To all whom it may concern:

Be it known that I, FREDERICK W. SMITH, a citizen of the United States of America, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Self-Locking Pulleys, of which the following is a specification.

This invention relates to self-locking pulleys; and it consists in an additional improvement on the pulley patented on October 13, 1891, and numbered 461,316.

The object of this improvement is to provide a means for easily and quickly releasing the grip on the hoisting-rope; and it consists in combining a trip-lever with the rock-frame having adequate power to release the grip on the hoisting-rope. It is found in large-sized pulleys lifting heavy loads that the grip becomes so tightly locked that force is required for releasing the grip in order to enable the load to be lowered. This is what my improvement is designed to accomplish.

In the accompanying drawings, Figure 1 is a side elevation of the self-locking pulley having my improvement attached. Fig. 2 is a side elevation of the pulley with the side plate removed, showing the locking-grip open. Fig. 3 is a like side elevation showing the grip shut.

A is a pulley-frame consisting of two side plates A', A', joined together by bolts or rivets a, a.

B is a rock-frame consisting of two side plates B, B', and said rock-frame is fulcrumed in the frame A at d. In said pulley-frame A are provided two sheaves CD, and in the lower part of the rock-frame B is a sheave E. The journal of sheave C passes through a slot b in the sides of the rock-frame B to allow of a little movement of said rock-frame for gripping the rope. The rope R is secured at c in the end of pulley-frame A and passes down to the pulley-block G, thence up and over the sheave K, thence down again and through block G, then back up again over sheaves C, D, thence down for hauling, as indicated by the arrows. In the frame B is provided a segmental gripping-block F, which is used to bear on the rope for gripping the same when required for locking the pulleys and preventing the load from pulling down.

The numerals 1 2 3 4 5 and the arrows indicate the run and direction of the rope takes in hauling up.

I is a lever fulcrumed on the side of the frame A below sheave D, having its short end connected by a link J to the journal of sheave E. To the long end of said lever I is attached a rope or cord K, by means of which the lever is pulled upon to release the grip when the rope is too tightly locked for easy unlocking.

Having described my invention, what I claim is—

In a self-locking pulley, the combination with the pulley-frame A and the rock-frame 65 B, fulcrumed together at d, sheaves C, D journalcd in frame A, and the sheave E journalcd in frame B, and the grip-block F fixed in frame B, the rope R passing between said sheave C and the grip F, of the lever I fulcrumed on frame A and connected by link J with the rock-frame B, and the cord K arranged to operate substantially as and for the purpose specified.

Signed by me at Cleveland, Ohio, this 23d day of May, 1902.

FREDERICK W. SMITH.

Witnesses:

Geo. W. TIBBETTS,
Edward F. SPURNEY.