F. B. O'DONNELL.

Well-Tube Clamp.

No. 200,329. Patented Feb. 12, 1878.

Fig. 1.

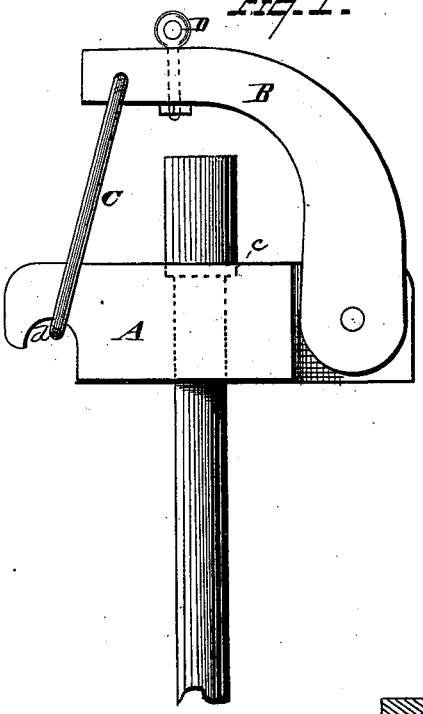


Fig. 2.

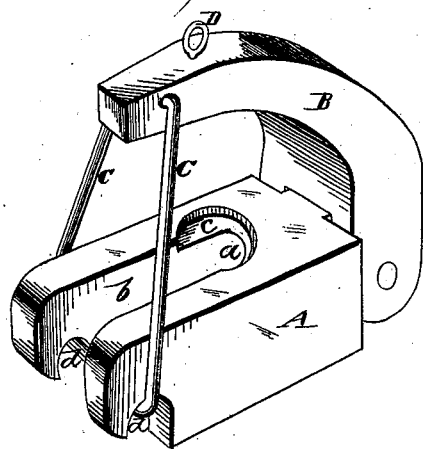
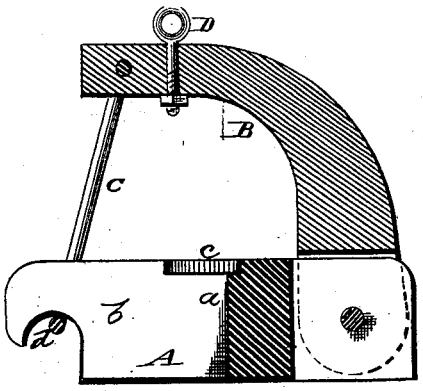


Fig. 3.



WITNESSES

Ed. L. Nottingham

A. W. Bright.

INVENTOR

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By Leggett & Leggett.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

FRANCIS B. O'DONNELL, OF FRANKLIN, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEO. W. SUTLEY, OF SAME PLACE.

IMPROVEMENT IN WELL-TUBE CLAMPS.

Specification forming part of Letters Patent No. **200,329**, dated February 12, 1878; application filed January 5, 1878.

To all whom it may concern:

Be it known that I, FRANCIS B. O'DONNELL, of Franklin, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Well-Tube Clamps; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to clamping mechanism for lowering and raising tubing of wells, such as Artesian, oil, and other deep wells, and is designed to provide a device which will be durable in use, and, while effecting its object with safety to the parts, will also allow the operation of lowering or elevating to be carried on quickly and with expedition.

It consists of a clamping-piece formed with a through vertical slot, which is of bore adapted to receive the tubing of the well, and yet prevent the thimble or coupling thereof from passing through the same, so that the lower edge of the thimble-coupling may have bearing upon the clamping-piece. A longitudinal slot with an open end connects with said clamping-slot, and forms a guideway through which the tubing is passed into h e clamping-slot. A semi-arched piece is pivo e d to one longitudinal extremity of this clamping-piece, and is provided with a stirrup or loop at its free end, which engages with suitable catch formations on the open-slotted end portion of said clamping-piece, and a swivel being secured to this stirrup to permit of its engagement with any suitable derrick or other tackle apparatus. This construction allows the tubing-section to be passed laterally, or in a line transverse to its length, through the open guide-slot, and into the central or clamping slot, so as to cause the thimble or coupling of the tubing to have vertical bearing upon the wall of said slot. The free end of the arched supporting-piece is then fastened to the open-slotted end portion of the clamping-piece, and the device is ready to lower or raise the tubing in connection with the derrick-tackle.

Referring to the drawings, Figure 1 is a view of the invention shown in operative connection with a tubing-section. Fig. 2 is a perspective of the device alone, and Fig. 3 is a longitudinal vertical section of the same.

The clamping-piece A is made of any suitable material, with the central vertical slot *a*, which freely connects with the open-ended longitudinal slot *b*. The dimensions of these slots are of such relative size to the bores of the respective tubing for any particular well as to allow such tubing to be received therein, and yet not to receive the thimble or coupling of the tubing. The latter, therefore, has bearing for its lower edge upon the surrounding wall of the tube-clamping slot *a*, and an annular recess, *c*, is formed in the upper surface of this slot-wall, which provides a seat for said thimble, and thus gives vertical bearing to the entire tubing.

One longitudinal end body of the clamping-piece is provided with the arch-shaped supporting-piece B, which engages therewith by mortise-and-tenon joint, and the two are pivoted together, so as to allow the supporting device to be freely swung in a vertical plane. Instead of this peculiar manner of joining, any other form of connection may be employed, the only object being to so pivot these two pieces to each other that the supporting-piece may be swung into or out of vertical line with the clamping-piece. So, too, instead of being curved in the form of an arc of a circle, this supporting-piece might be made right-angular, or of other contour adapted to accomplish the same object as that of the form shown in the drawings. To the free end thereof is loosely secured the stirrup or loop C, which is adapted to engage with the two catches *d*, which latter are formed on the extremities, respectively, of the walls on either side of the guide-slot *b*.

It is evident that the particular nature of this detachable connection between the free end of the supporting-piece and the clamping-piece may be of any desired character other than that shown. The catches may be changed, and the construction of the stirrup or loop may be different; or, instead of the latter being permanently fastened to the supporting-piece and detachably connected with the clamping-

piece, the reverse may obtain, and the stirrup be secured to the clamping-piece, and be thrown up over the supporting-piece in temporary engagement therewith.

The swivel D is secured to the upper portion of the supporting-piece, so as to be approximately in vertical line with the tube-clamping slot *a*, and to cause the line of applied supporting force to pass through the central portion of the clamp, though it is evident, in this instance, that other suitable engaging device may be substituted for this swivel.

While I have described the clamp as being especially intended for use with well-tubing, it is apparent that it is adapted to be used in many other ways, such as lowering or elevating casing, pipe, rods, and other different well apparatus, and to such uses I also intend to apply it; and in order to adapt the clamp to such purposes, it may be made of different sizes, larger or smaller, as the case may require.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A well-tube clamp made with the clamping-piece having the open-slotted body, and provided with the supporting-piece pivoted thereto at one extremity, and adapted to have its free end detachably engage with the opposite extremity thereof, substantially as described.

2. A clamp for well-tubing, made with the open-slotted clamping-piece, the arch-shaped supporting-piece pivoted thereto at one extremity, and adapted to detachably engage with its opposite extremity, and provided with suitable means for connection with the derrick or other tackle apparatus, substantially as described.

3. The combination, with the clamping-piece formed with a central through-opening, and a longitudinal open slot communicating therewith, of the supporting device, which is pivoted thereto, and whose free extremity is provided with a stirrup or loop which engages with catch formations on the open-slotted end portion of the clamping-piece, substantially as described.

4. The combination, with the clamping-piece having an open-slotted body, of the semi-arch piece, adapted to support the same by a suitable connection at either end thereof, and which is provided with the swivel adapted to engage with suitable tackle apparatus, substantially as described.

5. The combination, with the clamping-piece and curved supporting-piece, provided with the swivel attachment, of the stirrup or loop, and suitable catch engagement therewith, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of December, 1877.

FRANCIS B. O'DONNELL.

Witnesses:

A. McDOWELL,

A. H. McCOY.