

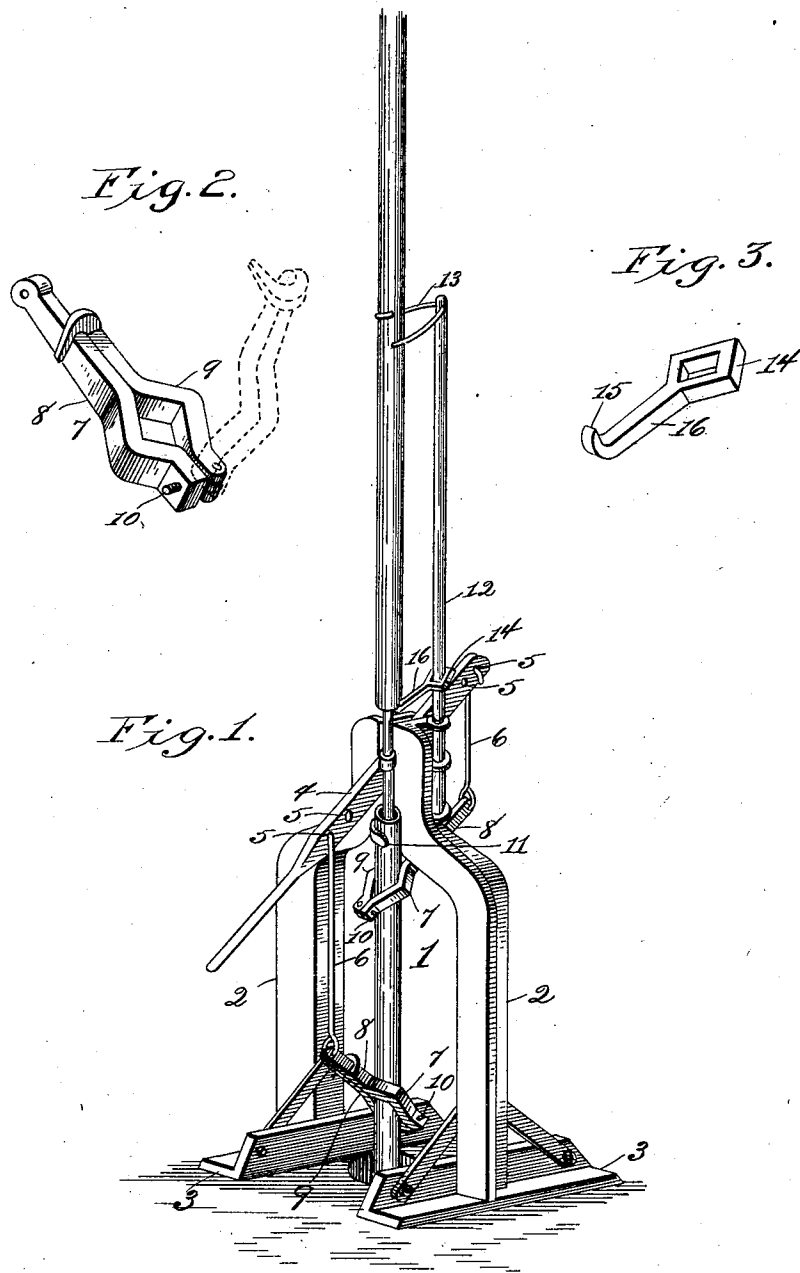
No. 697,625.

Patented Apr. 15, 1902.

A. HOGENSON.
PIPE LIFTING MECHANISM.

(Application filed Apr. 16, 1901.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

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PIPE-LIFTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 697,625, dated April 15, 1902.

Application filed April 16, 1901. Serial No. 56,101. (No model.)

To all whom it may concern:

Be it known that I, ANTON HOGENSON, a citizen of the United States, residing at Calmar, in the county of Winneshiek and State of Iowa, have invented certain new and useful Improvements in Pipe-Lifting Mechanism; 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 mechanism for lifting pipes or rods from wells, and has for its object to provide a device of this kind which will lift a pipe or rod with a minimum amount of exertion.

A further object of my invention is to provide a pipe-lifting device which may also be used to lower pipes into wells.

A further object is to provide a pipe-lifting device which is so constructed that the pipe and inner rod can be uncoupled without additional help, one man being able to operate the lifter and uncouple the pipe and rod.

With these objects in view my invention consists in the novel construction of my clutches.

My invention also consists in the novel arrangement and construction of a guide-rod and catch.

My invention also consists in certain other novel features of construction and combination of parts, which will be hereinafter fully explained and afterward specifically pointed out in the appended claims.

Referring to the accompanying drawings, Figure 1 is a perspective view of a pipe-lifter in an operative position. Fig. 2 is a perspective of one of my pipe-clutches. Fig. 3 is a perspective of my pipe-catch.

Like numerals of reference indicate the same parts throughout the several figures, in which—

1 is my pipe-lifter, composed of the frame 2 and bases 3.

4 is a double lifting-lever centrally fulcrumed between the frames 2. Said lifting-lever is provided with a series of holes 5, wherein the connecting-rods 6 are secured.

7 indicates my clutches, which are constructed in two sections 8 and 9. The sections 8 are fastened to the connecting-rods 6

in any substantial manner, while the sections 9 are pivoted to a threaded pin or bolt 10, which is threaded in the lower end of sections 8, the other end of said section 9 being provided with a stop-hook formed at right angles to said sections 9 and extending across and over the side of the section 8, as shown in Fig. 2. These sections are so constructed that when in position a square hole or opening is formed between the two.

Secured directly under the lifting-lever 4 is a guide 11, between which guide and the frame 2 the lifted pipe is adapted to be raised.

Secured in any substantial manner to the rear of the frame is a guide-rod 12, provided with a split loop 13, through which the pipe is raised and which acts as a guide. I prefer to construct my guide-rod 12 hollow and similar to a gas-pipe, as I find this much lighter and stronger. Slidingly secured on said guide-rod 12 is an adjustable friction-catch 14, having a square opening therein with square corners and a slightly-upturned end 15 at the extremity of the shank 16.

Having thus described the several parts of my invention, its operation is as follows: The pipe-lifter is placed over the well from which the pipe or rod is to be raised or into which it is to be lowered, and the clutches 7 are made to encircle the pipe, the section 9 of said clutches being swung back on its hinge or pivot in order to allow the pipe to enter the square opening between the two clutch-sections. Should the pipe be a large one, the size of said opening is regulated accordingly by means of the threaded pin or bolt 10, by which the two clutch-sections are connected and by means of which they may be brought closer together or separated, thus varying the size of the square opening between the two sections. When this has been adjusted, the section 9 is swung in and the stop-hook at the end thereof is caught over the shank of the clutch-section 8. Thus the two are firmly held together. When both clutches are adjusted in this manner one above the other, the lever 4 is operated up and down. As said lever is raised the clutch which is secured between the handle and the fulcrum is raised also, and the pipe being gripped by the square edges of the clutch-opening is raised with the clutch. The lever being fulcrumed in its center, the clutch

at the other end thereof is lowered at the same time that the clutch just described is being raised, and there being no weight on said clutch the same slides freely down the pipe until the lever has reached the limit of its upward movement. When, however, the lever is pulled down, the weight of the pipe is instantly shifted to said clutch, and as it is raised it carries the pipe with it, the other clutch at the same time descending the pipe, when it in turn is raised by the lever. The raised pipe having been guided so as to go through the guide-loop 13, it is raised until the end of the first length is reached, when it is uncoupled. Should the pipe which is being raised have a central rod therein, it is necessary to uncouple said rod before the uncoupled pipe-section can be taken down. In order to do this without additional help, I hold the uncoupled pipe length in position by means of my catch 14, which may be held at any point on the guide-rod 12, and the pipes can rest in this position until I uncouple the central rod, as shown in Fig. 1.

When it is desired to lower a pipe, the same is secured in the clutches, as described; but instead of operating the lever first one clutch and then the other is lightly slid up the pipe, which throws the weight on the opposite clutch and allows the pipe to descend.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In pipe-lifting mechanism, the combination of a frame, a lifting-lever secured therein,

clutches secured to said lever, means for adjusting said clutches at different points along said lever, a guide-rod secured in said frame, a guide secured in said frame below said guide-rod, a guide at the top of said guide-rod, an adjustable friction-catch secured on said guide-rod for the purpose of holding the lifted pipe, substantially as described.

2. In pipe-lifting mechanism, the combination of a frame, a lifting-lever secured therein, a guide-rod secured thereto, a guide at the top of said guide-rod, an adjustable friction-catch secured on said guide-rod, adjustable clutches secured to said lifting-lever, and means for adjusting said clutches at variable distances from the fulcrum of said lever, substantially as described.

3. In a pipe-lifting machine, the combination of the frame a lifting-lever secured therein clutches secured thereto, provided with an opening between the two sections thereof, a threaded pin in the ends of said sections, a stop-hook on the shorter section extending across and over and adapted to engage the longer section, the whole arranged whereby the opening between said sections is adjusted by revolving the shorter section, substantially as described.

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

ANTON HOGENSON.

Witnesses:

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C. G. JACOBSON.