(No Model.)

W. H. HAY.

TUBING AND CASING ELEVATOR.

No. 553,711. Patented Jan. 28, 1896.

Fig. 1.

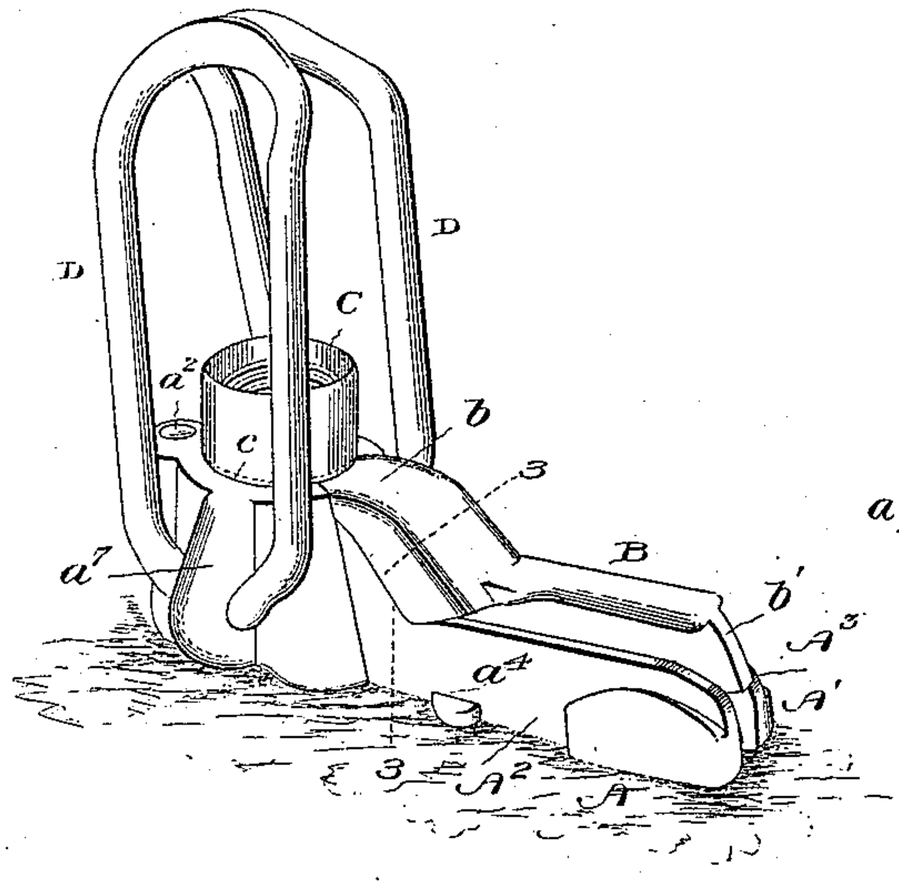


Fig. 2.

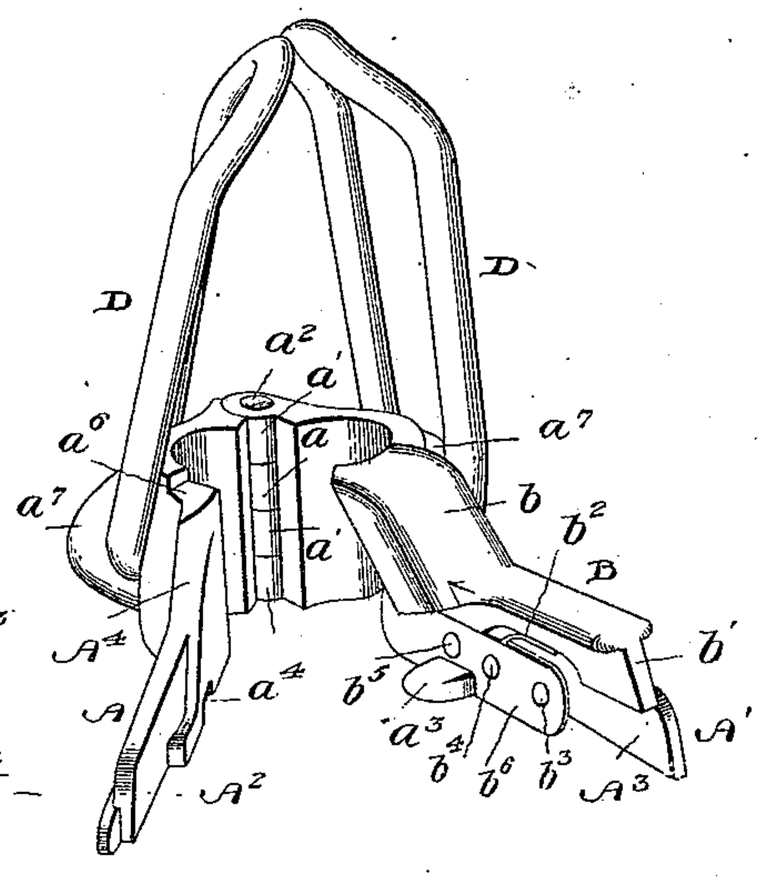


Fig. 3.

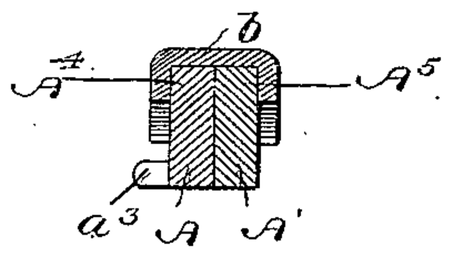
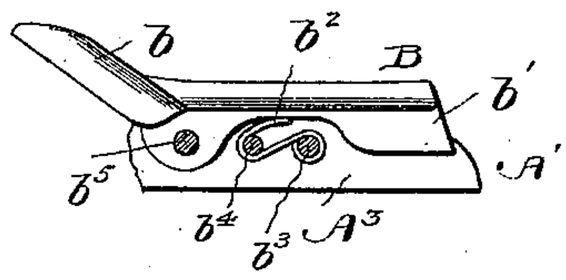


Fig. 4.



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TUBING AND CASING ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 553,711, dated January 28, 1896.

Application filed November 8, 1895. Serial No. 568,319. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HAY, a citizen of the United States, residing at Portersville, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Tubing and Casing Elevators, of which the following specification contains a full, clear, and exact description, reference being had to the accompanying drawings, forming part thereof, in which—

Figure 1 shows the elevator in position on a joint of well-tubing just under the collar thereof. Fig. 2 is a perspective of the elevator in its open position. Fig. 3 is a section on line 3 3, Fig. 1. Fig. 4 is a detail of the locking clasp or latch.

My invention relates to that class of implements known as "tubing and casing elevators," for use in raising well tubing, casings, rods, &c., and which comprise a pair of hinged jaws and a means of locking the jaws together.

The object of the invention is to provide a simple and effective elevator of this class with a latch or clasp which will be self-fastening when the jaws are brought together and which will project at the locking end under the tubing or rod collar when the clamp is in place thereon and thus be held from being accidentally released in the event of the outer end of the clasp or latch striking any part of the hoisting apparatus in the ascent of the elevator and tubing.

The invention consists in the construction and arrangement of parts hereinafter described and claimed.

A A′ represent the two semicircular jaws of the elevator hinged together by means of the interlocking knuckles a a' and pintle a^2. From the free edges of the jaws project the parallel arms A^2 A^3 which lie face to face when the jaws are closed and are guided in closing by means of the transverse lug a^3 projecting from the lower edge of the arm A^3 and entering the notch a^4 in the lower edge of the arm A^2. This lug a^3 and notch a^4 also assist in holding the jaws in register and relieve the pintle from strain to a certain extent.

The upper edges of the arms A^2 A^3, where they join the jaws A A′, are provided with lips A^4 A^5, (the lip A^4 being beveled from its inner edge,) and to the inner face of the arm A^2 is pivoted the latch or clasp B. The latch is angular and its inner inclined end corresponds to the inclination of the lips A^4 A^5 and is formed as a clasp b so as to embrace the said lips and lock the jaws together. This clasp b at its upper edge conforms to the circular contour of the clamp, the jaws of which at this point being recessed or cut away for this purpose, as shown at a^6. By this construction the clasp b will project under the collar c of the tubing or rod C, and thus the latch cannot be accidentally released should its free T-shaped outer end b' strike against any portion of the hoisting machinery while a rod or tubing is being elevated from a well. The outer T-shaped end of the latch is pressed upward by a spring b^2 and the back or cross piece of this portion of the latch overlaps the upper edges of the arms.

The spring b^2 is secured at one end to the bolt or rivet b^3, and it is bent around a pin or bolt b^4 with its free end pressing upwardly on the latch B. A cap-plate b^6 is secured to the inner side of the arm A^3 by means of the bolts or pins b^5 b^6, which serve as the latch-axis and spring-securing means, respectively, and the web of the latch works between this cap-plate and the inner face of the arm A^3, as shown in Fig. 2.

D represents a pair of link-like bails pivoted at their lower ends in ears a^7 a^7 cast integral with the jaws A A′, and the upper ends of the bails are curved inwardly to receive the hoisting-cable.

When a tube or rod is to be raised the operator opens the clamp and passes its jaws around the tube or rod under the collar and then closes the jaws, whereupon the beveled edge of the lip A^4 will strike that side of the clasp b and retract it and then the spring will cause the clasp to snap over said lip and the jaws will be securely locked.

In the operation of raising or elevating the rod or tubing no strain will come upon the latch-pivot, as the clasp b is supported firmly at its under side upon the edge of the inclined lips A^4 A^5. After the rod or tube has been sufficiently raised and secured the elevator may be removed by the operator simply pressing down on the outer end b' of the latch and then opening the jaws.

Having thus described my invention, what I claim is—

1. A tubing or casing elevator, comprising

the hinged jaws, having parallel arms and a latch pivoted between its ends to the inner face of one arm and provided at its inner end with depending clasp-forming flanges which embrace the upper edges of the inner ends of both arms, whereby by pressing down on the outer end of the latch, its clasp will be raised out of engagement with said arms, substantially as described.

2. A tubing or casing elevator, comprising hinged jaws having parallel arms provided at the inner ends of their upper edges with inclined locking-lips, and a latch pivoted between its ends to the inner face of one arm and provided at its inner end with an inclined clasp formed of depending flanges which embrace both of said inclined locking-lips; whereby when the outer end of the latch is depressed the clasp will be raised from said locking-lips, substantially as described.

3. A tubing or casing elevator, comprising the hinged jaws having parallel arms provided at the inner ends of their upper edges with inclined locking-lips; the upper edges of the jaws being cut away or recessed at their juncture with said lips, and a self-locking latch pivoted between its ends to the inner face of one arm, and provided at its inner end with a clasp formed of depending flanges which embrace the said locking-lips; the inner edge of the latch entering said cut-away or recessed portions of the jaws, substantially as described.

4. A tubing or casing elevator, consisting in the hinged jaws provided with parallel arms having inclined locking-lips on the inner ends of their upper edges; the upper edges of the jaws being cut away or recessed at the juncture of the said lips, and a latch T shape in cross-section, pivoted between the ends of its web to the inner face of one arm with its back or cross piece extending longitudinally over the upper edges of the two arms and having an inclined clasp at its inner end formed of depending flanges which embrace the two locking-lips, the inner end of the latch entering the jaw-recesses, substantially as described.

5. A tubing or casing elevator, consisting in the hinged jaws provided with parallel arms having inclined locking-lips on the inner ends of their upper edges, one of which is beveled, the upper edges of the jaws being recessed or cut away and one arm having an inwardly-projecting tapered guide-lug which enters a recess in the opposite arm, a latch T shape in cross-section, pivoted between the ends of its web to the inner face of one arm with its back or cross piece extending longitudinally over the upper edges of the two arms and provided at its inner end with a clasp formed of depending flanges which embrace said locking-lips, and a spring pressing the outer end of the latch upwardly, substantially as described.

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