

ELLIS DOTY.

Improvement in Tackle-Blocks.

No. 115,450.

Patented May 30, 1871.

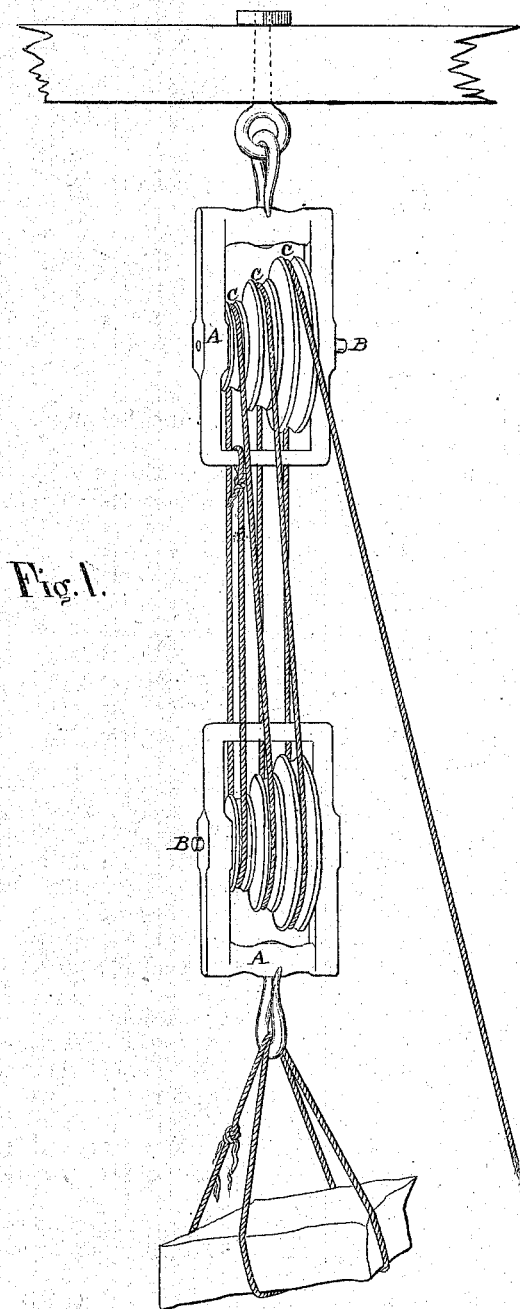
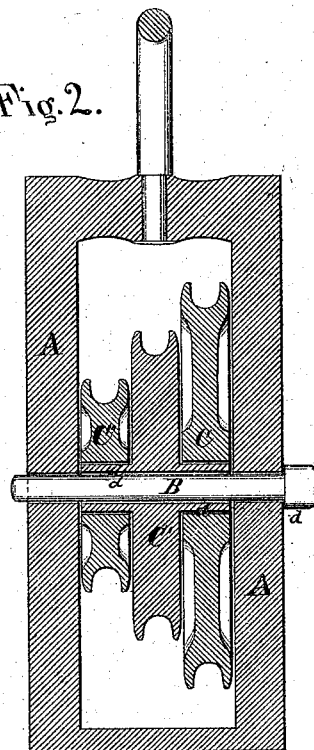


Fig. 1.

Fig. 2.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

ELLIS DOTY, OF JANESVILLE, WISCONSIN.

## IMPROVEMENT IN TACKLE-BLOCKS.

Specification forming part of Letters Patent No. 115,450, dated May 30, 1871.

*To all whom it may concern:*

Be it known that I, ELLIS DOTY, of Janesville, in the county of Rock and State of Wisconsin, have invented a new and valuable Improvement in Tackle-Blocks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a perspective view of my invention, showing its application. Fig. 2 is a central vertical longitudinal section.

My invention has relation to an improvement in the construction of tackle-blocks, whereby all the advantages of separate wheels are derived without the unnecessary friction of the faces of the hubs against each other; and it consists in providing one of the wheels of the block with an elongated hub or sleeve, upon which the other wheels rotate, all the wheels being graduated to make their revolutions in equal time.

The letter A of the drawing designates the frame or body of the tackle-block, within which the wheels are situated. B represents the axle secured to the walls of the block. The fixed axle is preferred to the shaft journaled in bearings in the walls of the frame A, because, by the use of the sleeve-hub hereinafter described, the bearing is distributed evenly over a greater surface. C C' C'' designate the wheels of the block, which are so graduated in diameter with respect to each other and with respect to the wheels of the lower or pendent tackle that, when the rope or cord is properly reeved and attached, the wheels of each block will make their revolutions in equal times. Either of the wheels of the tackle-block may be provided with the elongated sleeve *d*. For convenience in oiling and other advantages thereby attained, I prefer attaching this sleeve to the middle wheel. The ends of the sleeve extend

outward on either side, and are brought in contact with the walls of the block or frame against which they rotate. The other wheels of the tackle are slipped on the sleeve *d*, and rotate loosely about it. The wheels are all provided with hubs slightly projecting to prevent them from coming in contact at any other part.

Now, if a rope be found of even texture, perfectly homogeneous, and free from excrescences and knots, the design is that, when reeved about these pulleys, the wheels of each will make their revolutions in equal times, and there will be no friction between them, either on the sleeve or when the faces of the hubs come in contact; but, in practice, it is not feasible to use rope of the character above described. It is never homogeneous, and always furnished more or less with excrescences and inequalities.

The mode herein described of constructing the tackle-block is designed to approximate, as nearly as the inequalities of the rope will admit, equality in the time of the revolutions of the wheels, while at the same time the independent movement of each wheel is permitted, and the bearing of each of the wheels is distributed over the entire shaft of the pulley-block.

I claim as my invention—

1. In a tackle-block, the independent wheels C C' C'', graduated to make their revolutions in equal times, substantially as specified.
2. In a tackle-block, a wheel provided with an extended hub to serve as a bearing for the other wheels of the block, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ELLIS DOTY.

Witnesses:

D. D. KANE,  
F. B. CURTIS.