J. T. HENTHORN & B. D. THAYER.

Power Capstans.

No. 147,557. Patented Feb. 17, 1874.

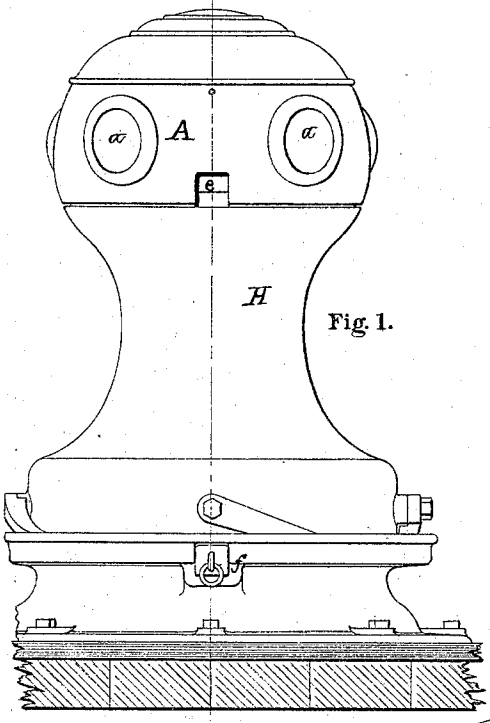

Fig. 1.

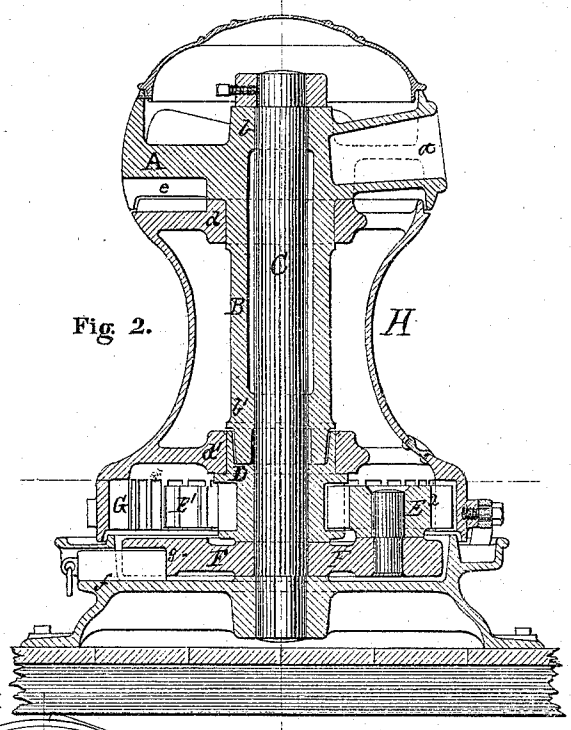

Fig. 2.

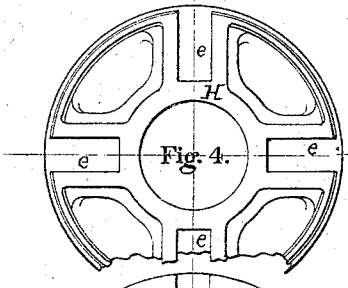

Fig. 4.

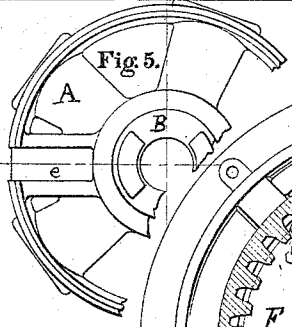

Fig. 5.

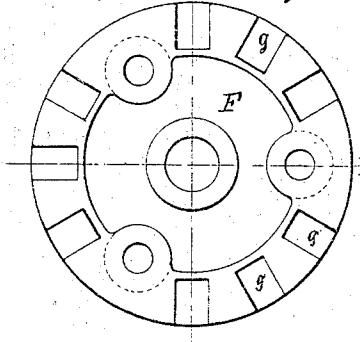

Fig. 6.

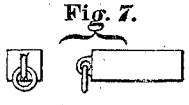

Fig. 7.

Fig. 3.

WITNESSES.

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JOHN T. HENTHORN AND BARTON D. THAYER, OF PROVIDENCE, RHODE ISLAND, ASSIGNORS TO JOSEPH P. MANTON, OF SAME PLACE.

IMPROVEMENT IN POWER CAPSTANS.

Specification forming part of Letters Patent No. 147,557, dated February 17, 1874; application filed November 28, 1873.

To all whom it may concern:

Be it known that we, JOHN T. HENTHORN and BARTON D. THAYER, both of the city and county of Providence, State of Rhode Island, have invented a new and useful Improvement in Power Capstans; and we do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Our improvement consists in such a combination of the capstan-head with the barrel, that, by a simple manipulation, the apparatus may be used as a power capstan or as a simple capstan, and be worked in either direction.

A, Figures 1, 2, and 5, is the capstan-head, which is furnished with socket-holes *a* for the capstan-bars. This head is furnished with a hollow shaft, B, which has upper and lower bearings, *b b'*, fitted to the central stationary shaft C. The lower end of the hollow shaft or sleeve B is tenoned, and the tenons enter mortises cut in the hub of a toothed wheel, D, which latter turns freely on the shaft C. E E^1 E^2 are intermediate pinions, which are severally mounted so as to turn freely upon a stud in a circular disk-plate, F, Fig. 6, and which latter is free to turn on the shaft C. The intermediate pinions, above mentioned, engage with the central toothed wheel D, and also with the teeth of the segment-gear G, which is upon the inner face of the capstan-barrel H. The capstan-barrel is distinct from the capstan-head, and it is provided with upper and lower bearings, *d d'*, which are fitted to the hollow shaft or sleeve B, which forms an attachment to the capstan-head. The barrel is clearly shown in Figs. 1, 2, 3, and 4.

The capstan-head and the capstan barrel can be locked together by means of a key, Fig. 7, inserted in a mortise-socket, *e*, one-half of which is cut in the head, and the other half in the barrel, as seen at Figs. 1 and 2; and, also, if a similar key be inserted through a mortise in the casing at *f*, so that the key will extend into a gain, *g*, in the disk-plate F, the said disk-plate will be prevented from revolving on the shaft C.

The effect of thus locking the disk-plate F will be to prevent the intermediate pinions E E^1 E^2 from revolving around the central toothed wheel D, as they otherwise would do, whereupon, if the capstan-head A be revolved in either direction by means of capstan-bars, the capstan-barrel will be made to revolve in the opposite direction, but at a rate of speed as much less and with a degree of power as much greater as is due to the difference in the diameters of the driven segment-gear G and the driving-wheel D.

By unlocking the disk-plate F, and locking the capstan-head and capstan-barrel, the apparatus becomes a simple capstan.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination, with a central shaft, of a capstan-head provided with an axial sleeve, and a driving-gear mounted on said shaft, a barrel mounted on said sleeve and provided with an internal gear, a disk-plate carrying pinions, which connect said driving-gear with the barrel-gear, and a locking device whereby said disk-plate may be prevented from rotating, substantially as described.

JOHN T. HENTHORN.
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Witnesses:
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