W. F. HURRELL, Jr.
Self Binding Pulley Block.

No. 201,612. Patented March 26, 1878.

Fig. 3.

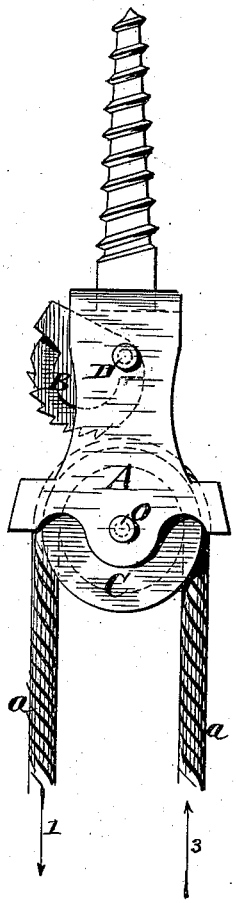


Fig. 1.

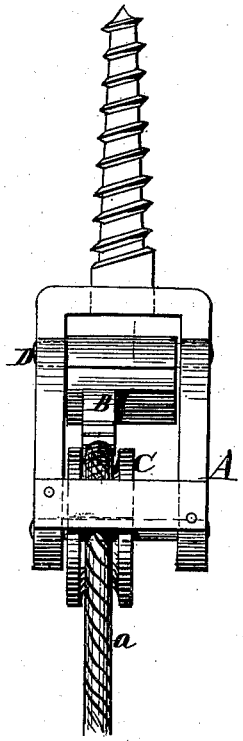
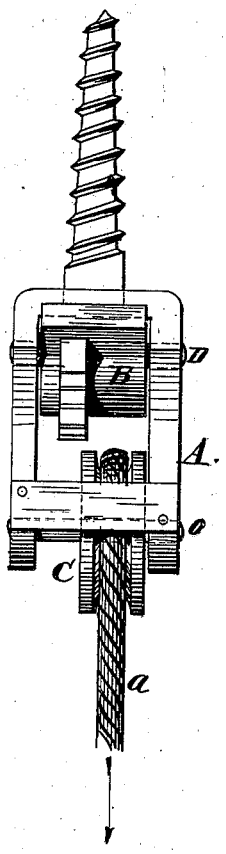


Fig. 2.



Attest:
H. D. Perrine
J. A. Rutherford.

Wm F. Hurrell, Jr.
Inventor.
By. James L. Norris
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM F. HURRELL, JR., OF CINCINNATI, OHIO.

IMPROVEMENT IN SELF-BINDING PULLEY-BLOCKS.

Specification forming part of Letters Patent No. **201,612**, dated March 26, 1878; application filed August 20, 1877.

To all whom it may concern:

Be it known that I, WILLIAM F. HURRELL, Jr., of the city of Cincinnati, in the county of Hamilton, in the State of Ohio, have invented certain Improvements in Self-Binding Pulley-Blocks, of which the following is a specification:

The object of this invention of an improved pulley-block is to render the easy raising or lowering of light or heavy bodies, and suspending them at any desired height, by throwing the pulley under a semicircular corrugated surface, which has a body eccentric in form, which will operate in the manner of the well-known knuckle-joint, automatically by its gravity, in connection with the hoisting part of the cord, rope, or chain, in throwing it under said surface, and thereby hold the cord, rope, or chain, with its weight attached, suspended at any desired height.

Figure 1 is a view of the pulley-block when it has the cord, rope, or chain under the corrugated eccentric or knuckle, and binding the same, when tightened, by a suspended weight in one direction, and free in the other. Fig. 2 is a view of the complete pulley-block when ready for operation in raising or lowering weights attached to the cord, rope, or chain. Fig. 3 is a sectional view of the pulley-block, showing one side of its shell or frame, its pulley, and its corrugated eccentric or knuckle-joint, for the purpose of operating automatically, so as to bind the cord, rope, or chain.

The frame of the pulley-block may be cast in one piece, or may be riveted or welded together from separate pieces, and may be of the form usual in pulley-blocks, or of any other desired, having therein two axes immediately above and below each other, the upper axis having a semicircular corrugated surface conformable to the periphery of the pulley-wheel, on a body eccentric in form, as shown by B in Fig. 3, said eccentric body working loosely upon its axis. The lower axis, being of an equal diameter its whole length within said pulley block or shell, and smooth-surfaced, so as to admit of the pulley-wheel, as shown in Figs. 1 and 2, to be thrown from one side to the other of the pulley-block at will, and when the pulley-wheel is thrown under the semicircular corrugated surface having an eccentric body, B, Fig. 3, the reverse direction given the cord, rope, or chain, caused by the weight suspended to it, causes the knuckle-joint or eccentric body having a corrugated surface to bind the rope F *f*, as shown in Fig. 3, tightly, as shown in Fig. 1, and suspend any weight not greater than the strength of the cord, rope or chain.

The pulley-wheel for the main cord, rope, or chain, as shown by C in Figs. 1, 2, and 3, is of the ordinary form, having a groove or channel sufficient to admit a cord, rope, or chain of the desired size, as shown by A *a'* in Fig. 3, and the cord, rope, or chain is placed therein, so as to operate in direction of arrow 1 in Fig. 3 in raising the weight, it being suspended on the part of the rope, cord, or chain, as shown by arrow 2 in Fig. 3; and when it is desired to suspend the weight attached, the pulley wheel is thrown under the corrugated surface of the eccentric or knuckle-joint, and the reverse action of the cord, rope, or chain causes it instantly to clamp the cord or rope and suspend the weight attached to the pulley by its rope, chain, or cord, as shown by Fig. 1.

On the accompanying drawing, Fig. 3 shows a sectional view, of which A represents the shell of the pulley-block. B represents the eccentric or knuckle-joint having a semicircular corrugated surface; D, the spindle or axis of the same; C, the pulley-wheel, and *d'* its axis. This axis is smooth surfaced, and of an equal diameter its whole length inside the shell of the pulley-block, so as to admit of the pulley-wheel being thrown from side to side by the raising part of the rope or chain, as shown by Figs. 1 and 2.

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

The combination of the pulley-block A, the eccentric B, having a semicircular corrugated surface and a knuckle-joint, D, and the sliding pulley C, the whole constructed and arranged to operate substantially as and for the purpose described.

WILLIAM F. HURRELL, JR.

Witnesses:

H. E. RANDELL,

WALTER T. LOGAN.