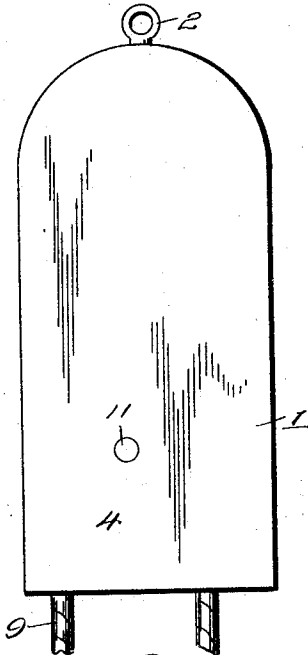


C. A. KESTELL.  
 AUTOMATIC LOCK PULLEY.  
 APPLICATION FILED MAY 31, 1921.

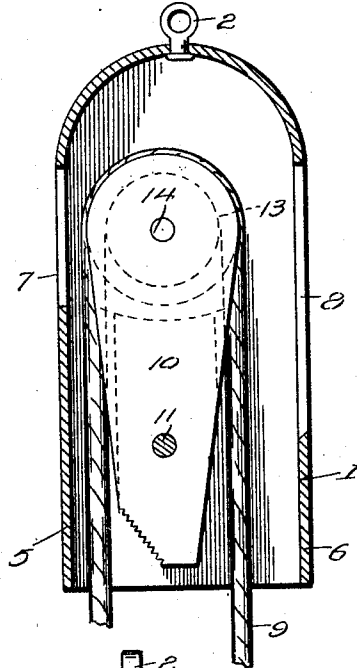
1,389,514.

Patented Aug. 30, 1921.

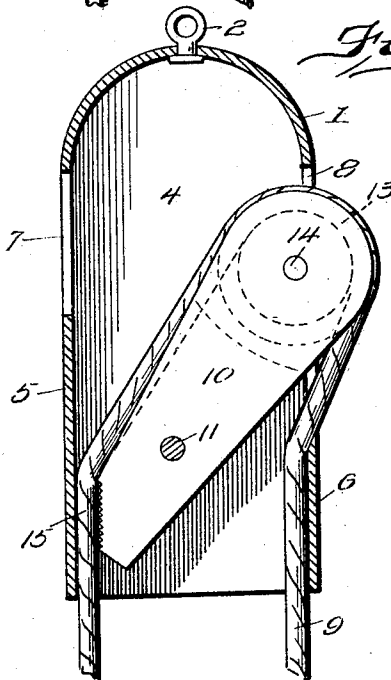
*Fig. 1*



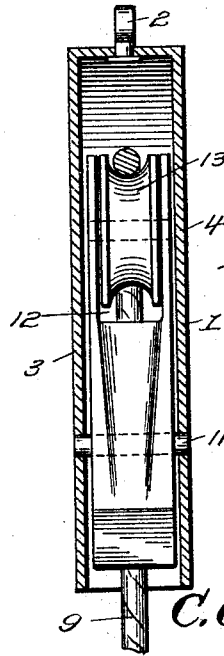
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

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## AUTOMATIC LOCK-PULLEY.

1,389,514.

Specification of Letters Patent.

Patented Aug. 30, 1921.

Application filed May 31, 1921. Serial No. 473,957.

*To all whom it may concern:*

Be it known that I, CHARLES A. KESTELL, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Automatic Lock-Pulleys, of which the following is a specification.

This invention relates to hoisting apparatus and more particularly to pulleys and the housing therefor.

The object of the invention is to provide a pulley so mounted that a pull exerted on one end of the cable trained thereover will operate to position the pulley to allow the cable to slide freely thereover and a pull exerted on the other end thereof such as that produced by the load being lifted, will when the pull on the other end is released swing the pulley and lock the cable against movement.

Another object is to provide a pulley so constructed and mounted that movement in one direction will operate to lock the cable used in connection therewith and movement in the opposite direction will release the cable.

With these and other objects in view the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention.

In the accompanying drawings:—

Figure 1 represents a side elevation of the housing in which the pulley, constituting a part of this invention, is mounted.

Fig. 2 is a central vertical section thereof with the pulley shown in operative position.

Fig. 3 is a similar view with the pulley in tilted position for locking the cable, and

Fig. 4 is a longitudinal vertical section taken on the line 4—4 of Fig. 2.

In the embodiment illustrated a pulley housing 1 is shown closed and rounded at its upper end and open at its lower end, said upper end being preferably provided with a swiveled eye 2 for suspending the housing from a suitable support. This housing 1 comprises front and rear walls 3 and 4 connected at their side edges and top by side members 5 and 6, which merge into each other at their upper ends and are curved to conform to the curvature of the front walls or plates 3 and 4. The side wall 5 has an

opening 7 near its upper end, while side wall 6 has a similar opening 8 except that it is longer than the opening 7 extending downwardly near the lower end of the housing as is shown clearly in Figs. 2 and 3 and which is designed for a purpose presently to be described.

A sheave supporting lever 10 in the form of an elongated block is fulcrumed at one end in the lower portion of the housing 1 between the front and rear walls 3 and 4 thereof as shown at 11. This lever or block 10 increases in width near its upper end and is bifurcated edgewise to form a pulley receiving chamber 12, the pulley 13 being mounted between the furcations of said block on a pintle 14, the perimeter of the pulley at the upper end of said block being in alignment with top edges of the furcations of the block as is shown clearly in Fig. 4. This pulley has a grooved periphery to receive the cable 9 which is designed to be trained thereover and the edges of the block 10 are similarly grooved for the reception of the cable 9 and to permit it to be guided thereby to slide therein.

The lower left hand corner of the block 10 at the corner adjacent the side wall 5 is cut away and inclined as shown at 15, said cut away corner being preferably serrated to securely grip and lock the cable 9 between it and the wall 5 when the lever is swung into the position shown in Fig. 3.

From the above description it will be obvious that the lever 10 being pivoted below the center thereof and the upper end being enlarged and carrying the pulley 13 will swing to one side or the other on the supporting pintle or fulcrum 11 and owing to the size of the opening 8 in the side wall 6 when this lever is swung toward the right as shown in Figs. 2 and 3 the pulley carrying end will pass out or project through said opening 8 a sufficient distance to bring the cut away corner 15 thereof into locking engagement with the cable 9 and securely clamp said cable between it and the adjacent side wall 5 of the housing.

When it is desired to release the cable and position the pulley so as to permit the cable to slide freely thereover, a pull is exerted on the end of the cable adjacent the side wall 5 of the housing which operates to force the lever 10 in upright position as shown in Fig. 2 permitting the cable to freely slide over the pulley it being under-

stood that the load to be lifted is attached to the other end of the cable. Immediately the free end of the cable is released the weight on the other end will operate to pull the lever 10 into the position shown in Fig. 3 and to lock the cable against movement so that the load supported by the cable will be held at any desired position.

It is obvious that this pulley may be used for a variety of purposes from a clothes line tightener to a hoist for use in factories and stores or for any other purpose for which it may be adapted.

The housing 1 protects the pulley, and the swiveled eye permits it to be suspended from any suitable support and to turn on said swivel in any desired direction.

It will thus be seen that the weight of the load being lifted by the cable 9 will operate automatically lock the cable immediately on the release of the other end on which pulling force is exerted.

This device is simple, strong and cheap to manufacture and yet is fully as effective as more complicated hoisting apparatus of this character.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that any modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

What I claim is:—

1. In a hoisting apparatus, a supporting structure, a lever fulcrumed therein, a pulley carried by said lever and adapted to have a cable trained thereover, one end of said lever being positioned for clamping engagement with said structure to lock the cable between them when said lever is moved in one direction and released when moved in the other direction.

2. In a hoisting apparatus, a supporting

structure, a member mounted to oscillate therein, a pulley carried by said member and having a cable trained thereover, and co-operating means on said member and structure for clamping engagement to lock a cable between them when said member is swung in one direction and releasable when swung in the opposite direction.

3. In a hoisting apparatus, a supporting structure, a lever fulcrumed near one end to swing in said structure, a pulley carried by the other end of said lever and adapted to have a cable trained thereover, the pivoted end of said lever being positioned to clampingly engage said structure when the lever is swung in one direction for locking the cable between them, said lever releasing the cable when swung in the opposite direction.

4. In a hoisting apparatus, a housing, a lever pivoted near one end in the lower portion of said housing with its upper end enlarged and bifurcated, a pulley mounted between the furcations of said lever and adapted to have a cable trained thereover, the lower end of said lever having one corner cut away and positioned for clamping engagement with the adjacent wall of said housing whereby a cable may be locked between them when the lever is swung in one direction.

5. In a hoisting apparatus, a housing having an opening in its one wall, a lever fulcrumed at one end in said housing below said opening with its upper ends adapted to swing into and out of the opening, a pulley mounted on said lever and adapted to have a cable trained thereover, the lower end of said lever being shaped to coöperate with the adjacent side wall of the housing to form a clamp in which the cable is designed to be held when the lever is swung in one direction.

In testimony whereof, I affix my signature hereto.

CHARLES A. KESTELL.