

(No Model.)

J. C., L. F. & A. P. BRESSLER.

PORTABLE CAPSTAN.

No. 301,665.

Patented July 8, 1884.

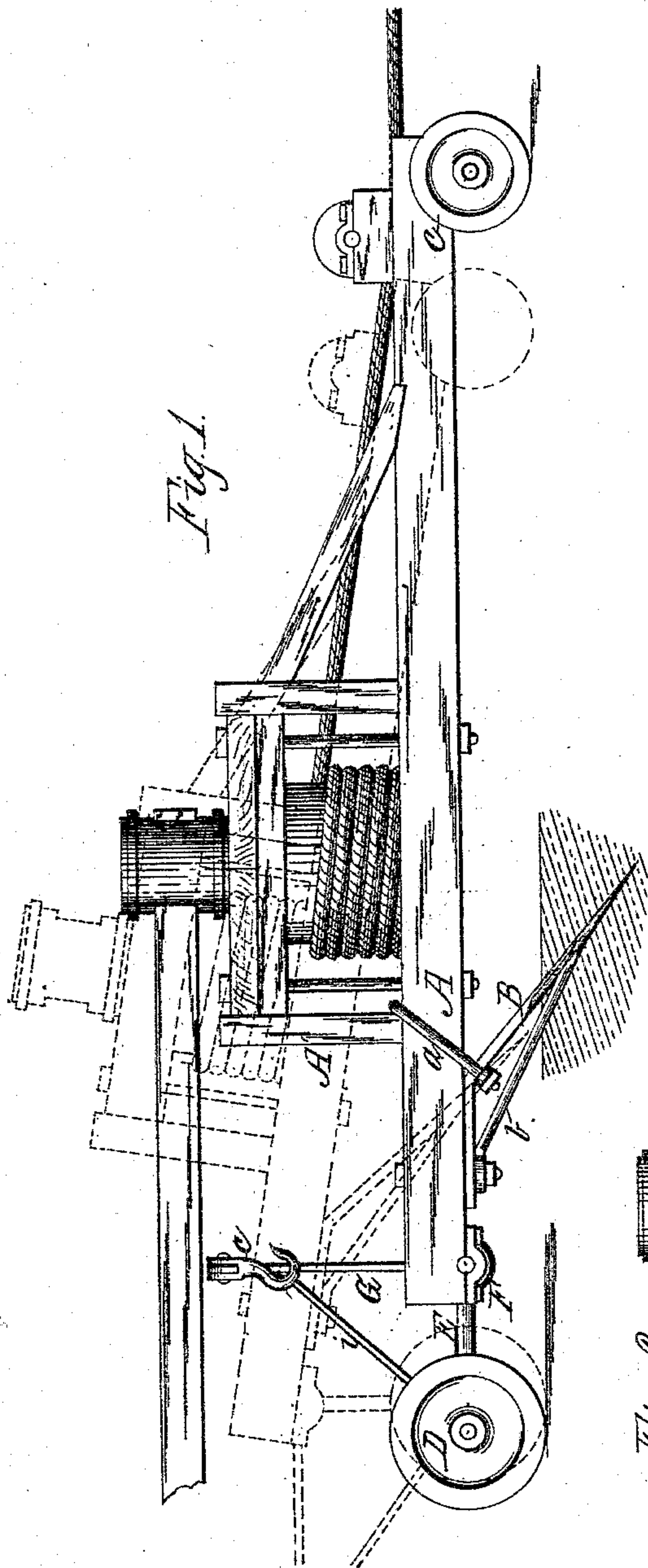


Fig. 1.

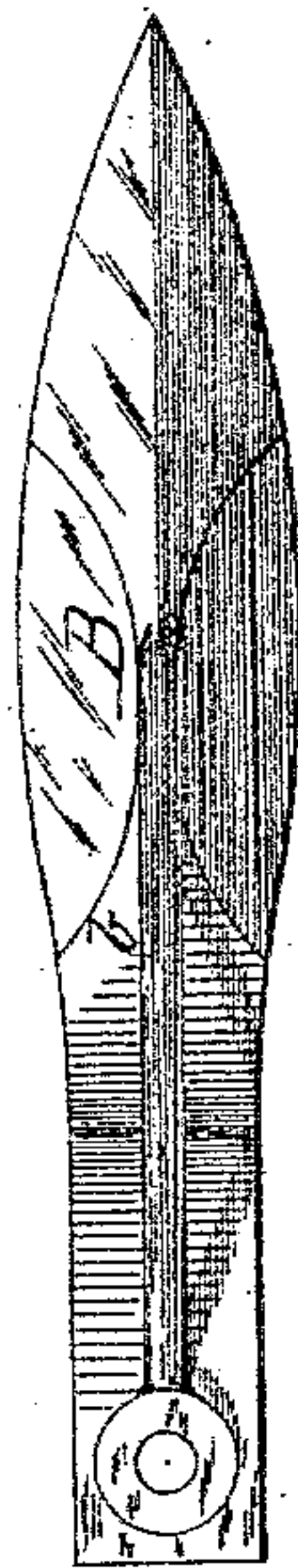


Fig. 2.

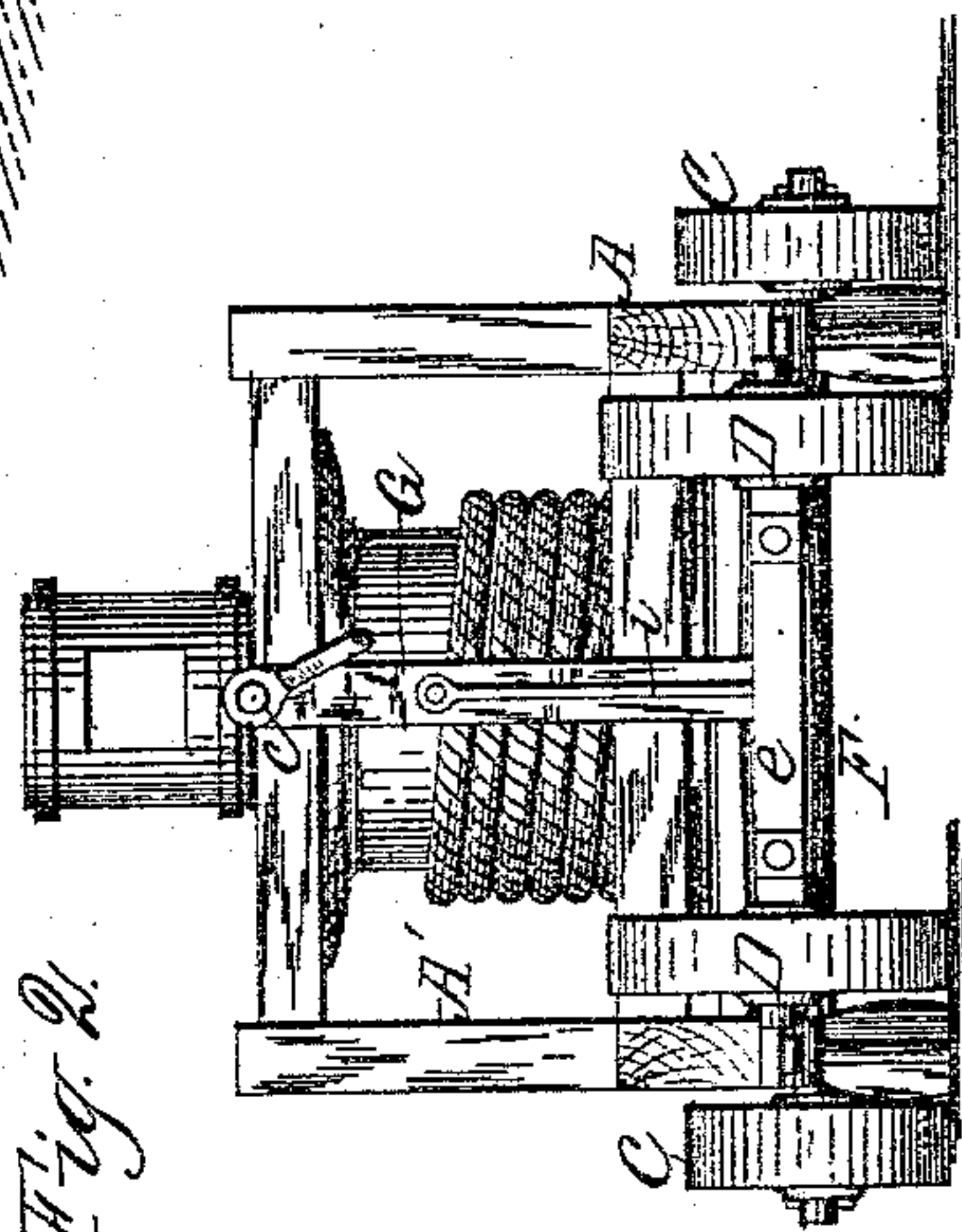


Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## PORTABLE CAPSTAN.

SPECIFICATION forming part of Letters Patent No. 301,665, dated July 8, 1884.

Application filed May 31, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, JACOB C. BRESSLER, LOWELL F. BRESSLER, and ALLEN P. BRESSLER, citizens of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Portable Capstans, of which the following is a specification.

Our invention relates to that class of capstans used in hauling heavy bodies over the ground, and is particularly applicable to the moving of houses and the like.

The object of our invention is to so construct the capstan that it may be more quickly, easily, and securely anchored for service, and with less difficulty transported from place to place, than any capstan known to us.

The invention consists in making the fluke which holds the capstan in position a broad, sharp, and comparatively thin blade of iron or steel, suitably strengthened and secured to the frame, and in providing the front end of the capstan with a pivotal truck, which enables the fluke to enter the ground its entire length when anchored, and lifts it entirely clear of the ground for transportation.

In the accompanying drawings, Figure 1 represents a side elevation of the capstan; Fig. 2, a front end elevation of the same, and Fig. 3 a plan view of the fluke.

For convenience, the end to which the team is hitched in transporting the capstan is called the front end, which is the extremity at the left in Fig. 1. The main frame A A' is not materially different from those in general use, and need not be specially described. In the construction and arrangement of the fluke B, however, important changes will be observed. Hitherto it has consisted of a wooden spur extending downward in a greater or less angle and terminating in a point. The face of the fluke was usually shod with iron or steel. In order to obtain the requisite strength it became necessary to make the fluke wide in the direction of the longitudinal strain, and as a natural result it was with great difficulty anchored in the ground, especially in hard, compacted streets. Before the capstan could be set it was necessary to dig holes for the flukes, at a considerable loss of time and to the injury

of the street. To obviate all this trouble we make the fluke thin in the direction of longitudinal strain and wide on the bearing-face, pointed at the bottom, and with sharp edges at the sides. The result is, that it readily enters even the hardest soil without any previous digging, and simply by the draft of the hauling-cable. To give it the required strength, a brace, *b*, is secured to its rear face by riveting or welding, and intersects the flange by which it is attached to the frame. The fluke is preferably made of steel—at least the edged and pointed part. Instead of being forged, however, it may be cast, and the brace *b* may be a simple rib. The form shown is specially desirable from the facilities it affords for fastening the fluke to the frame. Besides the single bolt passing through both brace and flange, the fluke is still further secured by means of the clip *a*, extending diagonally across the bed-piece A, and behind the upright A'.

To render the capstan portable, its rear end is mounted on the fixed truck C, and the front end on the pivotal truck D. The axle *e*, which carries the wheels, is connected to a rock-shaft, F, pivoted to the frame A, by means of arms E. At right angles to these arms, and connecting also with the axle F, is an arm, G, provided with a hook, *c*, or equivalent means for connecting it with the whiffletrees. Both the arms E E and the draft-bar G are braced by the rod *i*. The effect of this construction of the truck will be seen by reference to Fig. 1. The principal figure represents the fluke about half-way into the ground and the truck thrown forward, giving the frame liberty to still further descend. The dotted outline shows the same lifted entirely free from the ground, the forward wheels under the front end of the frame and the draft-bar extending forward in a horizontal line. The whole machine is thus in a position to transport from place to place as easily as an ordinary vehicle. Heretofore it has been customary to drag the capstan on the heel of the fluke—a matter requiring a great deal of power, besides injuring the fluke to a greater or less extent. The changes in the position of the front truck are very easily and quickly made. When the capstan is anchored, the team is hitched to the draft-bar G,



and the machine is drawn forward and upward in a line corresponding to the angle of the fluke, until the latter is out of the ground and the capstan is in the position indicated by the dotted outline in Fig. 1. When in that position, and it is desired to anchor it, the truck-wheels are easily thrown forward by lifting the draft-bar G, when the combined weight of the capstan and the draft upon the cable forces the fluke into the earth.

In order to give sufficient length to the draft-bar, and at the same time enable the sweep to pass over it when in a vertical position, the hook *c* is hinged to it and may be turned down, as shown in the drawings.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a portable capstan, a forward truck consisting of a wheel-bearing axle with wheels therefor, connected by arms or their equivalents to a rock-shaft pivoted in the main frame, and provided with an arm extending in a right angle to a line passing through the axle and rock-shaft, or nearly so, which arm serves as a lever for lifting the capstan-fluke out of the ground and as a draft-bar for transportation, substantially as specified.

2. In a portable capstan, the combination of wheels D D, axle *e*, connecting-arms E, rock-shaft F, draft-bar G, and hook *c*, with the capstan-frame A, substantially as and for the purpose set forth.

3. In a portable capstan, a fluke, wholly of iron or steel, or both, having a broad bearing-surface, and being pointed, edged, and made thin enough in the line of draft to enable it to enter the ground by the weight of the capstan and the strain of the cable, substantially as specified.

4. In a portable capstan, a broad, thin, sharp-edged, and pointed fluke, suitably braced to resist longitudinal strain, and secured to the frame of the capstan by a vertical bolt and a diagonal clip, substantially as shown and described.

5. In a portable capstan, a broad, thin, sharp-edged, and pointed metallic fluke, having a brace secured near the middle of its rear face by riveting or welding, and extending thence to the horizontal flange, by which the fluke is secured to the frame by means of a bolt passing through the brace and the flange, and a clip passing around the bed-piece of the frame and between the fluke and its brace, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

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Witnesses:

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