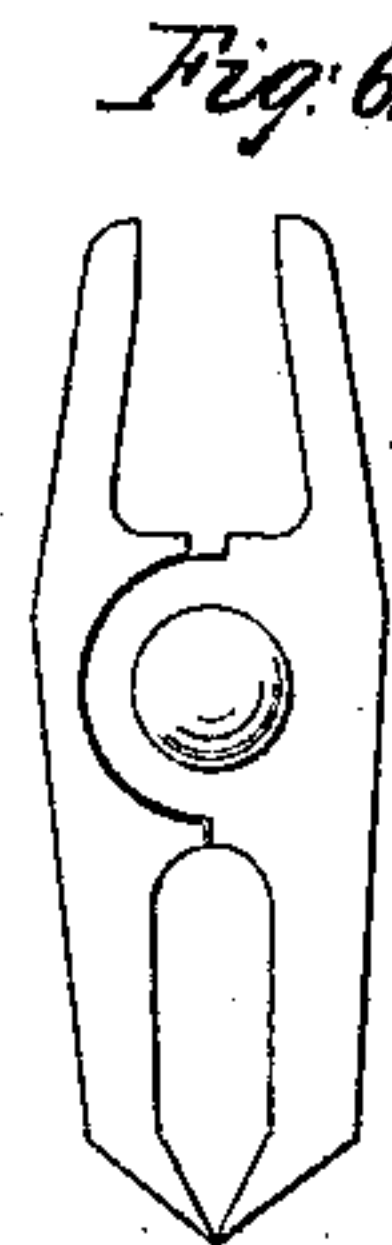
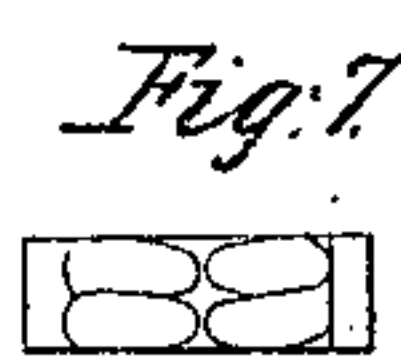
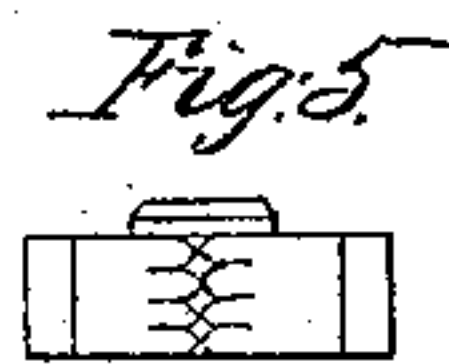
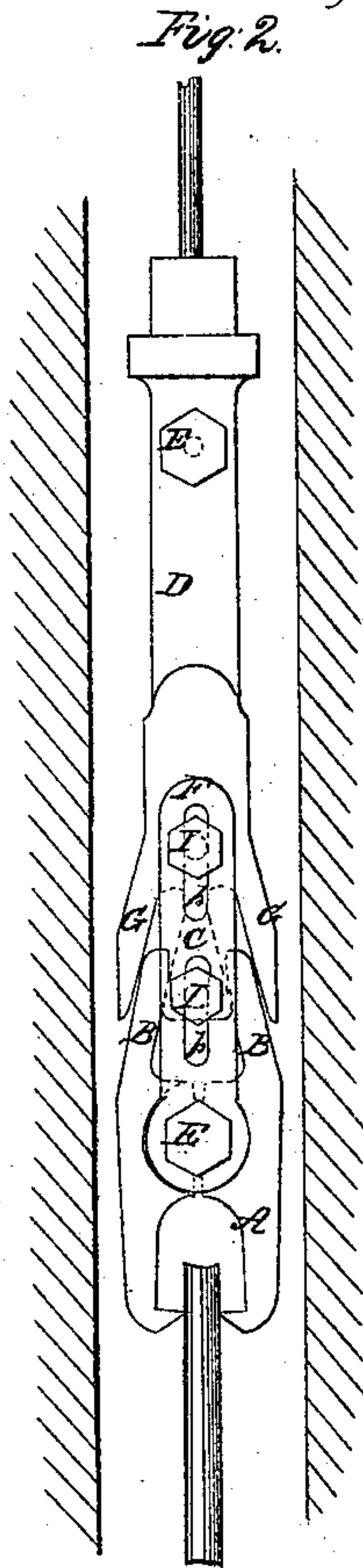
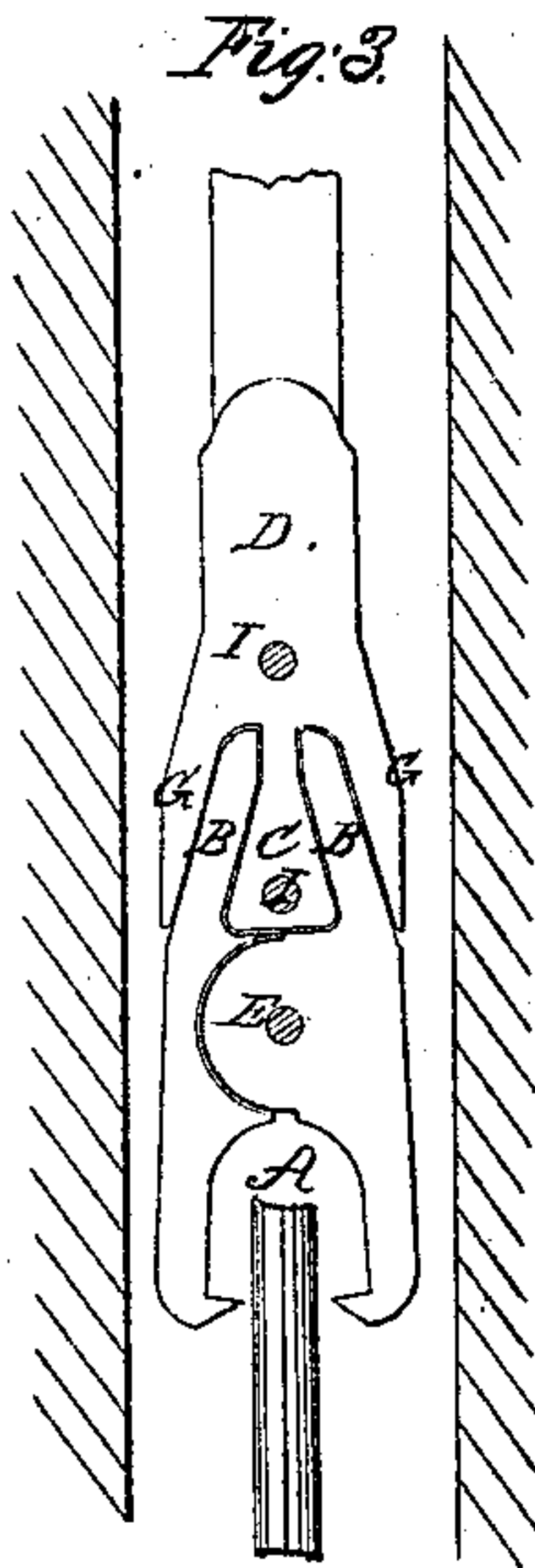
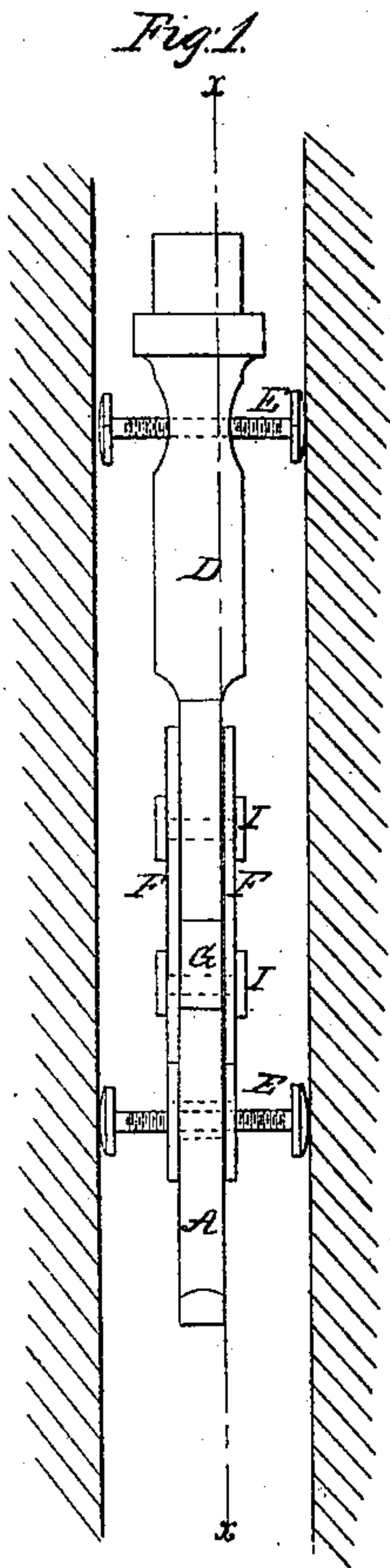


D. F. Mellen,

Drill-Rod Grab.

N^o 52437.

Patented Feb. 6, 1866.



Witnesses.
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UNITED STATES PATENT OFFICE.

DUSTIN F. MELLEN, OF NEW YORK, N. Y.

IMPROVED GRAB FOR OIL AND OTHER WELLS.

Specification forming part of Letters Patent No. 52,437, dated February 6, 1866.

To all whom it may concern:

Be it known that I, D. F. MELLEN, of the city, county, and State of New York, have invented a new and useful Improvement in Grabs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side view of a grab made according to my invention and applied in an Artesian well. Fig. 2 represents a face view thereof. Fig. 3 represents a longitudinal section on the line *x* of Fig. 1. Figs. 4 and 5, 6 and 7 are side and end views of modifications of the grab.

Similar letters of reference indicate like parts.

The object of this invention is to facilitate the recovery of pipes, drills, reamers, and other tools and other objects from oil and other wells, and also to facilitate the raising or lifting of bodies from a lower to a higher elevation.

It consists in a pair of jaws connected to a shank or sinker by means of links or straps in such a way that the jaws are allowed a little motion endwise away from the shank when any weight is attached to them, as when they have grabbed any heavy object. Besides this connection, they are connected by a cam-joint, which operates, when they are moving apart, to close the jaws and make them seize any object which is between them.

The implement is also provided with adjustable guides, which enable the operator to center it and make it descend along the axial line of a well or other place where it is used, and also to make it descend in a diagonal or inclined position, so as, in the latter case, to seize any object which may be leaning against the walls of a well.

I have called my improvement by the name of "Jones' patent grab."

In the example of my invention here shown I have represented the grab made and arranged for use in an oil or deep well to recover tools, pipe, rope, or fragments of such or other objects which often through carelessness or accident fall into and obstruct the operations of drilling or using such wells.

The grab is seen at A in the several figures, the modifications thereof seen in Figs. 4 and 6 being intended to illustrate how the form of the jaws of the grab may be varied to suit them for seizing objects of various characters and forms.

The grab A is made of two jaws, pivoted at E by a bolt whose length is nearly equal to the diameter of the well and whose ends have convex heads to allow them to move easily along its sides. This bolt screws into the joint of the jaws, and may be placed so that the jaws are at the middle of the bolt, or it may be screwed farther to one side or the other to bring the jaws to one side or the other of the axis of the well. This bolt also passes through the lower ends of links or straps F F, one on each side of the jaws, as seen in Figs. 1 and 2. The jaws are flat, as is also the lower part of the shank D, to which it is hung. The shank D is connected at the top with a rope or rod for lowering it, and it carries near its upper end a like screw-bolt, E, as that above described, which can be also adjusted in manner aforesaid. The lower part of the shank has a cam, C, formed on it, whose sides incline upward toward each other after the manner of a truncated cone. Outside of the cam C, on each side, are legs G G, which descend as low as the cam, their inside lines being parallel with the sides of the cam.

B B are arms extending from the upper part of the grab, being extensions of the jaws above their pivot. They are made so as to fit between the sides of the cam C and the legs G G, and the said arms and the faces of the jaws are arranged and formed in such a way as that the jaws shall be apart to their fullest extent when the arms B B are up snug in the spaces beside the cam. From this construction it is evident that if the grab is drawn away from the shank the arms B B, following the expanding sides of the cam, will be forced farther apart as they descend, which motion in them will bring the jaws toward each other so that they will be ready to seize any object between their faces. This action is illustrated in Figs. 2 and 3.

The straps F F are carried upward along the sides of the cam, to which they are connected by a bolt, I, and thence up to the solid part of the shank, where they are connected to the shank by another bolt, I. These bolts go

through the straps on either side in slots running lengthwise thereof, the length of the slots being nearly the length of the cam C. When the jaws have seized an object, before the arms B B have descended to the widest part of the cam the weight of the object, if the implement be raised out of the well, will come on said arms, which on this account are to be made strong and of the best steel or other suitable material. But if the arms descend so far along the cam before the jaws seize an object as to bring the tops of the slots *h h* upon the bolts I I, it is evident that the straps and bolts will have to sustain the weight of the object seized by the jaws.

Great difficulty is often experienced in removing objects, such as pipes or tools or parts thereof, from wells, because they lean against the sides of the bore, and it becomes impossible to seize them at top. The usual recourse in such cases is to break such obstructions to pieces by the tedious and expensive process of drilling. My invention overcomes this difficulty by enabling the operator to incline the path of the descent of the grab by setting the screw-bolts E E in such a way as to compel the shank and the grab to descend at an angle, thereby bringing the jaws beside the obstruction, where it can seize the same. The shape given to the jaws in Figs. 2 and 3 is a suitable one for seizing rods and plain tubing and other objects with plain surfaces. That shown in Figs. 4 and 5 will be suitable for objects with irregular surfaces and sides. That shown in Figs. 6 and 7 is suitable for seizing small objects, and also such articles as have been jammed down flat, and which consequently do not present any projecting, salient, or prominent points or surfaces which can be seized by jaws like those seen in Figs. 3 and 4. The jaws seen in Fig.

6 are capable of picking up small articles from a plane surface, and also of raising such articles as rope to a position where jaws like those in Fig. 3 can take hold of them. The upper part, D, serves the purpose of a sinker, which descends after the jaws reach the bottom of the well or the obstruction which is to be removed, and causes the arms B to be inclosed between the legs G G, thereby opening the jaws of the grab to their full extent in readiness to grasp any object found between them.

This implement can be used for all purposes of hoisting, and the jaws can be varied to many different forms, and can be lengthened and made strong enough for raising heavy burdens, if desired.

I claim as new and desire to secure by Letters Patent—

1. In implements for seizing and raising tubing, drills, and other articles from oil-wells and other places, the use of adjustable bolts E for guiding the implement in a vertical or in an angular direction, substantially as and for the purpose set forth.

2. In combination, the grab A, having angular arms B B above the pivot of its jaws, the legs G G, and the cam C on the shank of the implement, substantially as and for the purpose set forth, so that the grab is opened by means of the legs G when the angular arms are rising between the legs G and the cam, and closed when the arms are descending.

3. The slotted straps F, in combination with the jaws of the grab, substantially as shown and described.

DUSTIN F. MELLEN.

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