No. 785,358. PATENTED MAR. 21, 1905.

W. GUTENKUNST.

PULLEY BLOCK.

APPLICATION FILED OCT. 25, 1904.

Fig. 1.

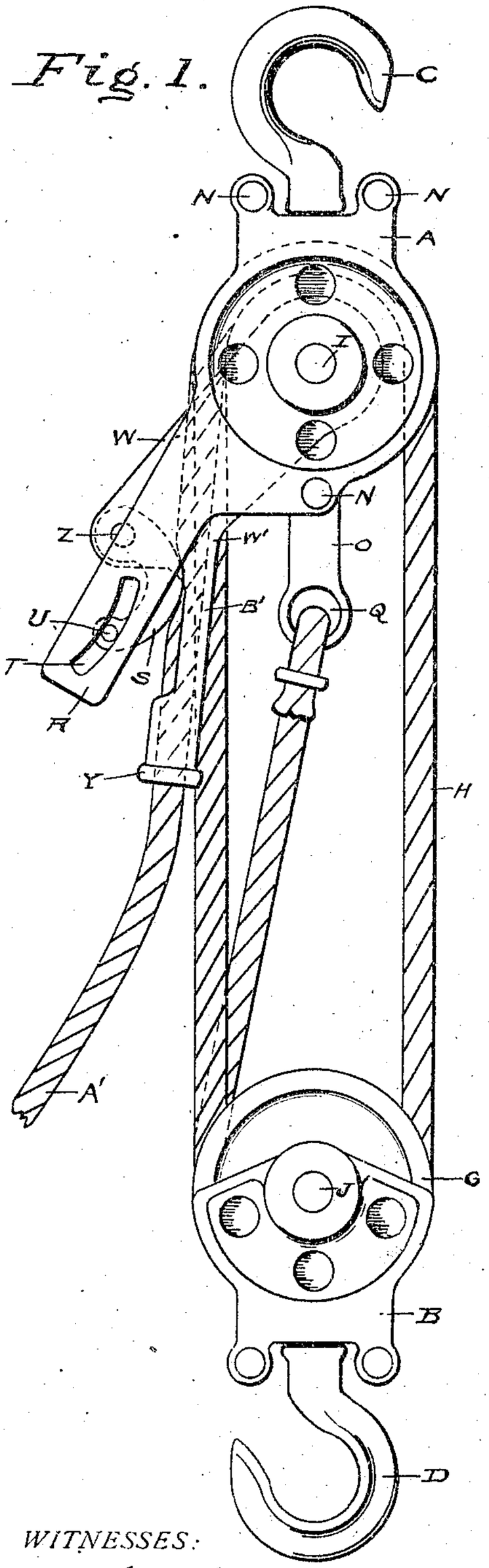

Fig. 2.

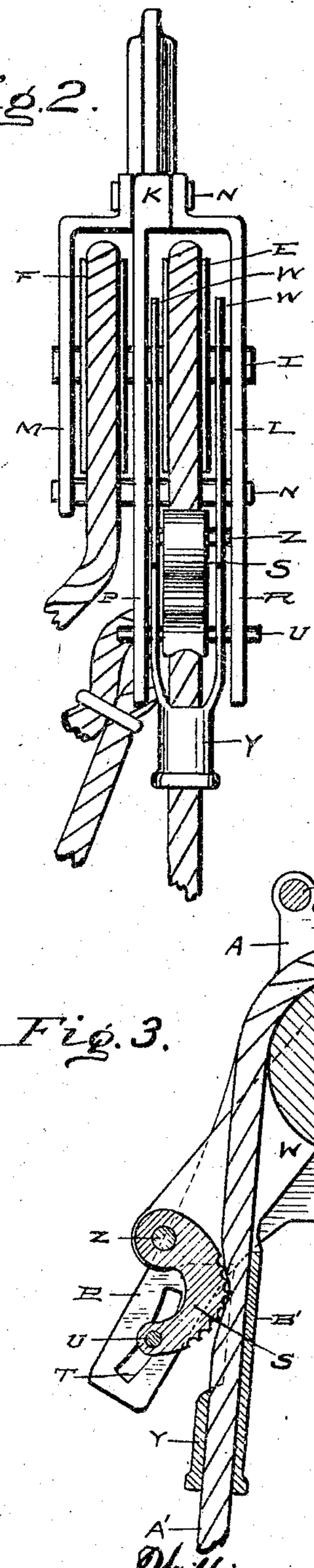

Fig. 3.

WITNESSES:

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No. 785,358. Patented March 21, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM GUTENKUNST, OF MILWAUKEE, WISCONSIN.

PULLEY-BLOCK.

SPECIFICATION forming part of Letters Patent No. 785,358, dated March 21, 1905.

Application filed October 25, 1904. Serial No. 229,989.

To all whom it may concern:

Be it known that I, WILLIAM GUTENKUNST, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Pulley-Blocks, of which the following is a specification.

My invention relates to improvements in pulley-blocks; and it pertains more especially to the device for clamping and releasing the hoisting-rope.

The construction of my invention is explained by reference to the accompanying drawings, in which—

Figure 1 represents a front view thereof. Fig. 2 represents a side view of the upper pulley-block, and Fig. 3 represents a front view of the upper pulley-block with the front plate removed and the pulley and clamping block shown in section.

Like parts are represented by the same reference characters throughout the several views.

A represents the upper pulley-block. B is the lower pulley-block. The block A is provided with a hook C, by which it is suspended from a stationary support. The block B is provided with a hook D, from which the load is suspended.

E and F represent the pulleys of the block A.

G represents the pulleys of the lower block B.

H is the hoisting-rope, by which the upper and lower blocks A and B and their pulleys are connected with each other in the ordinary manner.

The pulleys E and F are revolubly supported from the block A upon the pin I, while the pulley G is in like manner connected with the block B by the pin J.

The upper pulley-block comprises the central vertical plate K and the side plates L and M. All of said plates K, L, and M are rigidly connected together by a plurality of rivets N. The central plate K is provided with two arms O and P, which extend downwardly below the pulley. The arm O is provided with an aperture Q for the reception of the upper end of the hoisting-rope, to which said rope is secured. The front plate L of the pulley-block is provided with a downwardly-extending arm R, which is substantially a duplicate of the arm P, said arms R and P being adapted to serve as side bearings for the clamping-block S, both of which are provided with corresponding slots T for the reception of the respective ends of the clamp-actuating pin U. The pin U is rigidly connected at its center to the clamping-block S, while its respective ends have slidable bearings in said slot T. The clamping-block S is pivotally suspended at its upper end upon its respective sides by and between the arm extensions W W upon the pin Z, and said arm extensions W are suspended at their their upper ends from the pulley-supporting-pin I.

Y is a sleeve for the reception of the hoisting-rope and through which said rope is drawn as the pulley-block is operated. The sleeve Y is formed integrally with the lower end of the arm extensions W.

It will be understood that the lower tackle-block B, with its load, is raised by drawing downwardly upon the free end A′ of the hoisting-rope, that when desirous to lower the lower tackle-block with its load the end A′ of the rope is permitted to move upwardly through the sleeve Y. When, however, it is desirous to stop and suspend the load at any given point after it has been raised, the rope is locked in its bearings by the clamping-block S. When the clamping-block S is in the position shown in Fig. 1, the rope is free to slide upwardly through the sleeve Y and between the bearings of the clamping-block S and the bearings B′, it being understood that the two arm extensions W and the sleeve are all formed integrally and together form a single swinging arm W′, which is adapted to swing backwardly and forwardly freely between the two stationary arms P and R. When it is desirous to clamp the rope and prevent it from moving upwardly between said bearings, it is necessary simply to draw the rope toward the left, whereby the clamping-block S is caused to impinge against it, and the rope is securely locked in place between said clamping-block and the bearings B′. The required motion is communicated to the clamping-block to cause it to impinge against the rope by a two-fold movement, the upper end

of said clamping-block being carried outwardly toward the left by the swinging movement of the arm W′, to which it is secured by the pin Z, while the lower end of said clamping-block is thrown inwardly or in the opposite direction by the sliding contact of the pin U in the slot T of the stationary arms R and P. Thus it will be understood that when the clamping-block S is thus brought to bear against the rope as the rope is moving upwardly it will be securely locked in place, while by a downward movement of the rope said sleeve Y will be drawn inwardly or toward the vertical, and said clamping-block S will be thrown out of binding contact with the rope and the rope released, that when desirous to release the hoisting-rope when elevating a load all that is necessary to do to lock the load at such point is to incline the lower end of the hoisting-rope slightly toward the left, when it will be instantaneously locked in place and the load suspended at such point, while by drawing the rope to the right or near the vertical it will be instantaneously released from the clamping-block.

While I have shown the clamping-block S suspended from the arm extensions W W between two stationary arms P and R and while it is preferably so constructed, it is obvious that, if desired, one of said stationary arms, either P or R, may be dispensed with and the clamping-block S may be connected with and operated by contact of the pin U with a single stationary arm only without departing from the essence or spirit of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A device for clamping and releasing the hoisting-rope of a pulley-block, consisting in the combination of a swinging arm pivotally suspended from the pulley-supporting frame; a clamping-block pivotally suspended at one end from said arm and slidably connected at its opposite end by suitable guide-bearings with a stationary part of the pulley-supporting frame and means connected with the hoisting-rope for moving said swinging arm toward and from the vertical and thereby locking and releasing the clamping-block and hoisting-rope, substantially as set forth.

2. In a pulley-block, the device herein described for clamping and releasing the hoisting-rope, consisting in the combination with a pulley-supporting frame, of a swinging arm pivotally connected at its upper end with said frame; a rope-inclosing sleeve formed integrally with said swinging arm; a clamping-block pivotally connected at one end with said swinging arm and slidably connected at its opposite end by suitable guide-bearings with a stationary part of said frame, substantially as set forth.

3. In a pulley-block, a device for clamping and releasing the hoisting-rope, consisting in the combination with a pulley-supporting pin of a swinging arm; a rope-inclosing sleeve formed in connection with said swinging arm; a clamping-block pivotally connected at one end with said swinging arm and slidably connected at its opposite end by slidable guide-bearings with the stationary part of the pulley-supporting frame.

4. In a pulley-block of the class described, the combination with two of the pulley-supporting plates thereof, of two parallel downwardly-extending arms, each provided with corresponding longitudinal guide-bearings for the reception of the connecting bearings of the clamping-block; a swinging arm comprising two parallel suspension-plates and a rope-inclosing sleeve formed integrally and pivotally suspended from the pulley-supporting pin; a clamping-block pivotally suspended at its upper end between the parallel suspension-plates of said swinging arm and slidably connected at its opposite end with the guide-bearings of said stationary arms, all substantially as and for the purpose specified.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM GUTENKUNST.

Witnesses:
JAS. B. ERWIN,
NELLIE TAUGHER.