No. 694,278. Patented Feb. 25, 1902.

W. HOEKSTRA.

PUMP ROD EJECTOR.

(Application filed Apr. 13, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

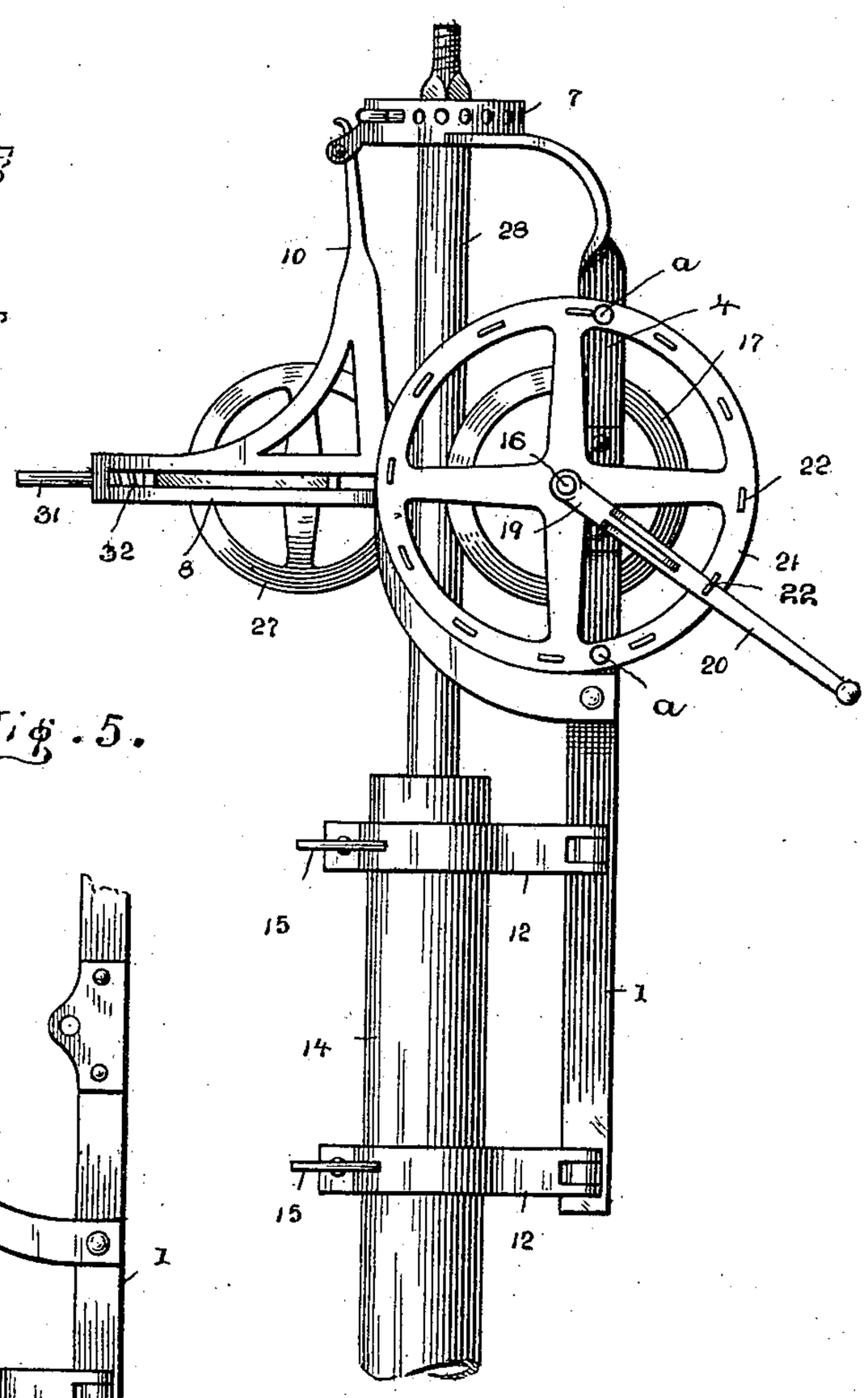


Fig. 6.

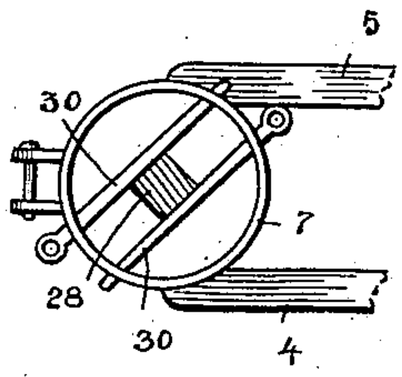
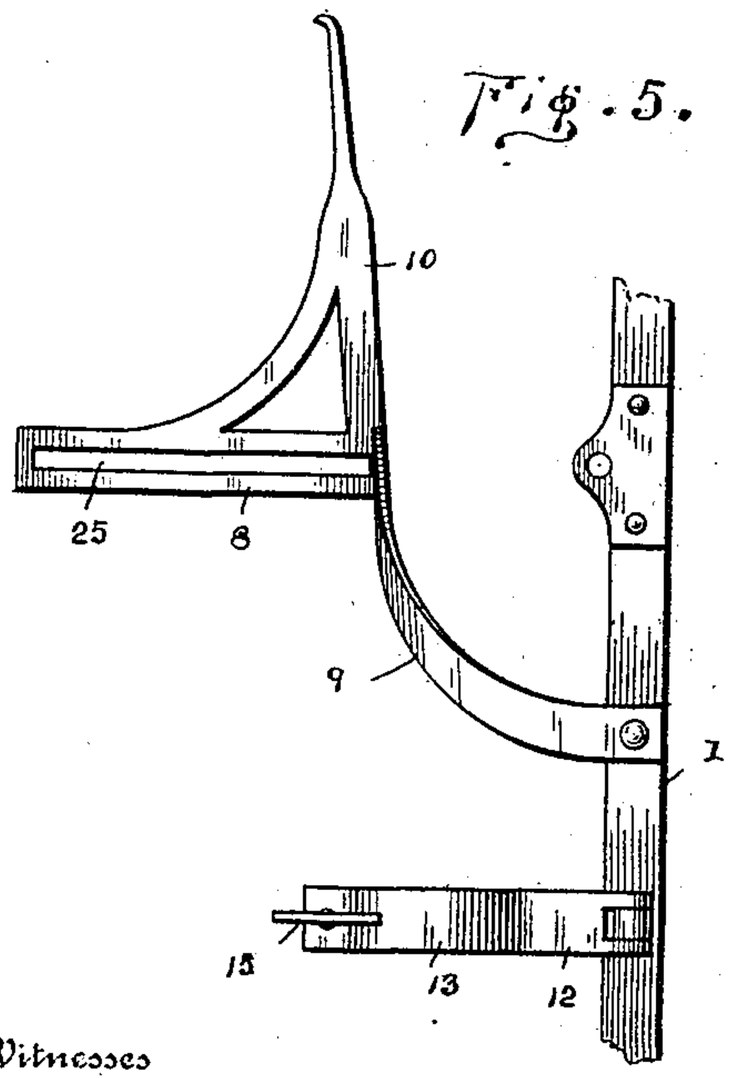


Fig. 5.



Witnesses
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Fig. 2.

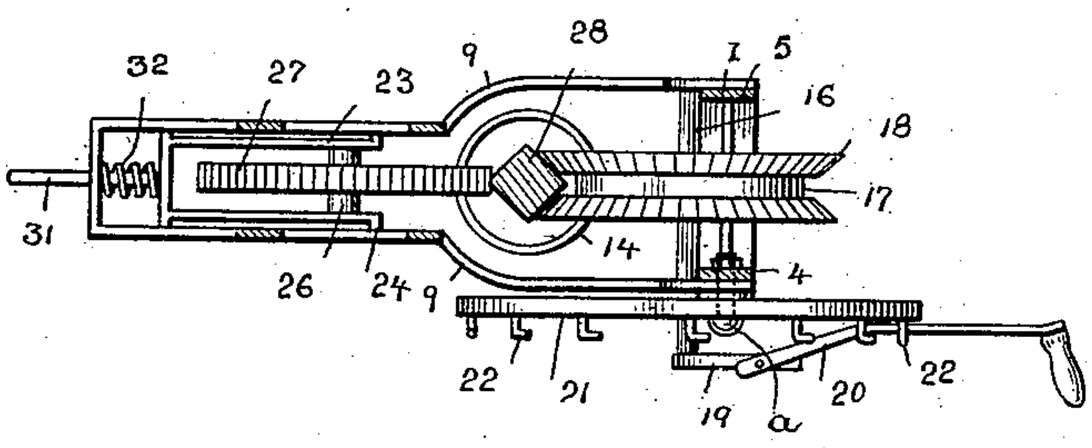


Fig. 3.

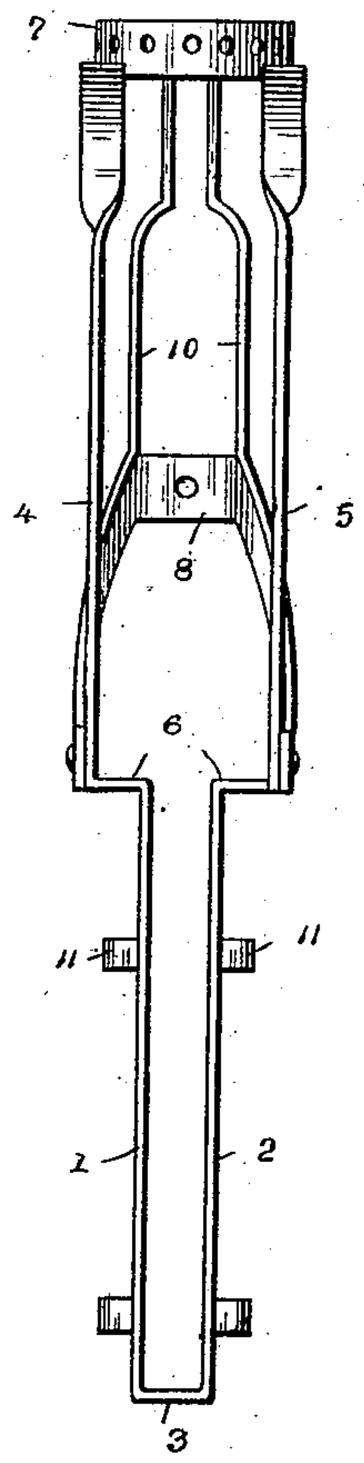
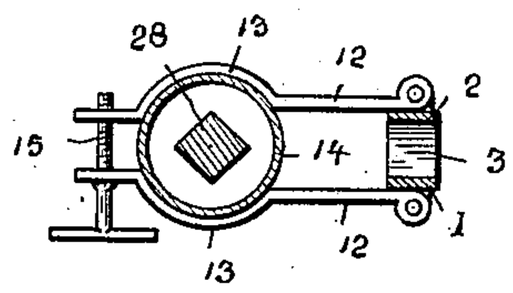


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM HOEKSTRA, OF HARRISON, SOUTH DAKOTA.

PUMP-ROD EJECTOR.

SPECIFICATION forming part of Letters Patent No. 694,278, dated February 25, 1902.

Application filed April 13, 1901. Serial No. 55,773. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HOEKSTRA, a citizen of the United States, residing at Harrison, in the county of Douglas and State of South Dakota, have invented new and useful Improvements in Pump-Rod Ejectors, of which the following is a specification.

My invention relates to pump-rod ejectors; and its object is to provide effective mechanism for removing pump-rods which become accidentally stuck or embedded in wells.

The invention comprises novel means for firmly clamping or gripping the rod, and also mechanism for applying a longitudinal pulling strain thereto to dislodge and remove the rod.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, which form a part of this specification, and its novel features will be defined in the appended claims.

In the drawings, Figure 1 is a side elevation of the ejector applied to a pump-rod. Fig. 2 is a transverse section of the same. Fig. 3 is an elevation of the supporting-frame of the mechanism. Fig. 4 is a transverse section through one of the clamping devices of the machine. Fig. 5 is a detail side elevation of a part of the frame of the machine, and Fig. 6 is a plan view showing the devices for securing the rod in position for coupling.

The frame of the machine comprises parallel bars 1 and 2, connected at their lower ends by a cross-bar 3, parallel arms 4 and 5, connected to the bars 1 and 2 by arms 6 and twisted at their upper ends for attachment to a ring 7, and a horizontally-extending yoke 8, braced to the arms 5 and 6 by curved braces 9 and to the ring 7 by upwardly-projecting arms 10. The bars 1 and 2 are provided with perforated lugs 11, to which are pivotally secured clamping-arms 12, formed with semicircular seats 13 to embrace the tube 14, and connected at their outer ends by clamping-screws 15, which pass through threaded openings in the arms 12.

Supported in bearings formed in the arms 4 and 5 is a horizontal shaft 16, upon which is mounted a grooved wheel 17, formed with teeth or serrations 18 to adapt it to grasp the pump-rod, as shown in Fig. 2.

One end of the shaft 16 is provided with a crank 19, having a handle 20 pivoted thereto, and upon said shaft 16, near its crank 19, is mounted a wheel 21, carrying a series of hook-catches 22 to engage the handle 20. The shaft 16 is loosely projected through the hub of the wheel 21 and the wheel is fixed in position against rotation by bolts *a a* through opposite points in its rim and the upright arm or standard 4 of the frame, so that when the rod has been lifted to the desired height the lever may be swung laterally into engagement with one of the hooks or catches 22 and hold the rod mechanism from reversing and the rod from running back into the well.

23 designates a frame having projecting lugs 24, which extend into elongated slots 25 in the sides of the yoke 8, and supported in bearings of the frame 23 is a shaft 26, upon which is mounted a serrated wheel 27, adapted to clamp the rod 28 within the groove of the wheel 17.

The ring 7 is formed with openings 29, adapted to receive pins 30 to secure the pump-rod 28 when it is necessary to twist the latter.

From the outer end of the frame 23 projects a rod 31, which extends through an opening in the end of the yoke 8 and is encircled by a coil-spring 32 to adapt the device for use upon rods of different sizes.

I claim—

1. A rod-extractor comprising a supporting-frame; a shaft supported thereby; a grooved wheel on said shaft; a crank for revolving said wheel; a wheel fixed to the frame and provided with catches to engage said crank; a ring supported at the upper end of the frame and formed with openings to receive removable pins; and an adjustable shaft carrying a serrated wheel coöperating with the grooved wheel.

2. A rod-extractor comprising a supporting-frame; adjustable clamps carried by said frame; a grooved wheel adapted to have frictional engagement with the pump-rod; a jointed crank for revolving said grooved wheel; a wheel fixed to the frame and having laterally-projecting hooks to engage said crank; and means for holding the pump-rod against the grooved wheel comprising a serrated wheel supported upon an adjustable shaft.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM HOEKSTRA.

Witnesses:
P. J. VAN HEMERT,
F. E. VANZEE.