(No Model.)

J. W. CRAWFORD.

GRIP OR CLAMP.

No. 436,967. Patented Sept. 23, 1890.

Fig. 1.

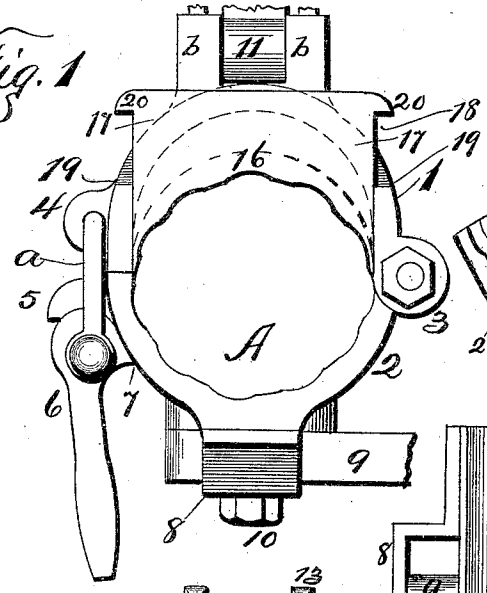


Fig. 5.

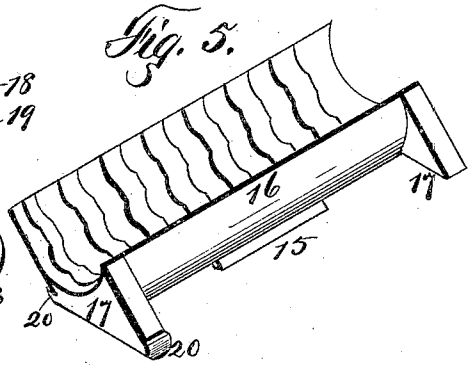


Fig. 2.

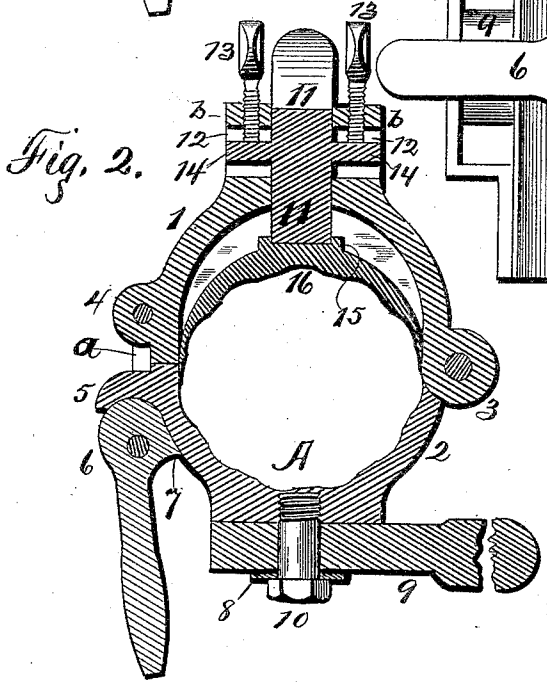


Fig. 3.

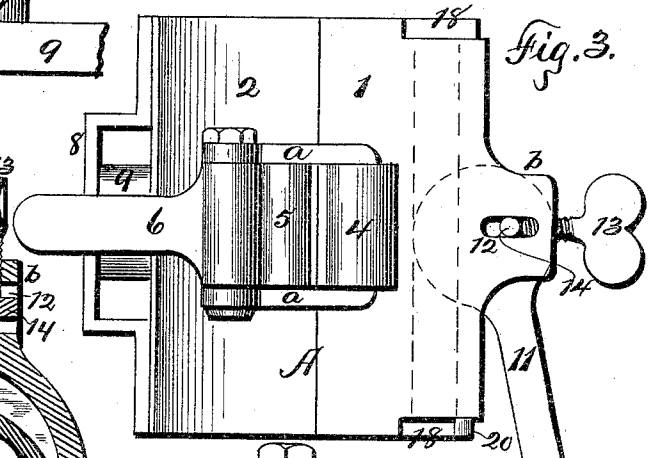


Fig. 4.

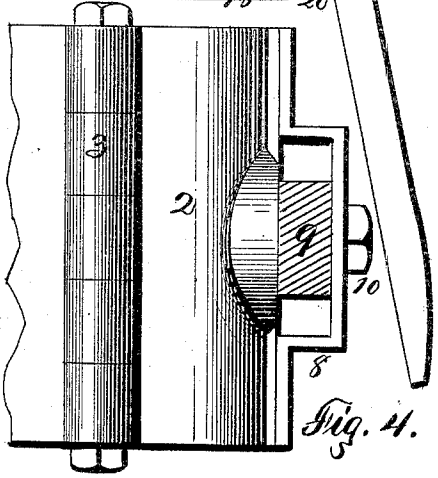
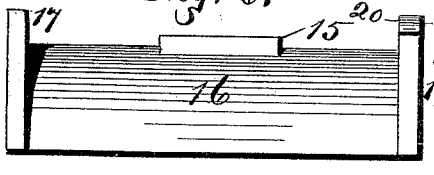


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES W. CRAWFORD, OF GRESHAM, PENNSYLVANIA.

GRIP OR CLAMP.

SPECIFICATION forming part of Letters Patent No. 436,967, dated September 23, 1890.

Application filed June 12, 1890. Serial No. 355,160. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. CRAWFORD, of Gresham, in the county of Crawford, in the State of Pennsylvania, have invented new and useful Improvements in Grips or Clamps, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to device and apparatus in connection with the drilling of wells for oil, gas, &c., and more particularly to the grips or clamps used upon the hoisting rope or cable, and to which a handle is pivoted by which the twisting is done, and which, through the rope and rods, twists the drill while it is being operated.

My object is to produce an improved drill-twister provided with appliances to enable me to use it on ropes or cables of different sizes, when new as well as after they become worn, and also for adjusting and regulating the grip upon the rope or cable, all in such manner as will render it unnecessary to wind the rope or cable with a protecting-covering.

My invention consists in the several novel features of construction and operation hereinafter described, and which are specifically set forth in the several clauses of claims hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation of my clamp, showing the cam-lever and the twisting-lever broken off. Fig. 2 is a vertical transverse section. Fig. 3 is a side elevation, showing the cam-lock and adjustability of the cam-squeezer. Fig. 4 is a side elevation, showing the hinge and the mounting of the twisting-lever. Figs. 5 and 6 are respectively a side and isometrical elevation of the sliding and gripping jaw.

A is the tubular body comprising the approximately semicircular sections 1 and 2, hinged together, as at 3, on one side, and locked together when closed by a mechanism comprising an eye 4, on section 1, a link A, mounted in the eye, a hook 5, on section 2, having a concave lower face, a cam-lever 6, pivoted upon the other end of the link and adapted to engage with the hook, and having a stop-shoulder 7 on the cam engaging with the periphery of section 2 when the sections are locked together. A bracket 8 is mounted upon the periphery of sections 2, and 9 is the twisting-lever pivotally mounted therein upon the bolt 10.

Upon the outer face of section 1, I erect two bosses *b*, separated by a slotway, and this slotway coincides with a mortise through the wall of this section, and 11 is a cam journaled in slots 12 in these bosses and standing in the mortise and between the bosses, and 13 are set-screws bearing upon the projecting ends of the arbor 14 of the cam, by which the position of the arbor in the slots is regulated and the inward throw of the cam is adjusted and controlled. This cam projects through the mortise and within the section and bears frictionally upon A, boss 15, and upon the periphery of the sliding and gripping jaw 16, placed within the section 1 and held therein by the end flange 17. The ends of this section are cut away or rabbeted, as at 18, creating recesses to receive the flanges and shoulders 19, and in the drawings I show one of these flanges provided with lugs or ears 20, adapted to engage with the shoulders. The inner wall of the section 1 is plain and smooth, while that of section 2 is roughened by irregular transverse or transverse and longitudinal ribs, and the inner wall of the jaw is likewise roughened to insure a better bite and grip upon the rope.

To place this clamp upon the rope, I open the sections, unlocking them and also the grip-jaw cam, and then close them around it and lock them by the cam, link, and lugs on the sections, as shown in Fig. 1, and then, throwing down the grip-cam lever, I force the jaw inward and bite and grip the rope between it and section 2, according to the tension upon the lever and cam. If it does not grip tight enough to loosen the cam-screw up the set-screw and tighten the cam again. The ears 20, upon one end of the jaw, when they come into engagement with the shoulders 19 operate as pivots, so that the other end of the jaw will spring inward upon them, and this end will grip tighter than the other. When thus placed upon the rope, the twisting-lever hangs ready for use, and then by walking around the rope, moving the handle forward or back, the rope is twisted, and this turns the point of the drill.

What I claim is—

1. A tubular body comprising sections hinged together on one side and locked together by a link hinged in a boss upon one section, and a cam pivoted upon the opposite end of said link and engaging with a hook projecting from the other section, in combination with a movable gripping-jaw mounted within one section upon a stem extending outward through that section, and a cam mounted in bosses upon said sections and engaging with the outer end of said stem.

2. A tubular body comprising sections hinged together on one side and locked on the other side by a link hinged in a boss on one section, and a cam pivoted upon the opposite end of said link and engaging with a hook projecting from the other section, in combination with a movable gripping-jaw mounted within one section upon a stem extending outward through that section, and a cam mounted in bosses upon said section and engaging with the outer end of said stem, and a handle pivotally connected to one section.

3. A tubular body comprising sections hinged together on one side and locked on the other side by a link hinged in a boss on one section, and a cam pivoted upon the opposite end of said link and engaging with a hook projecting from the other section, in combination with a movable gripping-jaw mounted within one section upon a stem extending outward through that section, a cam adjustably mounted in bosses upon said section and engaging with the outer end of said stem, and a handle pivotally connected to one section.

In witness whereof I have hereunto set my hand this 17th day of May, 1890.

JAMES W. CRAWFORD.

In presence of—

H. W. FISCHER,

JOSEPH T. CHASE.