

C. SHERWOOD.  
SWIVEL CAPSTAN.

APPLICATION FILED AUG. 28, 1911.

1,016,101.

Patented Jan. 30, 1912.

2 SHEETS—SHEET 1.

FIG. 1.

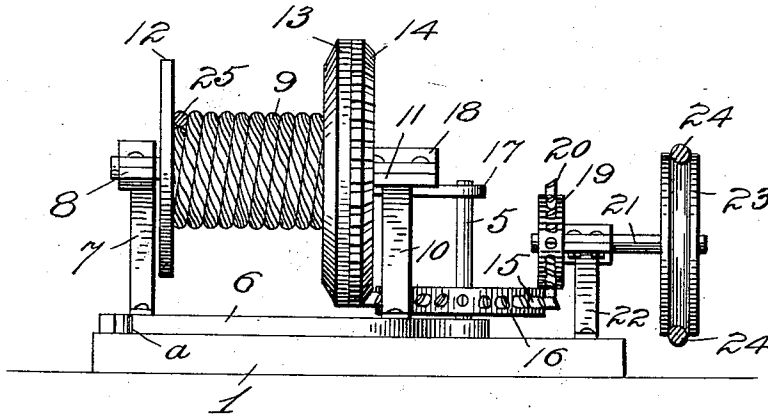
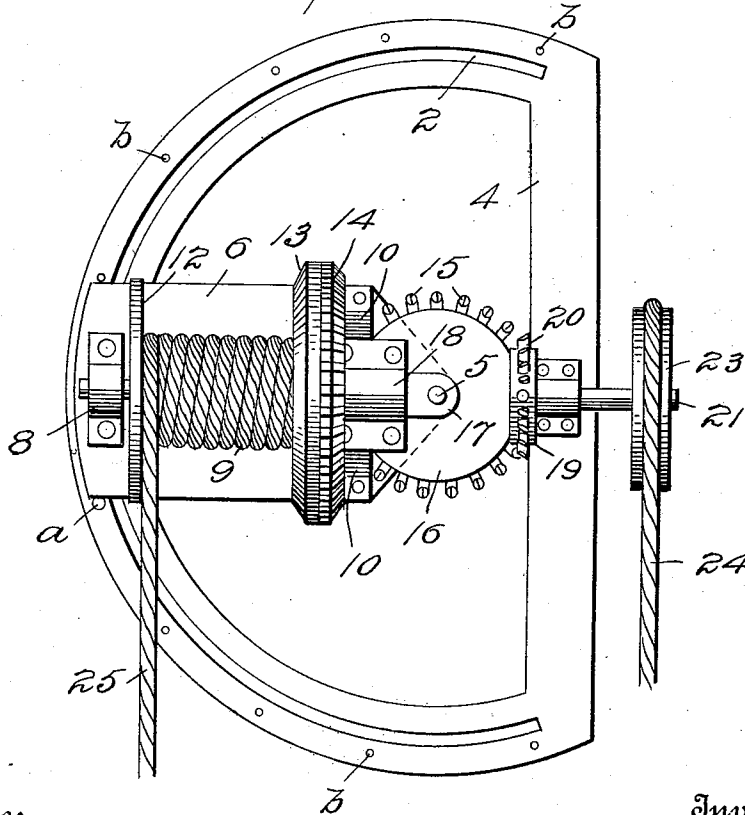


FIG. 2.



Witnesses

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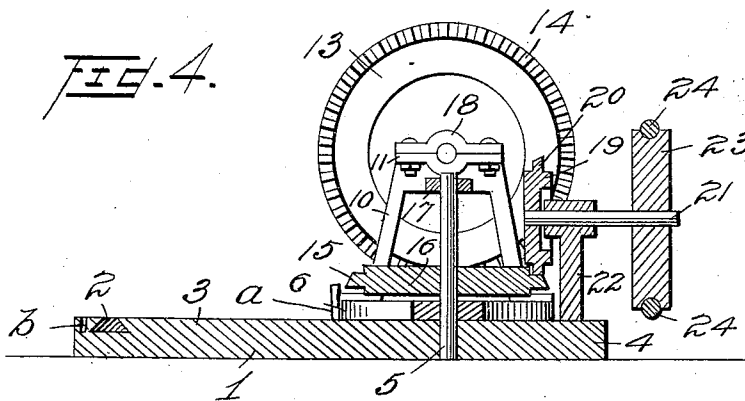
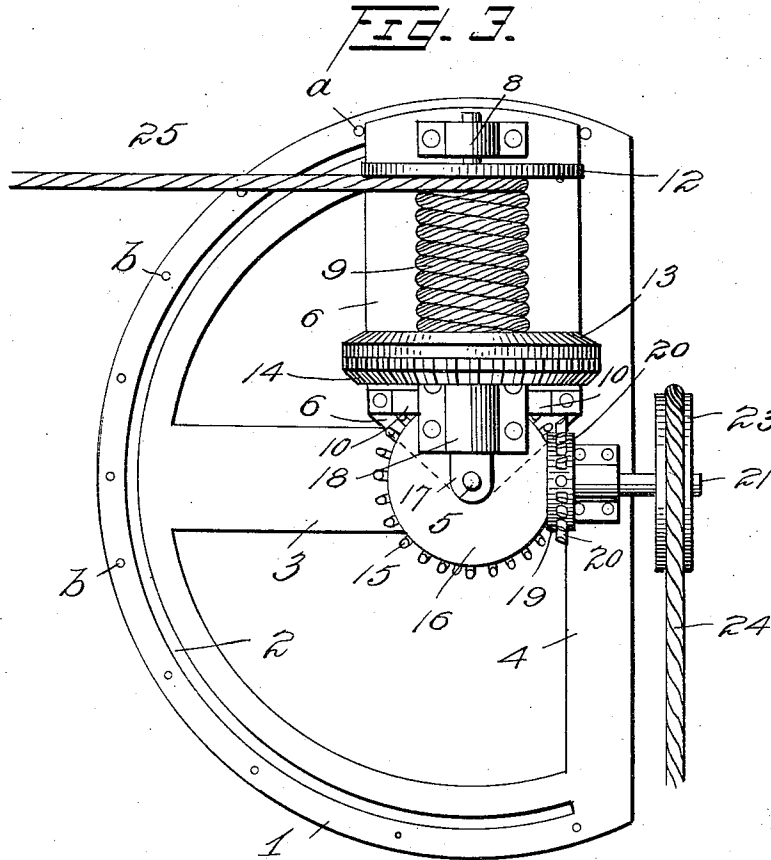
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# UNITED STATES PATENT OFFICE.

CHARLES SHERWOOD, OF FRIENDSHIP, NEW YORK.

## SWIVEL-CAPSTAN.

1,016,101.

Specification of Letters Patent.

Patented Jan. 30, 1912.

Application filed August 28, 1911. Serial No. 646,453.

*To all whom it may concern:*

Be it known that I, CHARLES SHERWOOD, a citizen of the United States of America, residing at Friendship, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Swivel-Capstans, of which the following is a specification.

This invention relates to swivel capstans designed for the purpose of lifting or loading heavy articles or for logging purposes and one of the principal objects of the invention is to provide a winding mechanism pivoted or swiveled to a base so that the winding reel will always be at right angles to the pull of the lifting cable.

Another object of the invention is to provide a swivel capstan of simple construction which will be efficient in operation and which will always assume the proper position to give a direct pull on the lifting cable or rope in whatever position the load may occupy relatively to the winding reel.

Still another object of the invention is to provide a winding mechanism in which a spur gear of peculiar form is substituted for the ordinary bevel gear in order that the swivel action of the reel may not be interfered with in its various movements.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of a capstan or winding mechanism made in accordance with my invention; Fig. 2 is a plan view of the same showing the winding drum in one of its positions; Fig. 3 is a plan view showing the winding drum in another position; and Fig. 4 is a vertical sectional view of the same.

Referring to the drawings, the numeral 1 designates the base or support for the capstan, said base or support being substantially semicircular in plan and provided with a dove-tailed groove 2 extending around near its outer edge. The base 1 is preferably of skeleton form and provided with a central brace 3 and a right angular member 4. Pivotaly mounted upon a vertical shaft 5 is a supporting plate 6 provided with a dove-tailed tenon on its lower side which fits into the dove-tailed groove 2 and permits the plate 6 to swing on the shaft 5. Secured to the supporting plate 6 and extending vertically therefrom is a bracket 7 having bearing plates 8 at its upper end to support the

reel shaft 9, the opposite end of said shaft being supported upon a bracket 10 also secured to the plate 6 and said bracket being provided with bearing plates 11 at its upper end. The reel shaft 9 is provided with a cable guard 12 near one end and suitably spaced therefrom is a combined cable guard and miter gear 13. The gear teeth 14 extend radially and are separated one from the other, as shown. These gear teeth engage and are in constant mesh with the spur gear teeth 15 on a gear wheel 16 fixed to the shaft 5. The shaft 5 is journaled at its upper end in a bracket 17 connected to the bearing plates 11 by means of suitable bolts 18. For rotating the spur gear 16, I have provided a vertically disposed spur gear wheel 19, having teeth 20 which are oppositely beveled. The gear wheel 19 is secured to a shaft 21 journaled in the upper end of a bracket 22 secured to the base 1. On the outer end of the shaft 21 is a power pulley 23 and a rope or cable 24 extends around the pulley 23 and to a power motor or engine for operating the capstan. The pulley rope or cable 25 passes around the shaft 9 and is connected to the load or article to be lifted.

The operation of my invention may be briefly described as follows: When it is desired to lift a load at any desired angle from the winding mechanism, the cable 25 is connected to the load and the reeling mechanism is held at right angles to the cable 25 by means of a pin *a* which may be inserted in any of the holes *b* in the base 1 to hold the reel at right angles to the line of pull of the cable 25. Power being applied to the rope or cable 24, the spur gear wheel 19 will engage the teeth 15 of the spur gear 16 and rotate the same. The teeth 15 of the spur gear 16 will engage the teeth 14 to rotate the reel. There are special advantages in using the spur gear wheels shown since they operate smoothly and are as strong and durable if not more so than the ordinary miter gear teeth.

From the foregoing, it will be obvious that a swivel capstan made in accordance with my invention can be used for many purposes and will be found powerful and quick in operation, not liable to get out of order and can pull the load from any angle relatively to the winding mechanism.

I claim:—

In a swivel capstan, a substantially semicircular skeleton base having a dove-tailed

groove in its upper surface extending around near the outer edge of said base, said base being provided with a central integral brace and an integral right angular member connecting the ends of the semi-circular base, a substantially rectangular supporting plate pivotally mounted above the base on a vertically extending shaft at the center of curvature of said base, said supporting plate carrying a downwardly extending dove-tailed tenon adapted to travel in said groove, a vertically extending bracket secured to the outer end of said supporting plate, a vertically extending bracket secured to said plate near the pivot point thereof, said brackets having bearing plates at their upper ends, a reel shaft rotatably mounted in said bearings, said reel shaft being provided with a cable guard near its outer end, a combined cable guard and miter gear fixedly mounted on said reel shaft near the inner end thereof, a horizontally disposed spur gear wheel mounted on said vertically extending shaft, said spur gear wheel meshing with the said miter gear to operate the reel shaft, a vertically extending bracket secured to the central part of the said right angular member, said bracket being provided with bearings upon its upper end, a horizontally disposed shaft rotatably mounted in said bearings, a vertically disposed spur gear wheel fixedly mounted on the inner end of said horizontally disposed shaft, said spur gear wheel meshing with the said horizontally disposed spur gear wheel for operating the same, a power pulley fixedly secured to the outer end of said horizontally disposed shaft for operating said shaft, and a horizontally disposed bracket fixed to the said vertically extending bracket secured to the supporting plate near the pivot point thereof, the upper end of said vertical shaft being journaled in the said horizontally disposed bracket, and means for holding the said base plate in adjusted position.

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

CHARLES SHERWOOD.

Witnesses:  
W. L. THURSTON,  
E. M. CAPRON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."