No. 712,471. Patented Nov. 4, 1902.

G. AVERLY.

PULLEY BLOCK.

(Application filed Oct. 30, 1900.)

(No Model.)

FIG. 3

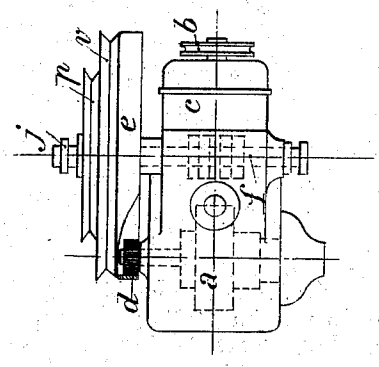


FIG. 2

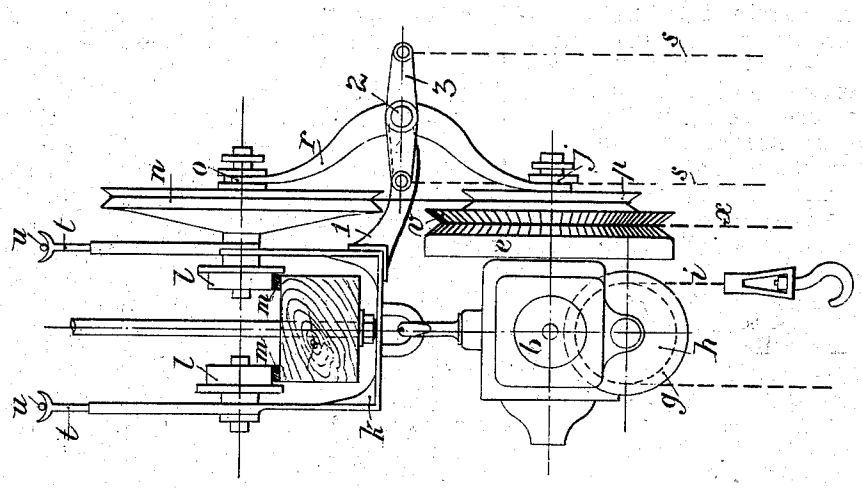
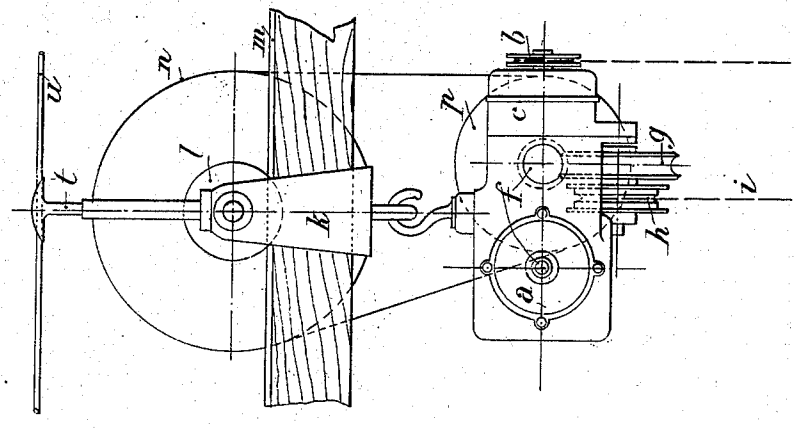


FIG. 1



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GEORGES AVERLY, OF LYONS, FRANCE.

PULLEY-BLOCK.

SPECIFICATION forming part of Letters Patent No. 712,471, dated November 4, 1902.

Application filed October 30, 1900. Serial No. 34,903. (No model.)

To all whom it may concern:

Be it known that I, GEORGES AVERLY, a citizen of the Republic of France, residing at Lyons, France, have invented certain new and useful Improvements in Pulley-Blocks, of which the following is a full, clear, and exact description, and for which I have made application in France, dated June 26, 1900.

The pulley-block forming the subject of the present invention is distinguished by the fact that the mechanism can be operated either by an electric motor or by hand, while the electric motor can also be utilized for moving the load in a horizontal direction.

The ordinary arrangement of the apparatus is illustrated in the accompanying drawings, in which—

Figures 1 and 2 are two elevations drawn at right angles to each other, and Fig. 3 is a plan of the pulley-block separately.

The apparatus comprises an electromotor *a*, operated in either direction by a cord passing around a pulley *b*, which drives the commutator, inclosed in a box *c*, with the rheostat. The shaft of the motor carries a pinion *d*, gearing with an internal toothed wheel *e*, fixed on the endless screw-shaft *f*, which drives the worm-wheel *g*. On the same axis as this latter wheel is fixed the chain-wheel *h*, which receives the lifting-chain *i*.

In the improved pulley-block the wheel *e* is loose on its shaft and can be caused to rotate therewith by a clutch-sleeve *j*. The pulley-block is suspended from a carriage *k*, supported by two rollers *l l*, running on rails *m m*, which form the road on which the pulley-block travels and are supported by various means, according to situation. To the carriage *k* are fixed two traveling contacts or trolleys *t t*, collecting the current from two insulated electric conductors *u u* and conveying this current to the motor *a* in any position of the pulley-block by suitable electric connections. (Not shown.) On the shaft of one of the rollers *l l* is loosely mounted a pulley *n*, which can be caused to turn therewith by a clutch-sleeve *o*. The pulley *n* is driven by a cord, chain, or belt passing from the pulley *p*, fixed to the wheel *e* of the pulley-block. The clutch-sleeves *j* and *o* are moved in opposite directions by a rocking lever *r*, operated from the ground by means of two pulling-cords *s s*. The brake *r* is for this purpose fixed on an axis 2, carried by a support 1, fixed to the carriage *k*, and the cords are attached to the ends of a traverse-lever 3, fixed, like brake *r*, on axis 2.

The working of the traveling pulley-block is as follows: The motor being put in motion rotates the wheel *e* and pulleys *p* and *n*, and according as one or the other of these pulleys has been connected with its shaft it will drive either the lifting-chain *i* or the rollers *l l*, which will effect the horizontal motion of the carriage *k* and of the pulley-block. Thus the load can be raised to the desired height, and it can then be transported to any other point of the road on which the pulley-block travels. In order to be enabled to utilize the pulley-block in case of stoppage of the electric current, there is fixed to the wheel *e* a chain-wheel *v*, on which is placed at any required time an endless chain *x*, which can be operated from the ground. The raising of the weight and the horizontal motion of the pulley-block can thus be obtained, as with the motor, by the manipulation of the clutch-sleeves *j* and *o*.

The pulley-block, arranged as above described, can be detached from the carriage *k* and used without it as an ordinary pulley-block, and in this case be operated by an electric current or by hand. It can thus serve all the purposes of a factory. This latter arrangement will be particularly applicable to pulley-blocks of great power.

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

In combination, a single elevated track-rail, a U-shaped trolley-frame having wheels journaled on the arms of the frame and resting on said single rail, a motor-frame having a hook engaging an eye on said trolley-frame, a hoisting-wheel carried by said frame, driving connections between said motor and hoisting-wheel, flexible driving connections between said motor and a wheel of the trolley-frame, and clutch mechanism for controlling said connections, substantially as described.

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

GEORGES AVERLY.

Witnesses:

GASTON JEAUNIAUX,

JULES GIROD.