2 Sheets—Sheet 1.

# W. R. EDELEN.

## Tubing Clamp and Elevator for Oil-Wells.

No. 221,161. Patented Nov. 4, 1879.

Fig. 1.

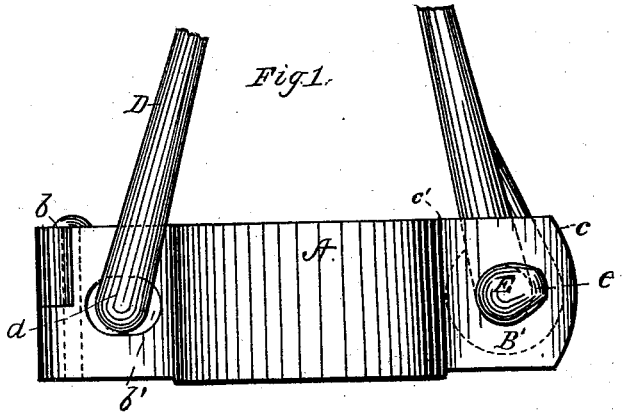



Fig. 3.

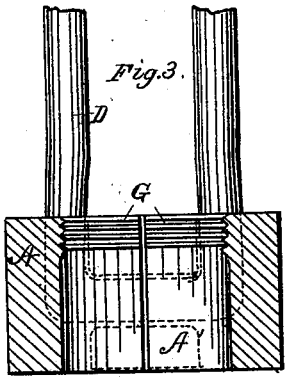



Fig. 2.

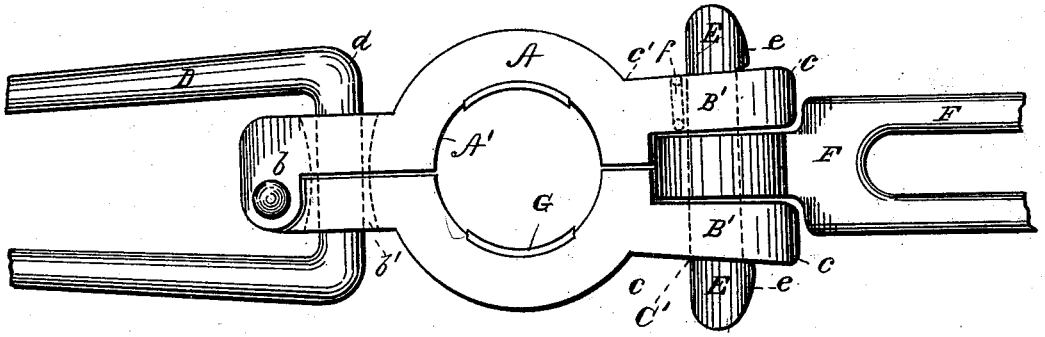



Fig. 5.

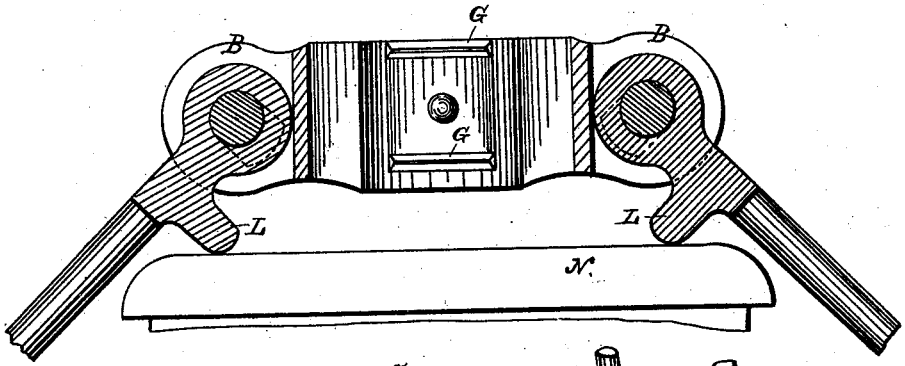



Fig. 6

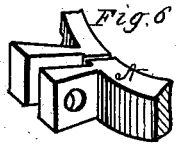



Fig. 7.

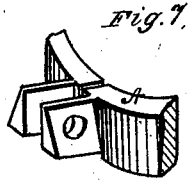
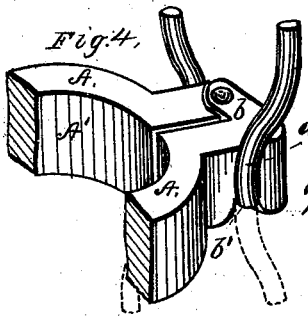



Fig. 4.




Witnesses.
C. S. Barrow.
M. A. Edelen.

Inventor.
William R. Edelen.

2 Sheets—Sheet 2.

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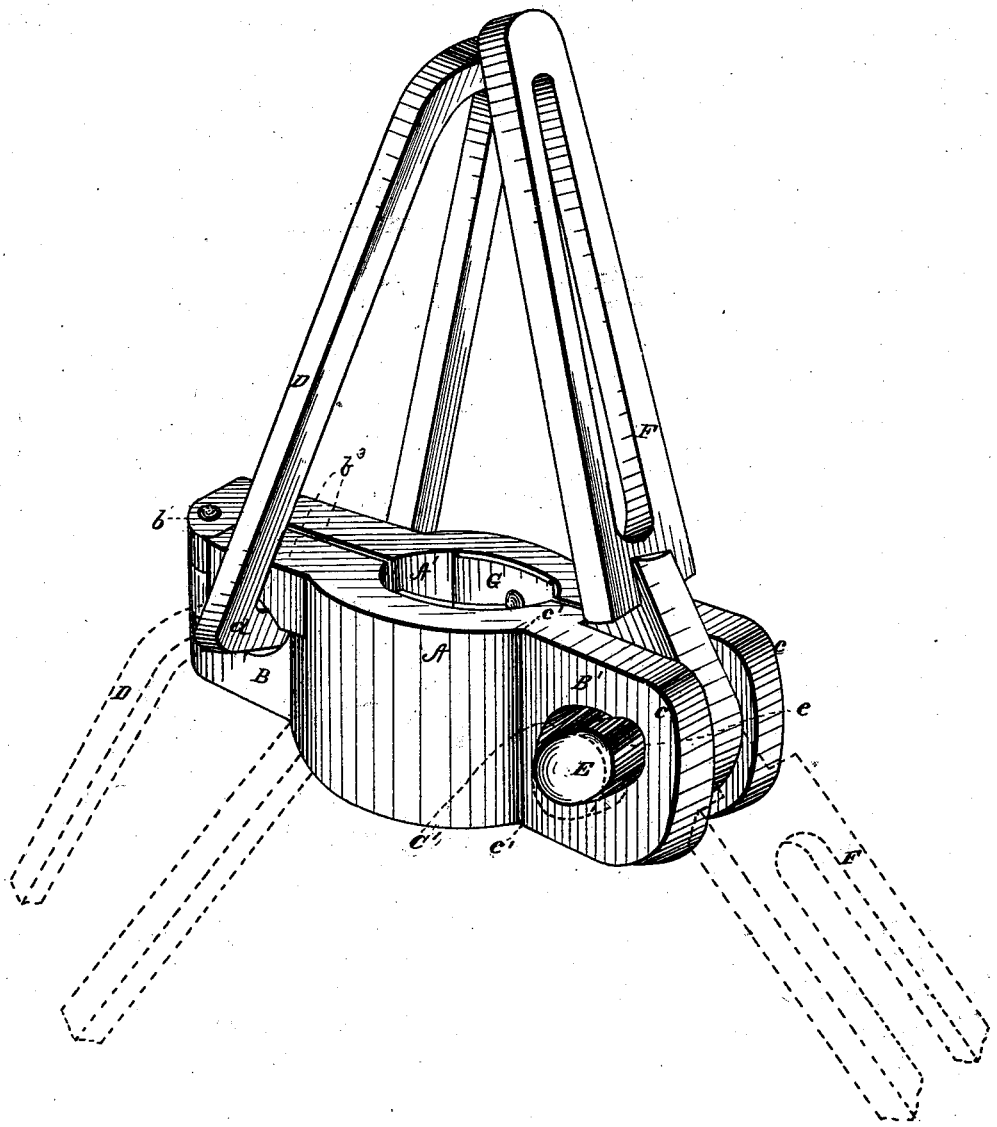
## Tubing Clamp and Elevator for Oil-Wells.

No. 221,161. Patented Nov. 4, 1879.

*Fig. 8.*




Witnesses
C. S Barrow.
M. A. Edelen

Inventor.
William R. Edelen.

# UNITED STATES PATENT OFFICE.

WILLIAM R. EDELEN, OF OIL CITY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO BENJAMIN F. BRUNDRED, OF SAME PLACE.

## IMPROVEMENT IN TUBING-CLAMPS AND ELEVATORS FOR OIL-WELLS.

Specification forming part of Letters Patent No. **221,161**, dated November 4, 1879; application filed August 20, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM R. EDELEN, of Oil City, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Tubing-Clamps and Elevators for Oil-Wells; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to tubing-clamps for oil-wells, which are provided with bits for clutching and meshing in the threads of the tubing under the thimble, and to prevent the tubing from dropping into the well in case the thimble should become detached from the tubing.

It further relates to clamps which are hinged at one side, and provided at its opposite side with cuneiform or inclined ears having a hole through the sides of the same for the reception of a fulcrum-rod, and said rod provided with projections for each end of said rod for impinging against said ears and drawing them together by means of its lever-link, and thus securely hold the tubing.

It further relates to clamps and elevators provided with cuneiformed ears on both sides, and having fulcrum-blocks on the lever-links close to the fulcrum-rods.

In the drawings, Figure 1 represents a side elevation of my improved hinged elevator. Fig. 2 represents a top view of the same, showing the link and clutches, also the inclination of the cuneiformed ears, and the means for operating the same. Fig. 3 is a cross-section looking toward the link and exhibiting the screw or threaded teeth for meshing with the tubing cast solid with the clamps. Fig. 4 shows the same view, in perspective, with the link against the sides of the hinged ears, and also showing the slotted opening for allowing said link to drop down, as shown in dotted lines. Fig. 5 is a section showing the cuneiformed ears and links for operating the same, applied to both sides of the clamps, with the fulcrum-blocks resting on the casing-head before the tubing is placed there. Figs. 6 and 7 are details of various forms of cuneiformed ears. Fig. 8 represents a perspective view of the tubing-clamps.

In the drawings, A represents a bisected cylinder, having semi-annular openings on the inside, A′, provided with a pair of ears or projections, B and B′, cast with and forming part of the opposite sides of said bisected cylinder. One end of said ears, being hinged at *b*, are provided with an opening, *b′*, through which a link, D, is secured and considerably spread at *d*, as shown at Fig. 2, to allow the hinged ears to open for the tubing to be placed in the clamps. Another form of making the link at the hinged end is to draw it in, as shown at *d′* of Fig. 4, so it will wedge against the ears and protect them from any extraordinary strain that may come upon them, and also to have one of the ears cut at *b′* through downwardly, so as to allow said link to drop, to spread the clamps so the tubing can be placed therein, which is also shown at Fig. 4.

The ears B′, as shown in Fig. 2, are formed at an angle to each other in opposite directions, and being broader at their extreme ends, *c*, than where they connect, at *c′*, with each half of the clamp A, so that when the pivot E, which passes through opening C′ in said ears, is drawn upward by means of the lever-links F, secured to said pivot, the cheeks *e*, formed at the opposite ends of the pivot, impinge on the sides of the inclined ears, drawing the clamps firmly together, and securely clutch and mesh in the thread of the tubing, and hold the same by means of the projecting clutch-lining G, which is shown in Figs. 1 to 5, inclusive, and which is secured on the inside of each half of the semi-annular opening A′.

*f* is a bent wire to prevent both ends of the pivot-rod being detached from the ears, as it is only necessary to secure one end of the pivot-rod to place the elevators on the tubing or casing.

The clamps can be provided with fulcrum-blocks L, as shown at Fig. 5, which rest on the casing-head as soon as the clamps are placed around the tubing, when the weight of the tubing will draw down the bisected cylinder A against the casing-head N, thus throw-

ing up the links and drawing the clamps firmly around the same, by means of the dogs or clutches G, secured on the inside of the semi-cylinder A′, as heretofore described.

Operation: To operate my improved elevators, the clamps are placed around the tubing under the thimbles, the links are thrown upward sufficiently to clear the derrick-floor or casing-head. The weight of the tubing will then throw the links and retain them upward, clutching it securely. A length of tubing may then be detached with tongs, in the ordinary manner, and the tubing be drawn up within the derrick by means of the elevators, and the operation be repeated until all the tubing is elevated.

With the tubing-elevators in present use the greatest care has to be exercised to prevent accidents, and they can be easily tampered with, so as to cause the tubing to be dropped into the well. With my improved clamps and elevators this danger is removed, as the links hold the tubing securely as soon as the weight of said tubing draws the elevators on the derrick-floor or on the casing-head, and as the links are drawn upward to secure them to the cable, in position to elevate the tubing, the latter is additionally clutched by means of the pivot or link drawing the beveled or divergent ears close together, and the clutch-lining G meshing with the thread, and partly against the tubing, makes the whole a very safe elevator to operate with.

As a safeguard against misplacement of the parts, the ends of the pivot-pin may be welded to the branches of the link, to form in this manner a single piece, that cannot become detached and lost.

I am aware that a hinged clamp for tubing is not new, that such clamps have been provided with parallel handles or ears, and that each half of the clamp has been united to the other by a screw or screw-bolt and nut. I am also aware that movable serrated gripers have been used in connection with tubing-clutches to augment their frictional contact upon the surface of tubing, and I do not claim these devices.

Having thus described my invention, that which I claim, and desire to secure by Letters Patent, is—

1. Tubing-clamps hinged at one side and having outwardly-diverging ears, and provided with links and pivots formed for drawing the clamps together and clutching the tubing, as shown and described.

2. Tubing-clamps and elevators having one or more pairs of inclined or cuneiformed ears, and provided with link-pivots having projections for drawing said clamps together, as shown and described.

3. Tubing-elevators or ring-clamps with internal clutches rigidly attached or formed therein for securing the body of the tubing or meshing with a screw-thread of the same, substantially as shown and described.

4. Tubing-elevator clamps provided with pivots having beveled shoulders and links for automatically clutching the tubing, as shown and described.

5. A tubing-elevator provided with clutch-lining G and drawn firmly against tubing or casing by means of diverging ears or wings B′, in combination with pivot-rods E, operated by lever-links F, substantially as shown and described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM R. EDELEN.

Witnesses:
ALICE A. EDELEN,
MARY A. EDELEN.