W. & G. KOCH.
Windlass for Oil-Wells.

No. 208,611. Patented Oct. 1, 1878.

Fig 1

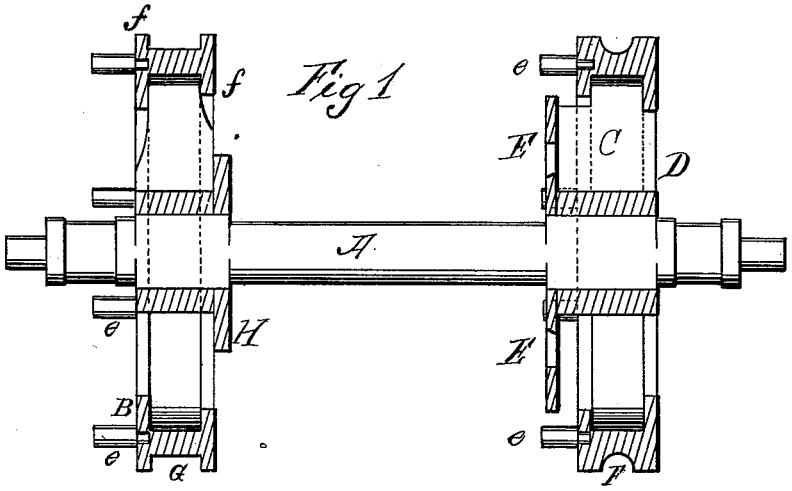


Fig. 2.

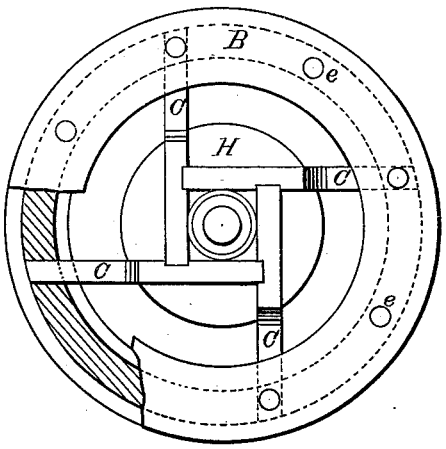
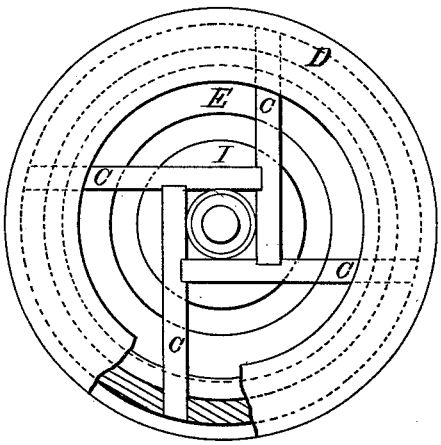


Fig. 3.



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WILLIAM KOCH AND GEORGE KOCH, OF ST. PETERSBURG, PENNSYLVANA.

IMPROVEMENT IN WINDLASSES FOR OIL-WELLS.

Specification forming part of Letters Patent No. **208,611**, dated October 1, 1878; application filed March 31, 1877.

To all whom it may concern:

Be it known that we, WILLIAM KOCH and GEORGE KOCH, of St. Petersburg, in the county of Clarion and State of Pennsylvania, have made a new and Improved Windlass; and we hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming part of this specification, and to the letters of reference marked thereon.

In the drawing, Figure 1 represents a front elevation of our improved windlass; Fig. 2, an outside end view of the brake-wheel; and Fig. 3, a similar view of the grooved wheel.

Our invention relates to an improvement in that class of windlasses or mechanical contrivances known in the oil-producing regions as a "bull-wheel," the use of which is so generally understood by operators in those regions that no description of such use is herein deemed necessary.

In this case the construction of the shaft or axle A and the mode of attaching the spokes thereto are, in most respects, like those previously made and generally used. The spokes are wide enough to carry, at a little distance from the rim and nearer the middle of the shaft, a broad circular guide-flange, E, which is bolted thereon, thus giving ample room for the proper handling of the wheel by the projecting side pins, *e e*, arranged around the inside rim of this wheel. The setting of this guide-flange E some distance from the wheel also accomplishes the object of preventing a rope, when wound about the shaft, from coming in contact with the projecting pins *e*, which it would otherwise do if the guide were placed near the rim of the wheel.

The grooved wheel D has, usually, a simple narrow groove, F, in its face, in which a rope is intended to run. The brake-wheel B, at the opposite end of the shaft A, is of the same diameter with that of the grooved wheel; but its face G is made broad, and protected on each edge by a slightly-elevated flange, *f f*, while the pins *e*, for moving the wheel by hand, are arranged, in this case, at equidistant points around the outside of its rim, in a manner similar to those on the inside rim of the grooved wheel.

On the shaft A, adjoining this brake-wheel B, is placed a circular guide, H, which prevents the rope from traveling too far in that direction and rubbing against the side of the brake-wheel or interfering with its movement; and on the shaft, near the grooved wheel D, is a similar guide, E, placed there for the same purpose.

We are aware that a bull-wheel having the brake-wheel on one end of the shaft and on the other a grooved driving-wheel is not new. Hence, we do not claim such devices; but

What we do claim is—

In a bull-wheel, the combination, with the shaft A, of the shouldered inner-extended spokes C, the grooved wheel D, having the pins *e* of the guide-flange E secured to the projecting edges of said spokes, and on a line with the pins, whereby the rope on the shaft is prevented from coming in contact with the said pins, substantially as specified.

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