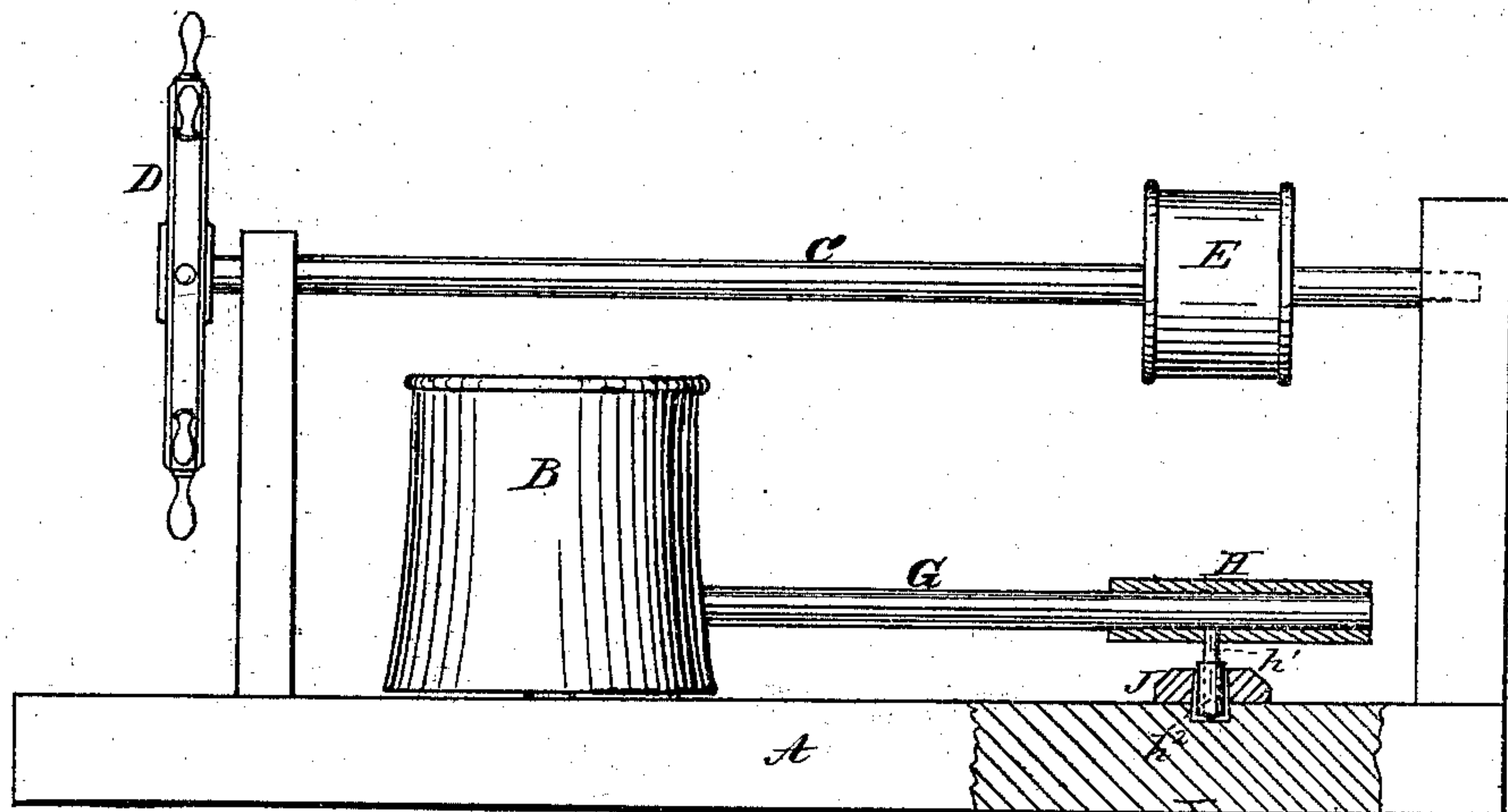
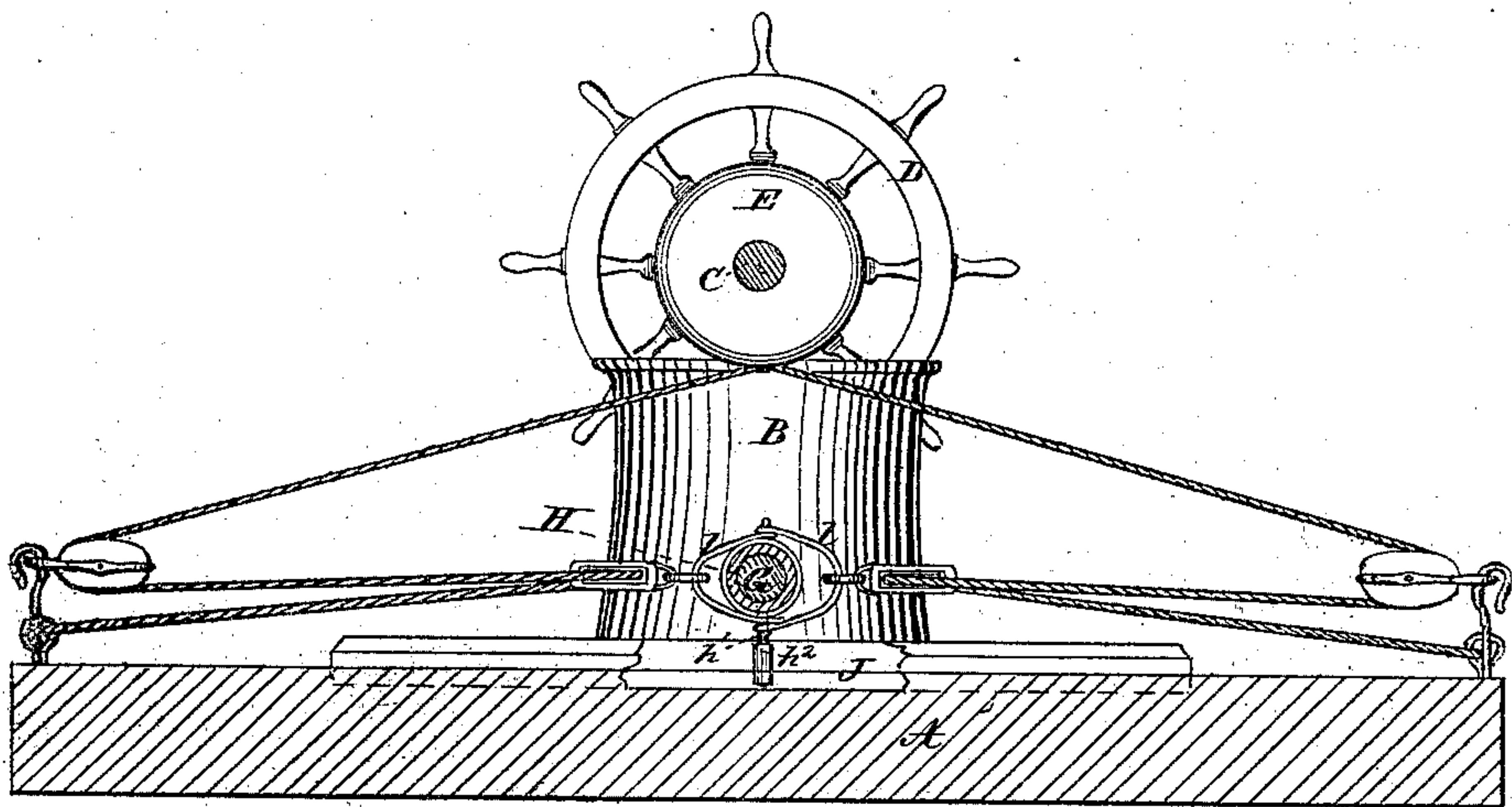


M. R. PERKINS.
Steering Apparatus.

No. 144,220.

Patented Nov. 4, 1873.



Witnesses.
Thomas Byrne
H. C. DuRamel

Inventor.
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UNITED STATES PATENT OFFICE.

MICHAEL R. PERKINS, OF PORTSMOUTH, NEW HAMPSHIRE.

IMPROVEMENT IN STEERING APPARATUS.

Specification forming part of Letters Patent No. **144,220**, dated November 4, 1873; application filed October 9, 1873.

To all whom it may concern:

Be it known that I, MICHAEL R. PERKINS, of Portsmouth, county of Rockingham and State of New Hampshire, have invented certain new and useful Improvements in Steering Apparatus, of which the following is a specification:

This invention relates to certain improvements in steering apparatus, whereby the greatest length of tiller is obtained when most required, the blocks and tackle are always kept in line, and all slack rope is taken up. The invention consists in a cylindrical sleeve, arranged to slide on the after end of the tiller, having an arm provided with a friction-roller extending downward, and engaging with a groove in the deck, the blocks and tackle being connected to the sleeve by means of pivoted links.

In the accompanying drawing, Figure 1 is a view of my invention, partly in section, looking forward from the stern. Fig. 2 is a longitudinal vertical section, showing the sleeve on the tiller, with the arm and friction-roller engaging with the groove.

A represents the deck of a vessel. B is the rudder-post. C is the horizontal shaft, which carries the steering-wheel D and windlass E. G is the tiller, extending aft from the rudder-post. H is a cylindrical sleeve, sliding freely on the after portion of the tiller, and having an arm, h^1 , extending downward, and engaging with a groove, J, formed in the deck, or in

a plank placed on the deck for the purpose, the arm h^1 being provided with a friction-roller, h^2 . The groove J is straight, and extends transversely across the deck. The blocks and tackle are attached to the sleeve by means of links l , having their ends pivoted to the sleeve, one on each side.

When the wheel is turned, and the tiller moved to either side, the arm h^1 , moving in the groove J, lengthens out the tiller by sliding the sleeve H farther aft, thus giving the greatest leverage when most required—that is to say, when the helm is hard a-port or hard a-starboard—and, by means of the pivoted links, connecting the blocks to the sliding sleeve, the blocks and tackle are always kept in line, and all slack rope is taken up.

I claim as new, and desire to secure by Letters Patent—

1. The sleeve H, sliding on the after end of the tiller, and having the arm h^1 and roller h^2 , engaging with the groove J, substantially as and for the purpose described.

2. The links l , for connecting the blocks and tackle, in combination with the sleeve H, substantially as shown and described.

In testimony that I claim the foregoing as my invention I hereunto affix my signature this 30th day of September, 1873.

MICHAEL R. PERKINS.

Witnesses:

MARK W. AYERS,
ALBERT H. SIDES.