

(No Model.)

C. H. MILLER.

CHAIN PUMP IRON.

No. 281,106.

Patented July 10, 1883.

Fig. 1.

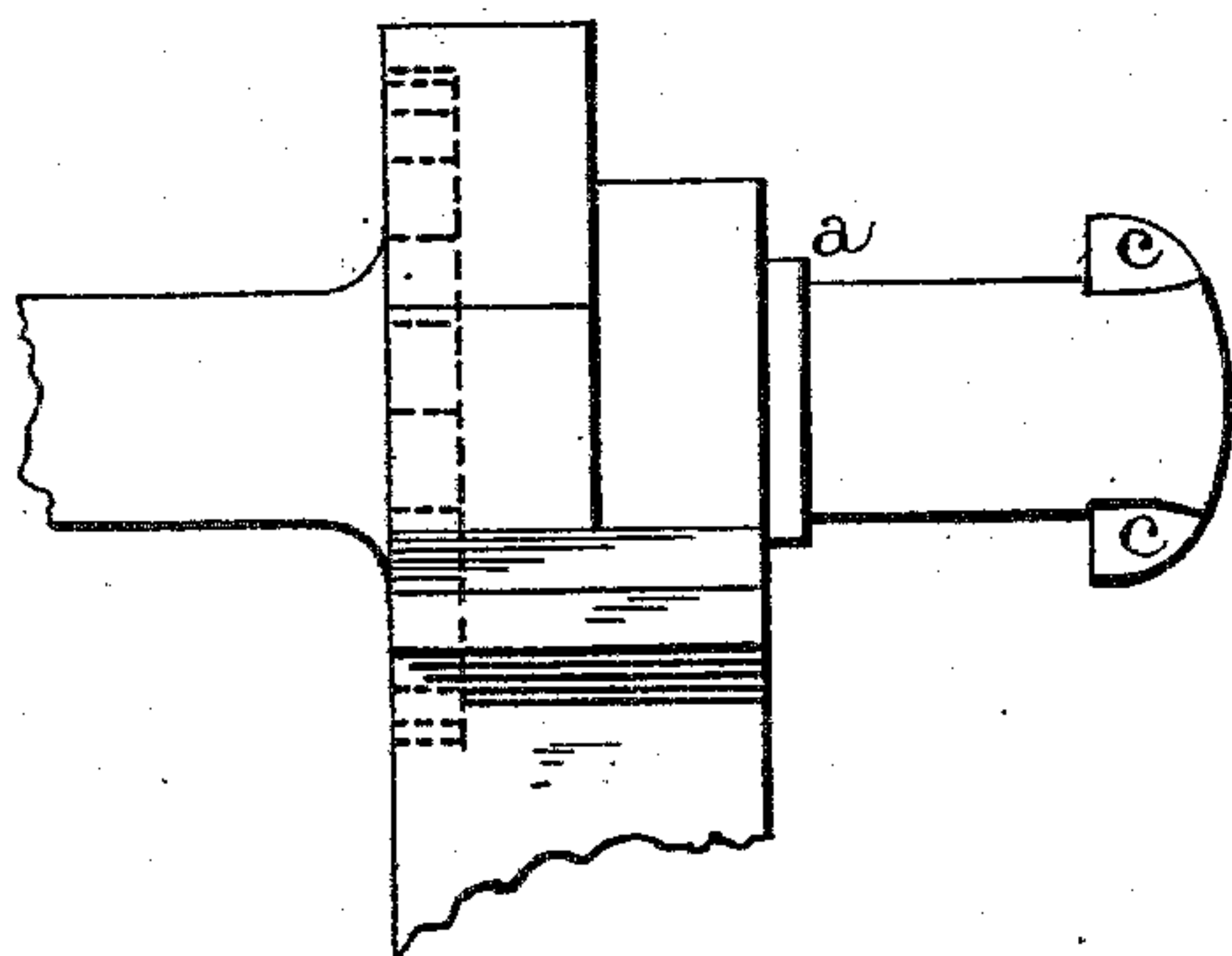


Fig. 2.

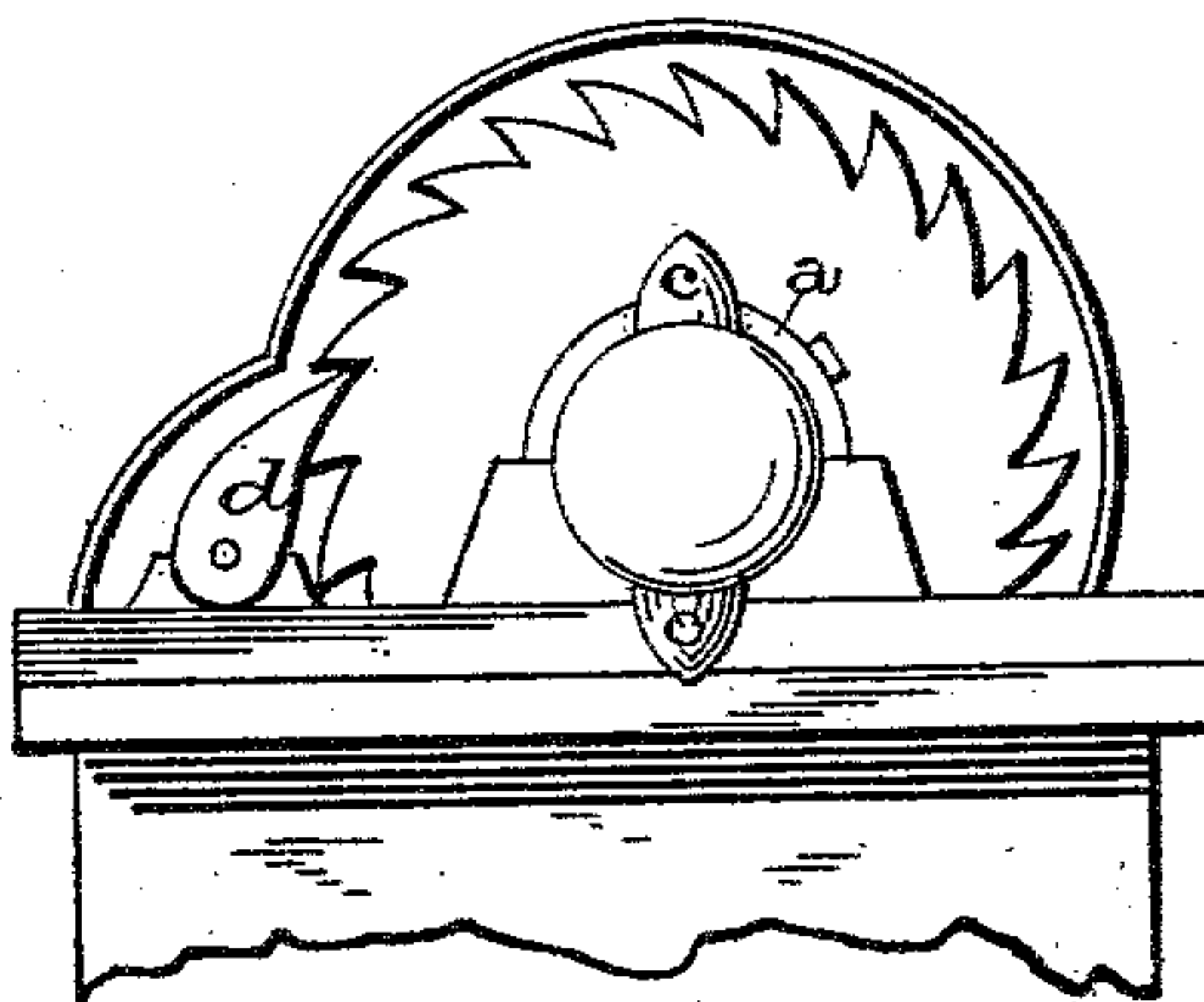


Fig. 3.

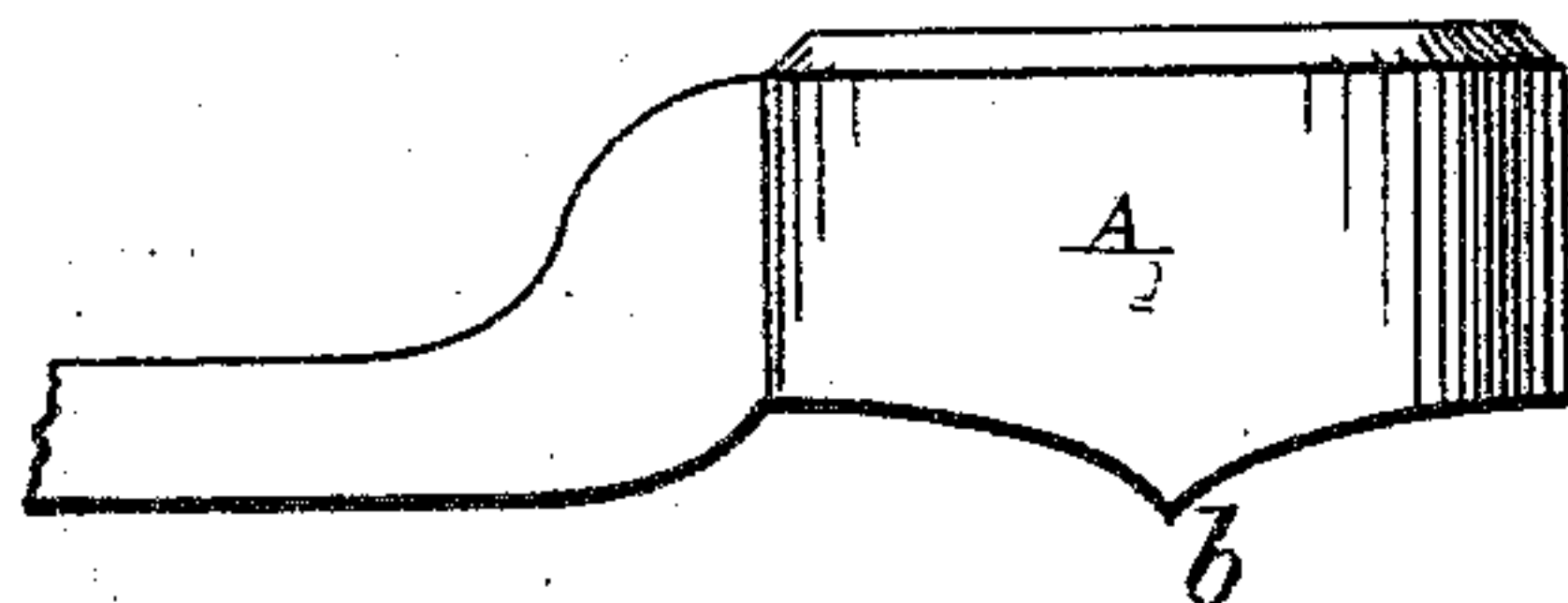
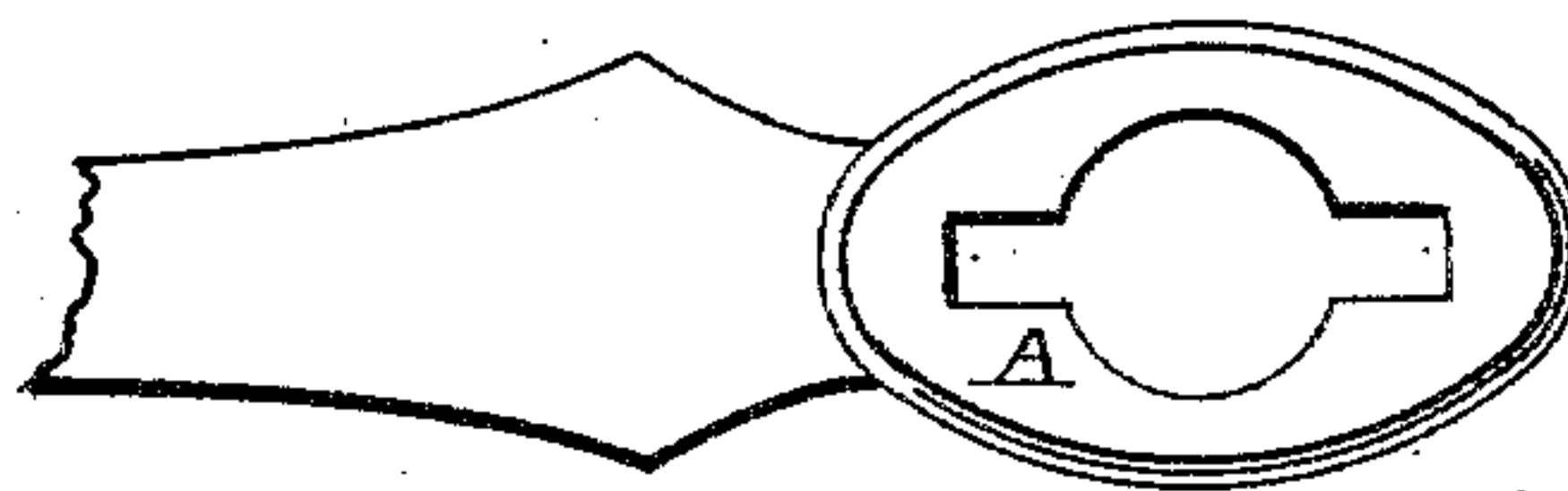


Fig. 4.



— Witnesses. —

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— Inventor. —

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per
J. A. Lehmann, Atty.

UNITED STATES PATENT OFFICE.

CHARLES H. MILLER, OF COLUMBUS, OHIO.

CHAIN-PUMP IRON.

SPECIFICATION forming part of Letters Patent No. 281,106, dated July 10, 1883.

Application filed December 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. MILLER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Chain-Pump Irons, of which the following is a specification, reference being had therein to the accompanying drawings.

I have invented improvements in chain-pump irons.

My improvements consist of an interchangeable crank, which can be used on either end of a shaft made with both ends fitted for a crank, making either a right or left hand pump. The crank is fitted for a self-keying shaft, and is made with an incline both ways from the center of the outside rim about the eye, so that it will key to the lugs on the shaft, whether turned to the right or the left; also, an improved ratchet so arranged as to insure great strength, certainty of action, and protection from ice accumulations in the winter.

Many attempts have been made to produce an effective set of chain-pump irons, but thus far have proved defective and unsatisfactory. Hitherto the only interchangeable or right-and-left-hand crank has been the square-eyed crank, which it is impossible to key so as to be firm and still have it available to change to either side, and all ratchets that are not under cover are liable to become clogged with ice in winter, and those hitherto applied to chain-pump castings that have been placed under cover have proved insufficient by reason of weakness. Some have been placed over the top of the ratchet-wheel and held by a stem coming up through the top of the hood, but are so arranged as to necessitate the cutting away of the bearings in the box to such an extent as to destroy its durability, and it is impossible to make the stem of the dog in that form of sufficient strength to resist the force of the back motion. The ball and the roller-ratchets have failed by reason of crushing or pressing the parts between which they play apart.

The following is a description of my invention:

Reference being had to the accompanying drawings, Figure 1 is an edge view of my invention. Fig. 2 is an end view of the same. Figs. 3 and 4 are detail views of the crank.

The crank A is made with a circular eye, so slotted in the opposite sides as to pass over lugs on the end of the shaft and up against a shoulder, *a*, on the shaft, and the front side of the crank, at the rim about the eye, is made with an incline slanting both ways from apexes *b*, opposite the center of the eye on each side, so that when the crank is turned either way, after being pressed back to the shoulder, it will key itself between the lugs *c* on the outer end of the shaft and the shoulder, thus making it available as a right or left hand crank.

The ratchet is made by placing a common ratchet-wheel on the shaft inside or beyond the shoulder *a*, and keying it tight in place, and, in connection with being joined to and made a part of the lower boxing, I provide a solid dog-bed, which is a groove across the said box-piece, just back of and parallel with the journal-bed, but placed in so as to be in line with the ratchet-wheel, with a loose dog, *d*, with a broad roller-shaped bottom, for strong bearing in the bed, and curved slightly in a wedge-shaped edge at the top, to incline it toward the ratchet-wheel, causing it to catch readily into the teeth of the wheel, and then, in connection with the upper part of the boxing, I provide a close-fitting hood for the double purpose of keeping the ratchet-dog in place and protecting both it and the ratchet-wheel from the water and ice accumulations, the whole making a right-and-left-hand self-keying crank and a perfect-working ratchet for chain-pump irons.

I claim—

1. A crank with double incline on the rim at the side of the eye, for the purposes set forth.

2. A solid ratchet-dog bed joined to and made part of the lower boxing, with a loose round-bottomed wedge-shaped dog playing in the same, provided with a close-fitting hood connected with upper half of boxing, and the whole in combination, for the purpose described.

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

CHARLES H. MILLER.

Witnesses:

EDMUND SMITH,
T. H. RICKETTS.