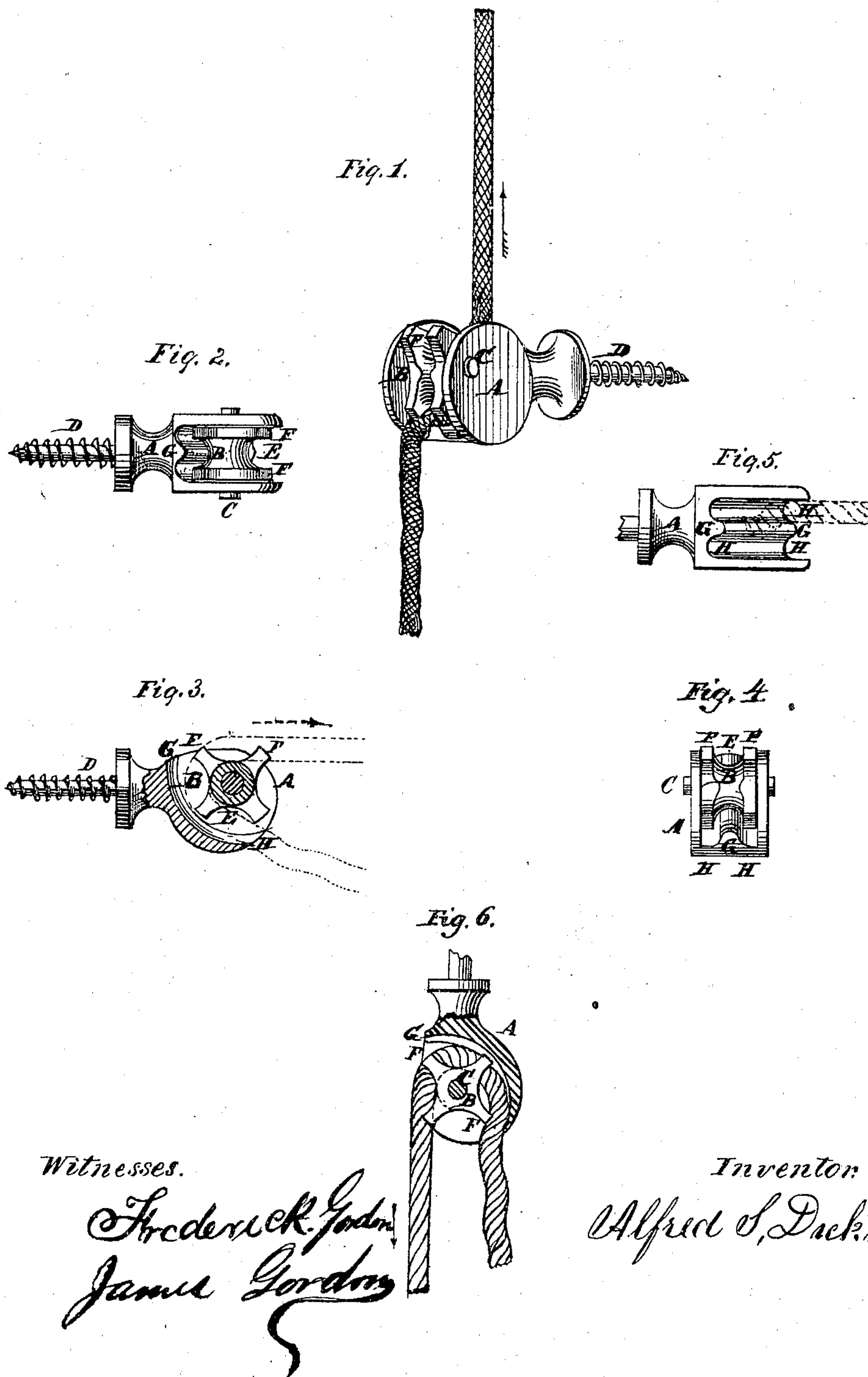


A. S. DICKINSON.  
Pulley-Blocks.

No. 143,441.

Patented Oct. 7, 1873.



Witnesses.

Frederick K. Gordon  
James Gordon

Inventor:

Alfred S. Dickinson



# UNITED STATES PATENT OFFICE.

ALFRED S. DICKINSON, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN PULLEY-BLOCKS.

Specification forming part of Letters Patent No. 143,441, dated October 7, 1873; application filed April 18, 1873.

*To all whom it may concern:*

Be it known that I, ALFRED S. DICKINSON, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Combined Block and Pulley and Cord or Rope Stop or Safety-Block, of which the following is a specification:

This invention relates to the combination of a sheave or pulley having flanges on each side of its groove, provided with projections or arms, and a block having opposite the groove of the pulley a taper or V shaped ridge or rib, and opposite the flanges of the sheave furrows or grooves, which are narrowing, and allow the flanges with their arms to pass freely, but not the cord or rope with them, so that the cord or rope, while raising the weight or drawing the load, or that both of its ends are stretched taut, will remain and pass on in the groove of the pulley; but, as soon as one end of the rope or cord is allowed to slack, the slack end, by its contact with said taper rib or ridge, is caused to slip sidewise into one of the furrows above mentioned, and becomes caught with said arms on the flanges, and is stopped in said furrow with safety. The cord cannot slip out of its place.

By this means a very simple stop for the rope is combined with the pulley and block, which is obtained for the same expense of the pulley and block without a stop.

In the annexed drawings, Figure 1 represents a perspective view of the block and pulley with my improvements. Fig. 2 is a top view of the same; Fig. 3, a central vertical section of the same, showing its application to a horizontal rope. Fig. 4 is a front view of the same. Fig. 5 is a detached top view of the block, showing, in dotted lines, the relative position of the rope while being stopped. Fig. 6 represents a vertical section of the block when applied to a vertical rope, and shown in the act of being stopped.

A represents the block, B the pulley or sheave, and C its arbor. The block A may be made with the screw D on its end, or provided in any suitable manner to be secured or held according to its employment or location. The pulley B has the central groove E, in which the rope or cord works and remains while both of its ends are stretched taut, as in the act of

raising the weight. Instead of having complete round flanges on each side of said groove, I have arms, projections, or partial flanges F thereon; and in the block A, opposite the said groove of the sheave, I provide a taper or V shaped raised rib or ridge, G, following the direction of the groove, but curved with a larger radius, and from a farther distant center, to have, instead of an equal space between the bottom of said groove and the top edge of said rib, a space, which space is larger toward its extremities or entrances, so that the central portion of said space is sufficiently small to keep the rope in the groove of the pulleys, whereas its end portions or entrances are so far distant from the said groove to allow the rope to slide sidewise of the same. Opposite the flanges or arms of the pulley, or on each side of the rib G, I provide the block with furrows or grooves H H, which are similarly eccentric to the pulley, like the rib G, and are parallel with it, and providing a space between the pulley and block sufficient for the flanges and their arms to pass freely, but too small to permit the rope or cord to pass between or slip with said arms, in consequence of which the rope becomes locked therein as soon as coming in contact with said arms in said furrows. By these means, as soon as one end of the rope or cord becomes slack while the other end is taut, the slack end, in passing the entrance of the space between the groove of the pulley and the rib G, is, by contact with the taper-shaped rib, caused to slip from the groove sidewise into one of the furrows in the block, and therein becomes caught with the arm F, and is locked and stopped positively; but as soon as the slack end of the rope or cord is made taut again the same is drawn back into the groove of the pulley, and may pass on under and around the pulley undisturbed.

In raising a weight, and by dropping the slack end of the cord or rope purposely or accidentally, the same is instantly caught by one of the arms and held fast in the groove of the block. The ends of the rib G being sharp or wedge-like the slacked cord will slip down on either side of the rib into the groove, and there held fast by the pulley-arm. The raised rib prevents the rope or cord from becoming loose and letting the weight down. If the cord



should be thrown out (which it cannot be, only by hand) the next arm will catch it in the opposite groove and hold it secure. There is sufficient room between the groove of the sheave or pulley for small or large cords to work freely; and any ordinary-sized cord, from the smallest and upward, may be used, and stopped effectually by using one size of block and pulley.

In manufacturing the above the cost will be no more than any ordinary block and pulley without my improvements.

What I desire to secure by Letters Patent, and claim as my invention, is—

1. The shell or block A, provided with the

rib G and the furrows H H, substantially as and for the purpose herein set forth.

2. The sheave or pulley B, provided with flanges and arms or raised projections F F, pivoted and combined within the shell or block A with the rib G and the furrows H H, operating substantially as and for the purpose herein mentioned and shown.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED S. DICKINSON.

Witnesses:

JAMES GORDON,

FREDERICK GORDON.