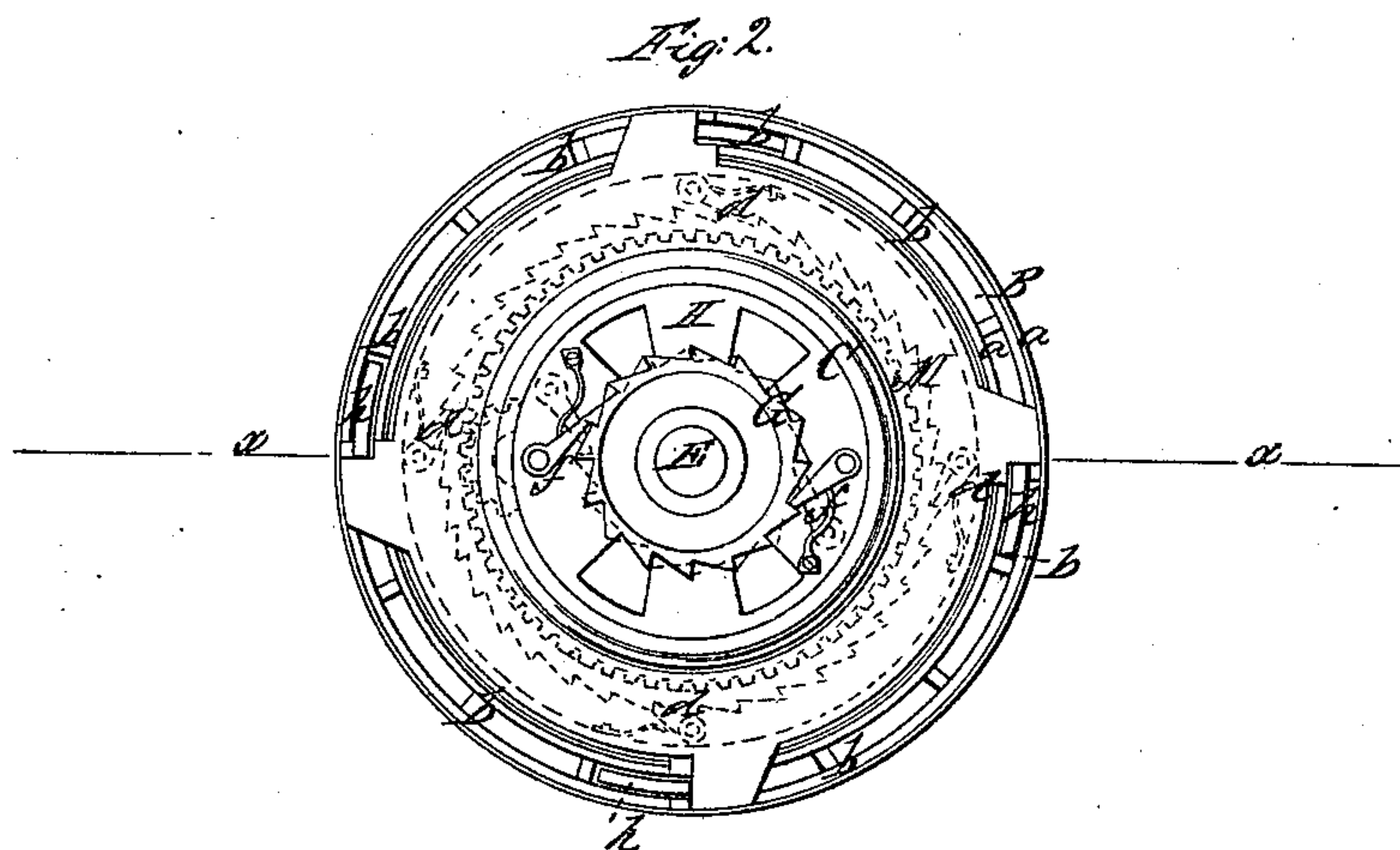
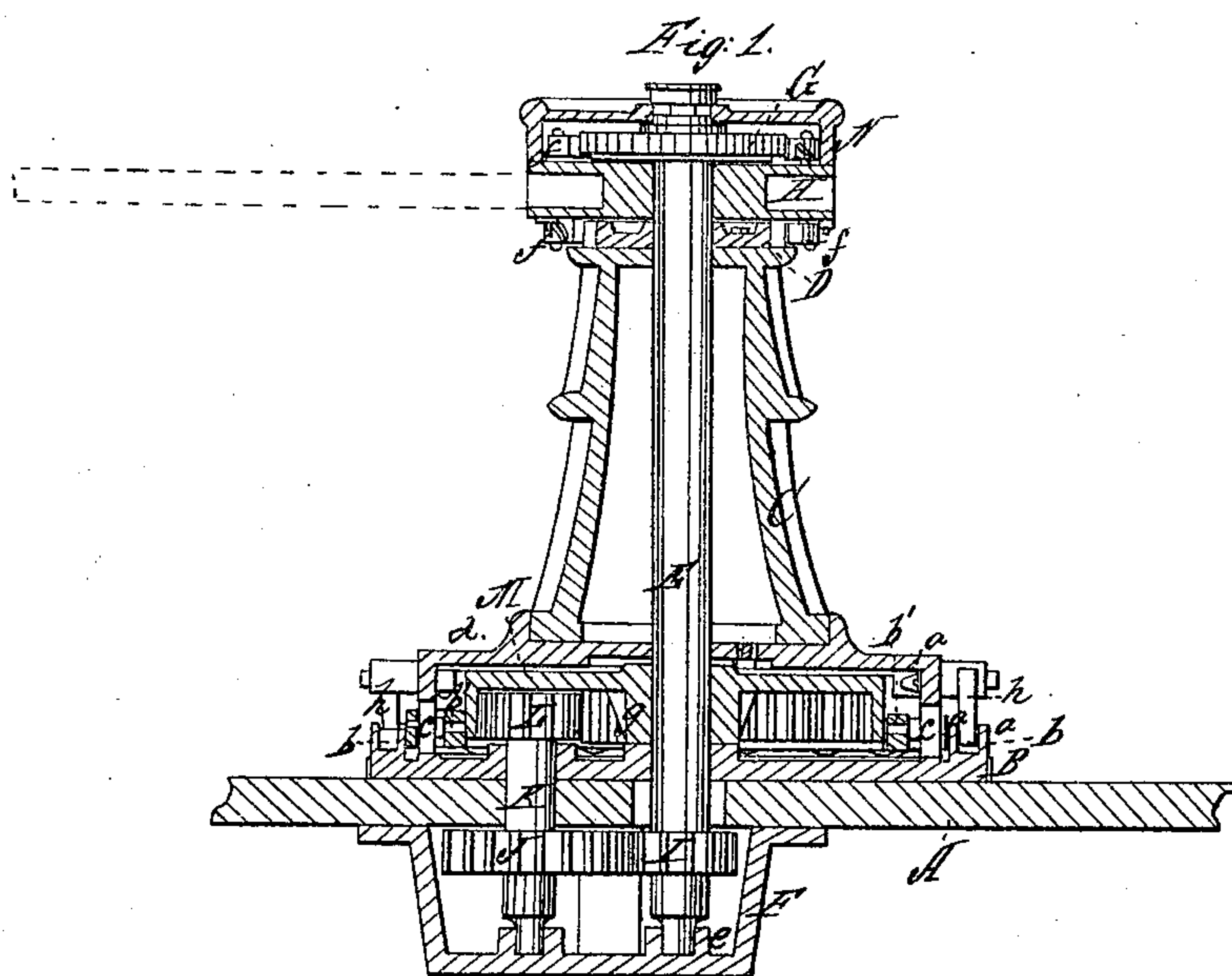


*S. Gaty,  
Canstán.*

*N<sup>o</sup> 14,983.*

*Patented May 27, 1856.*





# UNITED STATES PATENT OFFICE.

SAML. GATY, OF ST. LOUIS, MISSOURI.

## SHIP'S CAPSTAN.

Specification of Letters Patent No. 14,983, dated May 27, 1856.

*To all whom it may concern:*

Be it known that I, SAMUEL GATY, of St. Louis, in the State of Missouri, have invented a new and Improved Capstan; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical section of my improvement, (x) (x) Fig. 2, showing the plane of section. Fig. 2, is a plan or top view of ditto, the cap being removed.

Similar letters of reference indicate corresponding parts in the two figures.

The nature of my invention consists in attaching or connecting the body of the capstan to the head in two different ways, one being a direct connection, and the other an indirect connection by means of gearing arranged as will be presently shown, so that when the head is turned in one direction the body will turn with it with equal speed, and when the head is turned in the opposite direction the speed of the body will be considerably slower than that of the head.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents a platform or deck of a vessel on which a circular metallic plate B, is secured, said plate having ledges or upright projections (a) (a) around its edge between which projections teeth (b) are placed at suitable and equal distances apart.

Within the inner or smaller ledge or projection (a) there is placed a circular frame (b') having friction rollers (c) placed within it. The frame (b') is placed loosely on the plate B, and is allowed to turn freely thereon.

C, represents the body of the capstan, which may be constructed of cast iron. The lower end of the body C, is of flaring or bell shape and rests upon the friction rollers (c) in the frame (b') the body being hollow. To the upper end of the body C, there is attached a ratchet D, and to the lower end of the body on its inner side there are attached four pawls (d) two of which are seen in Fig. 1, and all are shown by dotted lines in Fig. 2.

E, represents a vertical shaft which passes through the center of the body C, and also through the platform or deck A. The lower

end of the shaft is stepped in a box (e) on the bottom of a metallic framing F, attached to the under side of the platform or deck A. To the upper end of the shaft E, there is attached a ratchet wheel G, and underneath the ratchet G, between it and the upper end of the body C, there is placed a head H, said head being loose on the shaft E.

The teeth of the two ratchets D, G, are cut in reverse or opposite directions, and to the upper and under surfaces of the head H, there are attached pawls (f) which catch into the teeth of the ratchets, two pawls catching into each ratchet.

To the lower end of the shaft E, and below the platform or deck A, there is attached a toothed wheel I, which gears into a wheel J, on a shaft K. The upper end of the shaft K, passes through the platform or deck A, and has a pinion L, upon it, which pinion gears into teeth cut on the inner periphery of a rim M, the hub (g) of which rests upon the center portion of the plate B, and is allowed to turn freely thereon, the hub (g) being detached from the shaft E. The outer periphery of the rim M, has ratchet teeth upon it into or between which the pawls (d) on the inner side of the body C, catch.

To the lower end of the body C, there are attached pawls (h) which work over the teeth (b) between the ledges or projections (a) (a) on the plate B. The upper part of the head is covered by a cap N, see Fig. 1.

Operation: The usual levers are placed in the head H, and when said head is turned from left to right the pawls (f) on the under side of the head H, will catch into or between the teeth of the ratchet D, and the body C, will be turned with the head, the shaft E, remaining stationary in consequence of the pawls on the upper surface of the head slipping over the teeth of the ratchet G. But if the head is turned in the opposite direction or from right to left, the pawls (f) on the lower surface of the head H, will slip over the teeth of the ratchet D, and the pawls (f) on the upper surface of the head will catch into or between the teeth of the ratchet G, and the shaft E, will be turned and the rim M, in consequence of the gearing I, J, L, will be turned, and the pawls (d) will catch between the ratchet teeth on the outer periphery of the rim M,



which will consequently turn the body C, in the same direction as it was previously turned but with much less speed.

By the above improvement it will be seen  
5 that the speed of the rotation of the body C, may be increased or diminished according to the direction in which the head H, is turned, and when light work is to be performed or a small anchor drawn up and little  
10 power required, speed is obtained, but when power is required, by turning the head in an opposite direction speed is lost or sacrificed and power obtained. I am aware that capstans have been previously constructed for  
15 effecting the same purpose; but they have been arranged in a complicated way, were liable to get out of repair and consequently are not in general use.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is: 20

The arrangement of the ratchets and pawls, and spur wheels and pinions, in capstans or windlasses, so that simply reversing the prime mover, will change it from a simple 25 to a compound capstan, without shifting any of the parts by hand, and so that, also, the spur wheels and pinions may only rotate when used as a compound capstan, and be self ungearing when changed to a simple one 30 as set forth.

SAML. GATY.

Witnesses:

WM. H. STONE,  
D. L. LATOURTTE.