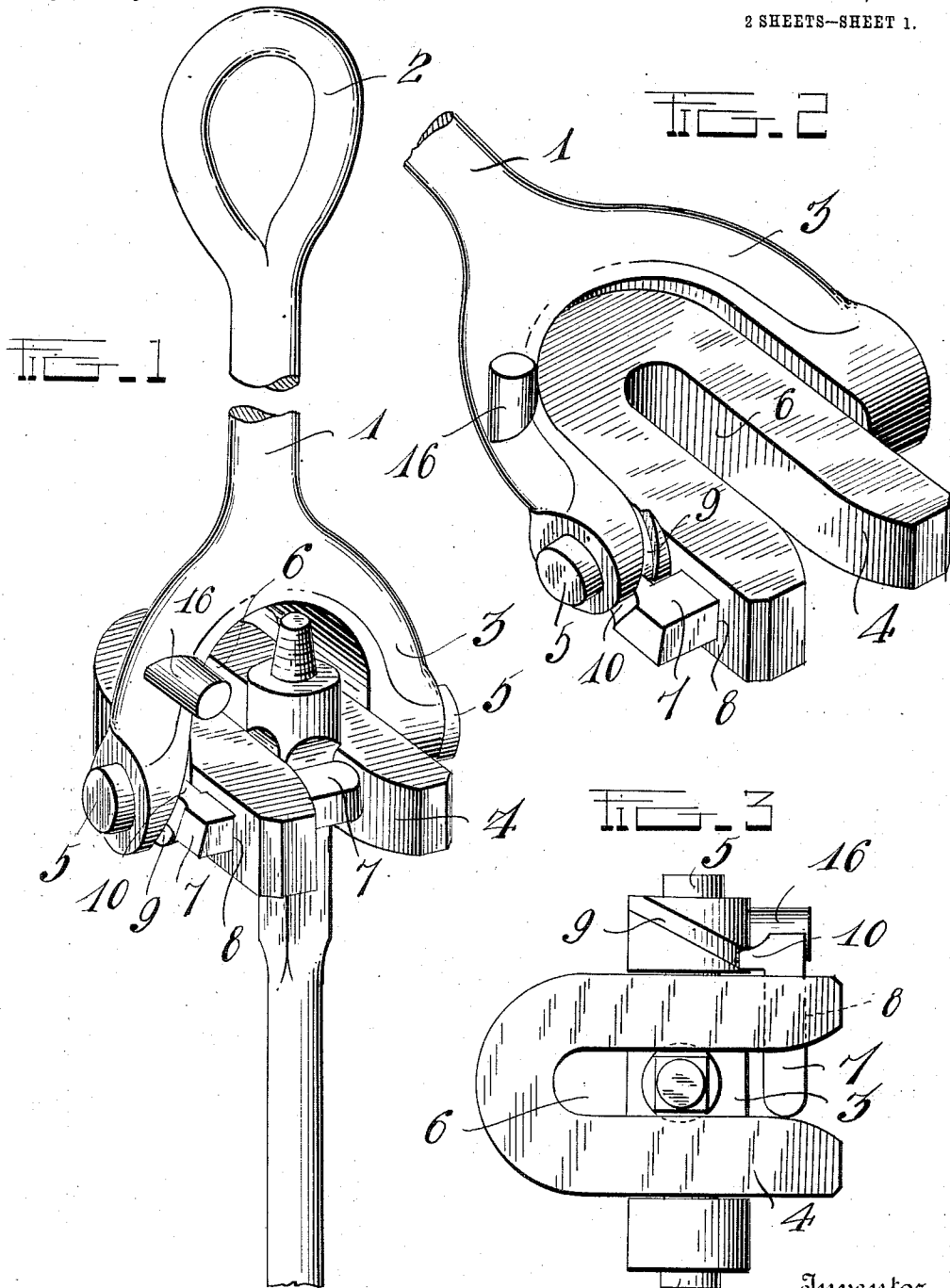


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SUCKER ROD ELEVATOR.
APPLICATION FILED JUNE 27, 1911.

1,018,732.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.



Witnesses
C. R. Hardy
O. B. Hopkins

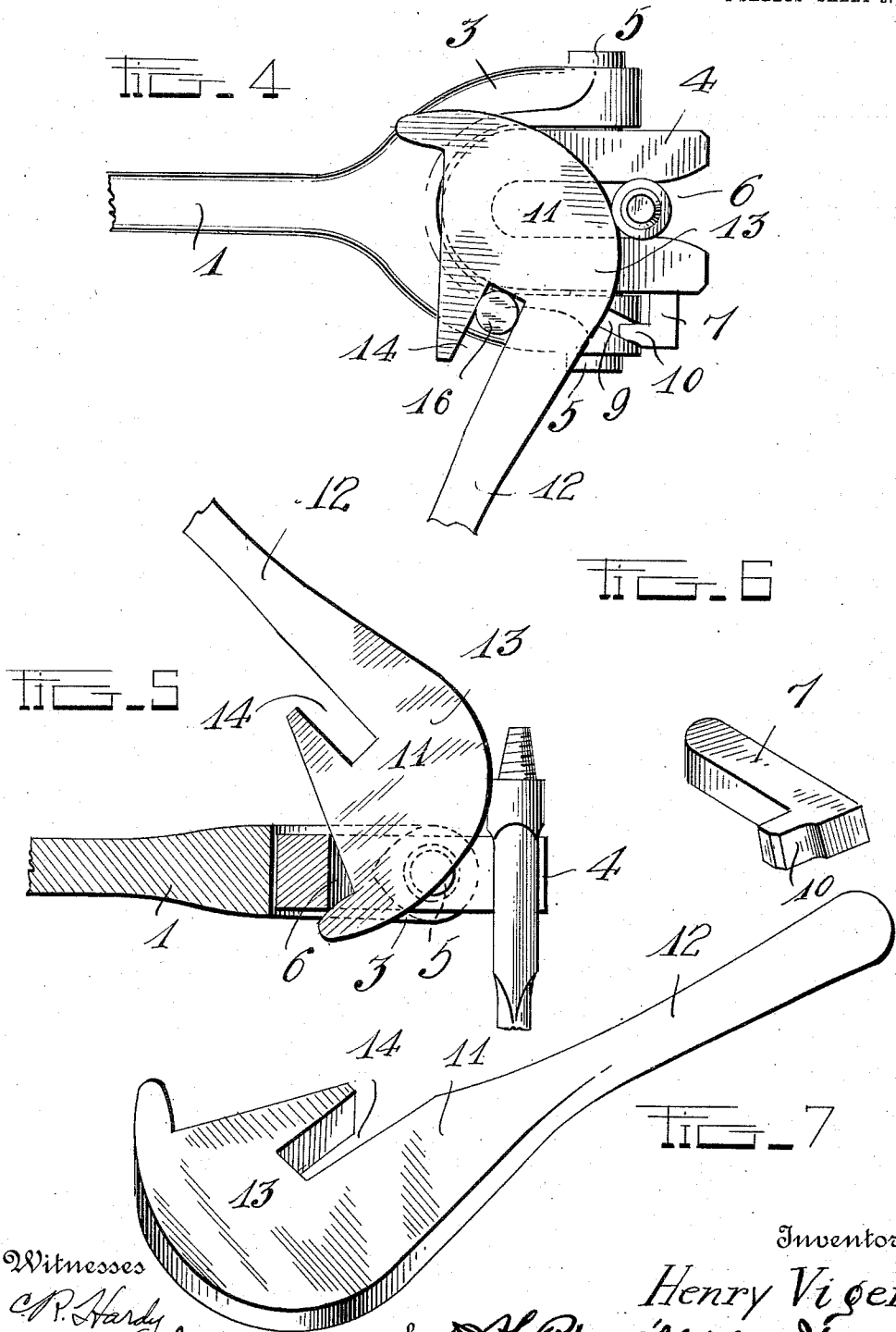
Inventor
J. Henry Viger
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Attorneys

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UNITED STATES PATENT OFFICE.

HENRY VIGER, OF STONEHAM, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO HENRY PARK, OF WARREN, PENNSYLVANIA.

SUCKER-ROD ELEVATOR.

1,018,732.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed June 27, 1911. Serial No. 635,676.

To all whom it may concern:

Be it known that I, HENRY VIGER, a citizen of the United States, residing at Stoneham, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Sucker-Rod Elevators; 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 relates to improvements in sucker rod elevators.

One object of the invention is to provide an elevator of this character having an improved means for gripping or operatively engaging the end of a sucker rod and means whereby said gripping mechanism is automatically actuated to permit the sucker rod to be disengaged therefrom.

Another object is to provide a device of this character which will be simple, strong and durable in construction, efficient and reliable in operation and well adapted to the purpose for which it is designed.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a perspective view of my improved elevator showing the parts in operative position and in engagement with the upper end of a sucker rod; Fig. 2 is a similar view showing the position of the parts and the manner in which they are actuated to permit the release or disengagement of the sucker rod; Fig. 3 is a bottom plan view of the elevator with the parts in the position shown in Fig. 1; Fig. 4 is a top plan view of the elevator with the parts in the position shown in Fig. 2 and illustrating the means for and the manner in which the sucker rod is disengaged from the elevator; Fig. 5 is a detail longitudinal sectional view of the elevator with the parts in the position shown in Figs. 2 and 4 showing another way in which the sucker rod may be disengaged from the elevator; Fig. 6 is a detail perspective view of the pin for holding the end of the sucker rod in engagement with the elevator; Fig. 7 is a similar view of the wrench

for disengaging the sucker rod from the elevator.

My improved sucker rod elevator comprises a stem or shank 1 having formed on its upper end an eye or loop 2, to which is adapted to be attached the lower end of the elevating cord or cable. The opposite or lower end of the stem 1 has formed thereon a forked or bifurcated head 3 in the forked ends of which are formed aligned bearing passages. In the forked head 3 is arranged a rod gripping block or member 4 having on its opposite sides trunnions 5 which engage the bearing apertures in the forked ends of the head 3 whereby the stem or shank 1 is pivotally connected to said block.

In the block 4 is formed a longitudinally disposed sucker rod receiving notch 6 with which the upper end of the sucker rod is adapted to be engaged and whereby the elevator is attached to the rod for the purpose of preventing the latter from dropping back into the well or for hoisting the rod out of the well. The outer open end of the notch 6 is adapted to be closed by a stop pin 7 which is slidably mounted in a transverse passage 8 formed in one side of the notched end of the block as shown. When thus arranged the outer end of the pin 7 will be in juxtaposition to the adjacent end of the forked head 3 of the stem 1. In said end of the stem 1 is formed a cam groove 9 with which is adapted to be engaged a pin operating lug 10 formed on the outer end of the pin 7 whereby when the stem or shank 1 is swung upwardly said cam groove in the end thereof will force the pin inwardly across the outer end of the notch 6 thus closing the latter and preventing the disengagement of the sucker rod from the block. When the stem or shank is swung downwardly the engagement of the cam groove with the lug 10 will retract the pin and thus open the outer end of the notch whereupon the sucker rod may be disengaged from the block. By thus constructing and arranging the gripping mechanism for the sucker rods it will be seen that when said mechanism is operatively engaged with the rod that the latter cannot be released until the hoisting rope is slackened and the stem or shank permitted to swing downwardly. It will be further noted that this releasing operation of the sucker rods is entirely automatic. After the

shank has been lowered and the locking pin thus retracted the sucker rod may be disengaged from the notch in the block 4 by means of a suitable instrument said instrument being here shown and is preferably in the form of a wrench 11, said wrench comprising a handle 12 having on its outer end a cam head 13 in which is formed a fulcrum notch 14 adapted to be engaged with a pivot or fulcrum stud 15 formed on one side of the forked head 3 of the shank 1. When the notch 14 is thus engaged with the stud the cam head of the wrench will be engaged with the projecting upper end of the sucker rod so that when the wrench is turned in the proper direction the rod will be forced out of the notch 6 in the block and thus disengaged from the elevator. The cam head of the wrench is also preferably provided on one side with a laterally projecting fulcruming lug 16 which if desired may be engaged between the sucker rod and the inner end of the notch 6 and the wrench swung back, thus causing the stud and cam head of the wrench to enter the notch and force the sucker rod out of engagement therewith.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

Having thus described my invention, what I claim is:

1. A sucker rod elevator comprising a stem having on one end a forked head, a rod gripping block pivotally mounted in said head, said block having a rod engaging notch, a stop pin slidably mounted in one side of said head and adapted to be projected across said notch whereby the sucker rod is fastened therein, means on said head to project and retract said pin when said stem is raised and lowered, a wrench, and means whereby the latter is engaged with

the elevator for the purpose of forcing the sucker rod out of engagement with the notch in said block.

2. A sucker rod elevator comprising a stem having in one end an eye, a forked head formed on the opposite end, said forked head having in its ends bearing apertures and in one end a cam groove, a rod engaging block having formed thereon laterally projecting trunnions adapted to pivotally engage the bearing apertures in the ends of said head, said block having formed therein a rod engaging notch, a fastening pin slidably mounted in one side of said rod and adapted to be projected across the notch therein, a lug formed on the outer end of said pin and adapted to engage the cam groove in the forked head of the stem whereby when the latter is raised and lowered said pin will be projected and retracted to open and close the notch in said block, a bearing stud formed on one side of said head, a rod ejecting wrench having on its outer end a cam head, said head having formed therein a bearing notch adapted to be engaged with said stud whereby the wrench may be turned to cause the cam head to be engaged with the sucker rod whereby the latter is forced out of the notch in said block.

3. A sucker rod elevator comprising a stem, a sucker rod engaging block pivotally mounted in one end of said stem, said block having formed therein a rod engaging notch, a locking pin adapted to be projected across said notch, a rod ejecting wrench, said wrench comprising a handle having on one end a cam head, a fulcrum lug formed on one end of said head and adapted to be engaged with the notch in said block whereby when the wrench is turned, said lug and the edge of the head will be engaged with the sucker rod and the latter thereby forced out of engagement with the notch in said block.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY VIGER.

Witnesses:

CURTIS M. SHAWKEY,
HENRY PARK.