

J. Gardner, Capstan.

No. 93295.

Patented Aug. 3. 1869

Fig 1

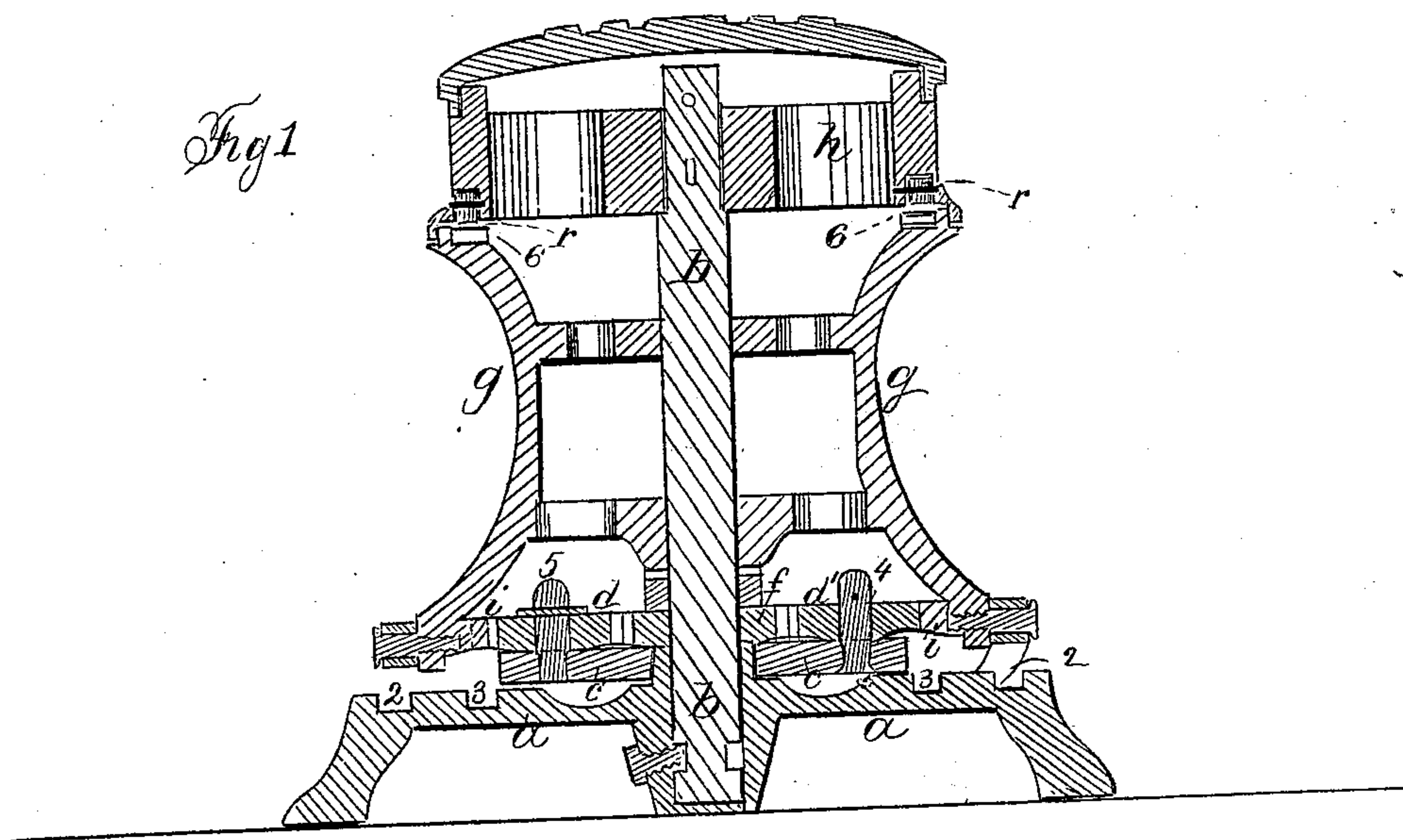
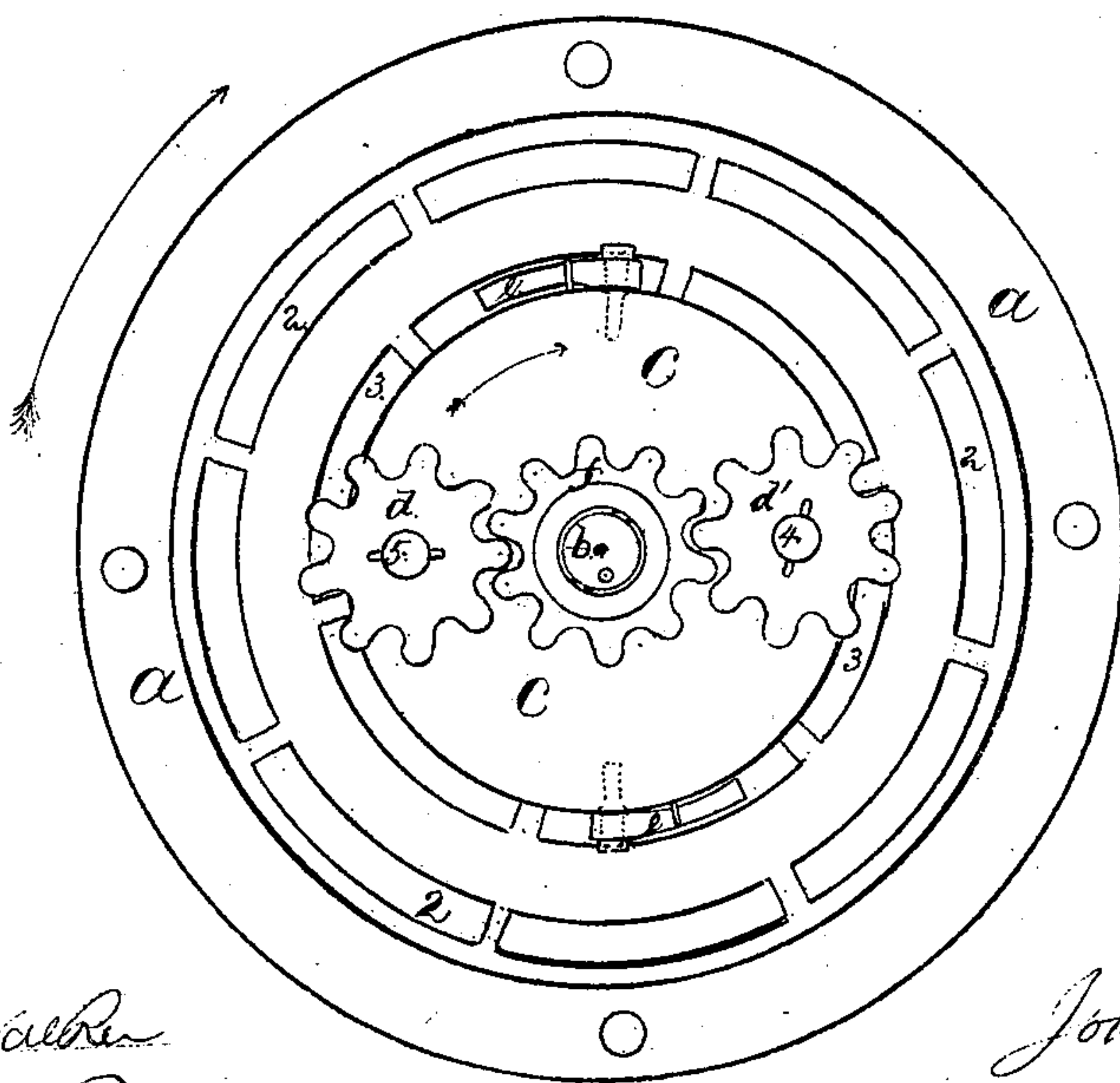


Fig 2



Witnesses,

Geo. D. Walbe
Geo. J. Pinckney

John Gardner
per L. W. Perrell
att'y.

United States Patent Office.

JOHN GARDNER, OF NEW YORK, N. Y.

Letters Patent No. 93,295, dated August 3, 1869.

CAPSTAN.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JOHN GARDNER, of the city and State of New York, have invented and made a new and useful Improvement in Capstans; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a vertical section of the said capstan, complete.

Figure 2 is a plan of the base and gearing, the barrel being removed.

Similar marks of reference denote the same parts.

This invention is to furnish a capstan with increased power, by lessening the speed when the capstan-head is revolved in one direction, and when revolved in the opposite direction, the capstan-head and barrel are connected so as to move at the same speed.

The present invention consists in a revolving base-plate, carrying gearing between the shaft and capstan-barrel, and provided with pawls, taking the base of the capstan, so that when the head of the capstan is connected by a pawl to the barrel, the gearing and plate revolve with the capstan-barrel, but when the head is revolved in the opposite direction, the base-plate is held stationary by the pawls, while the gearing continues to revolve the capstan-barrel in the same direction as before, but at a much slower speed. Thus a rope or chain can be rapidly hauled in, when under but little strain, but when the strain becomes too heavy for the ordinary purchase, the hand-spike head can be revolved the other way, and a slower and powerful movement given to the barrel, in the same direction in which it had been previously revolving.

In the drawing—

a is the base of the capstan, of suitable size and shape, having two pawl-beds, 2 and 3, and in the centre of the base *a* is the vertical shaft *b*, that can turn in said base, and also in the plate *c*, that carries the gudgeons 4 and 5, of the gear-wheels *d d'*.

Upon the edges of the plate *c* are pawls *e*, taking the pawl-bed 3, and

f is a gear-wheel, fastened upon the shaft *b*, taking the gears *d d'*.

g is the capstan-barrel, with an internal gear-wheel at *i*, into which the wheels *d d'* gear.

The capstan-head *h* is provided with hand-spike sockets, and is fastened, by keys or otherwise, to the shaft *b*.

Upon the upper surface of the capstan-barrel *g* is a ratchet, at 6, and upon the head *h*, are pawls *r*, taking said ratchet 6, or these parts might be reversed in their position.

It will now be understood that when the capstan is turned in one direction, the pawls *r* and ratchet 6 engage each other, and the barrel *g* is rotated with the head, and at the same speed, the pawls *e* running over the bed 3, in the direction indicated by the arrow, fig. 2.

If the movement of the head *h* is reversed, the pawls *r* run over the ratchet 6, and the pawls *e* hold in the bed 3, while the gearing *f, d d'*, and *i*, revolves the capstan with a slower and more powerful motion, but in the same direction as before.

The speed of the capstan relatively to that of the head will be according to the size of the gear *f*, in comparison to the internal gear *i*, the gudgeons of pinions *d d'* remaining stationary.

I do not claim the application of gear-wheels in the base of a capstan, as shown in Letters Patent No. 14,983, or in the top, as shown in Letters Patent No. 57,302.

What I claim, and desire to secure by Letters Patent, is—

The plate *c*, carrying the gears *d d'*, and fitted with the pawl *e*, in combination with the capstan-barrel *g*, internal gear *i*, gear *f*, and shaft *b*, substantially as and for the purposes specified.

Also, in combination with the foregoing, the hand-spike head *h*, and pawls, or equivalent device for connecting the same with the barrel, for the purposes specified.

In witness whereof, I have hereunto set my signature, this 4th day of May, 1869.

JOHN GARDNER.

Witnesses:

GEO. D. WALKER,
GEO. T. PINCKNEY.