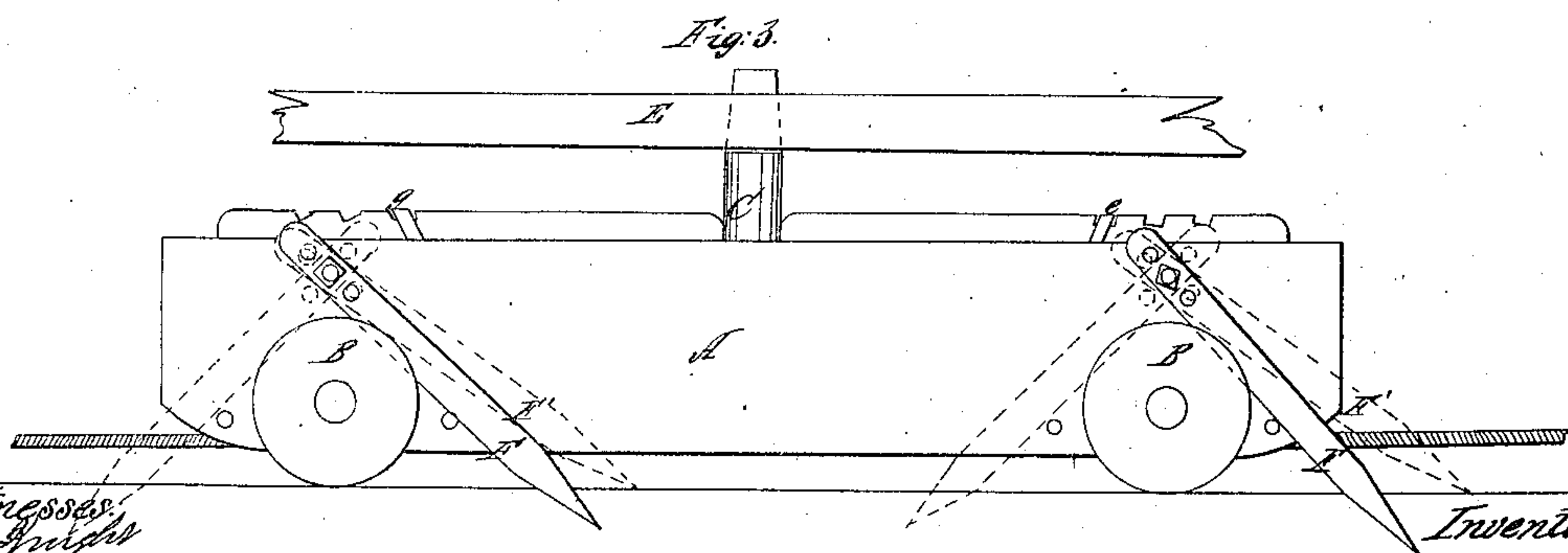
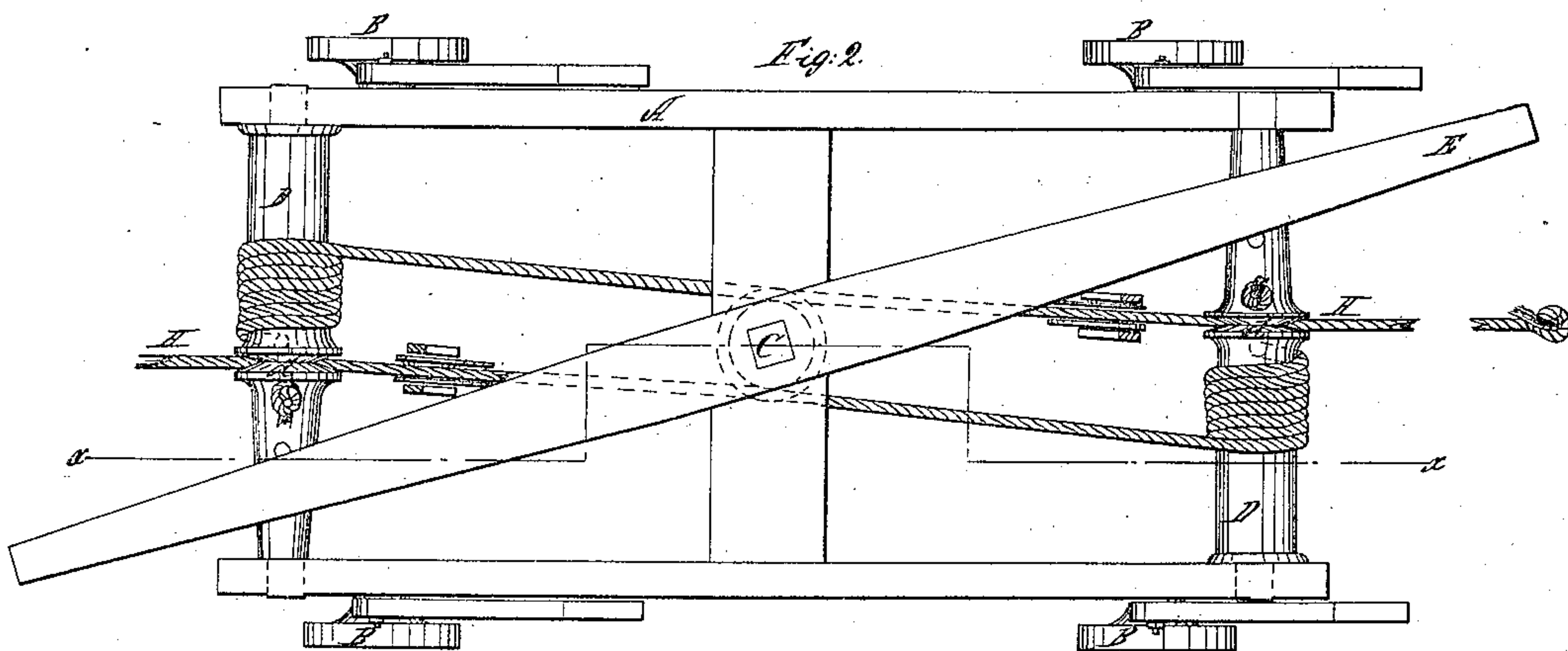
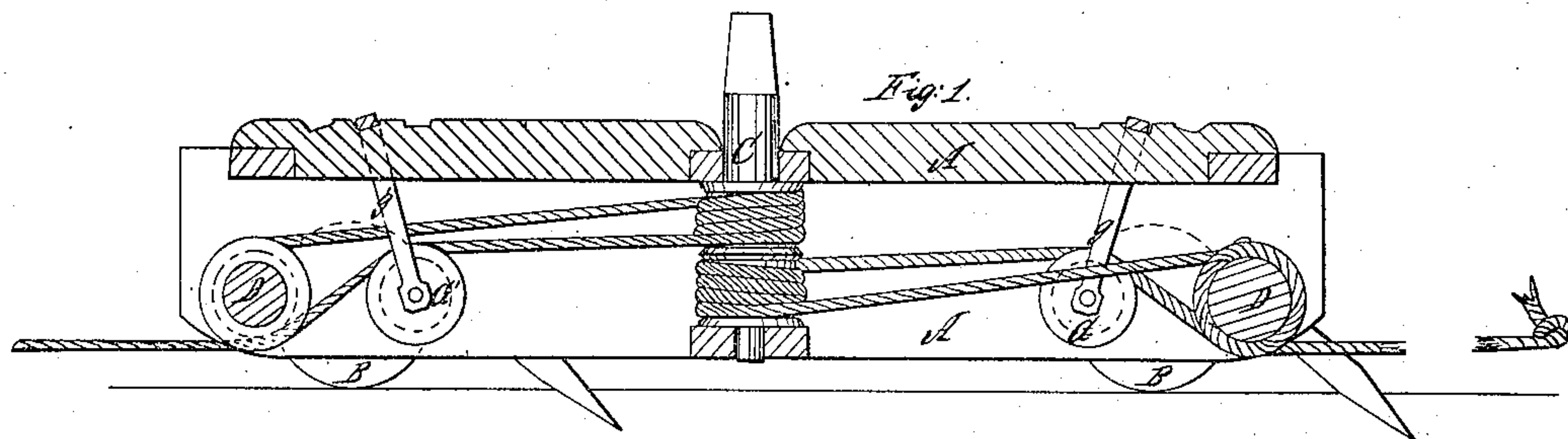


W. P. Goolman,

Windlass.

N^o 23,676.

Patented Apr. 19, 1859.



Witnesses:
Geo. Wright
W. Lake & Co.

Inventor:
W. P. Goolman

UNITED STATES PATENT OFFICE.

WILLIAM P. GOOLMAN, OF DUBLIN, INDIANA.

WINDLASS.

Specification of Letters Patent No. 23,676, dated April 19, 1859.

To all whom it may concern:

Be it known that I, WILLIAM P. GOOLMAN, of Dublin, Wayne county, Indiana, have invented certain new and useful Improvements in Windlasses; and I hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

10 The object of the said invention is to provide means for taking up the slack from the winding drum so that the cable may be wound upon it with unvarying rapidity and power.

15 In the accompanying drawings Figure 1, is a longitudinal section at $x x$ Fig. 2. Fig. 2, a top view and Fig. 3, a side elevation of a convertible traveling or stationary windlass illustrating my invention.

20 A, A, represent different parts of the frame of the machine, supported at a short distance from the ground on wheels B. C, is a vertical capstan or winding drum journaled in the said frame and rotated by means of a sweep E.

D, is a horizontal reel journaled near the end of the frame and provided with a score pulley d .

30 G is a scored idle pulley whose shank g , engages in notches as exhibited so as to render it adjustable longitudinally of the frame.

F, F, are crabs which engage in the ground so as to hold the machine firmly in position when used as a stationary windlass.

The operation is as follows. The cable H is passed under the pulley d , over the idler G, and around the capstan C, a sufficient number of times to give it the requisite traction. Its loose end is then coiled tightly around the reel D. The capstan C, being now rotated on its axis will wind in the cable H, while the latter by engaging with the pulley d , rotates the reel D, so as to wind in the slack of the cable and maintain a sufficient degree of tension to avoid the possibility of its slipping on the capstan. As successive coils are wound upon the reel D, its tendency would naturally be to draw in the cable with increasing rapidity were the rotation of the said reel continued at a uniform speed but the effect of the device

shown is to simply maintain the tension of the portion of the cable which is leaving the capstan; by means of the traction of the 55 entering cable against the score pulley d .

It is the duty of the idler G, to hold the cable against the pulley d , with sufficient force, without producing such friction as to prevent its slipping so as to accommodate 60 the decreasing motion of the reel. For this purpose the said idler is made adjustable longitudinally of the frame as explained.

The reel D, is provided with suitable holes for handspikes in order to strain the cable 65 tight on first putting the machine in operation.

D' and G' are respectively a duplicate reel and idler which are used when the machine is employed as a traveling windlass. 70 In this case one end of the cable H', is anchored in any customary manner and the other end passed under the pulley d' , over the idler G' and around the capstan C' and reel D' as previously explained; the crabs 75 being placed in the position exhibited in red at F', so as to simply drag on the ground and offer no resistance to the motion of the machine in the direction it is desired to travel. By this means when both cables are 80 employed the journals of the capstan will be almost entirely relieved from strain and the windlass will move at one half the velocity of the plow or other object which it is employed to draw. 85

It will be evident that this invention is equally applicable to a horizontal capstan. To apply it to a ship's windlass the idler G will be adapted to resist an upward pressure, the cable passing over the pulley d , on 90 the reel and under the said idler, the latter being adjustable to vary the traction of the cable against the pulley d , as before explained.

The above described apparatus exhibits a 95 simple and effective method of automatically taking up the slack of the cable so as to wind in an indefinite length without adding to the size of the winding drum so as to vary the force exerted. 100

The following is what I claim as new and of my invention and desire to secure by Letters Patent.

1. In the described combination with a

winding drum or capstan of any suitable form I claim the application of a reel D, operated by the traction of the entering cable to take up the slack from the said
5 drum or capstan as explained.

2. In combination with the said reel and capstan I claim the adjustable idle pulley G operating as set forth to maintain the

needful traction of the cable against the reel or vary it as may be found needful. 10

In testimony of which invention, I hereunto set my hand.

W. P. GOOLMAN.

Witnesses:

OCLS. KNIGHT,
EDM. F. BROWN.