

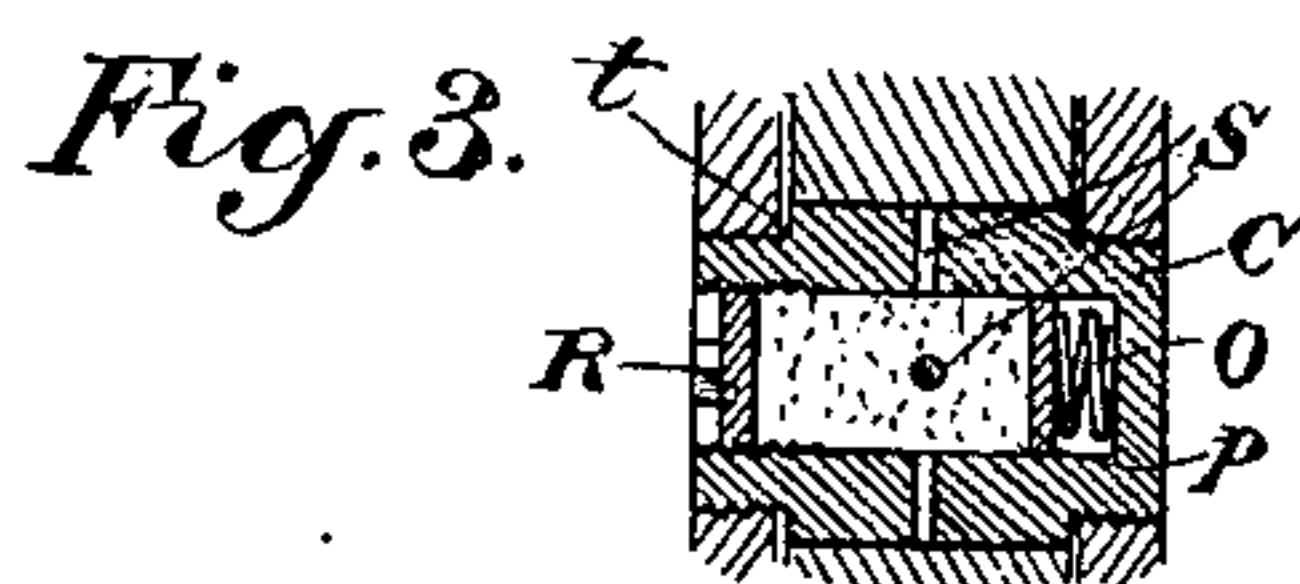
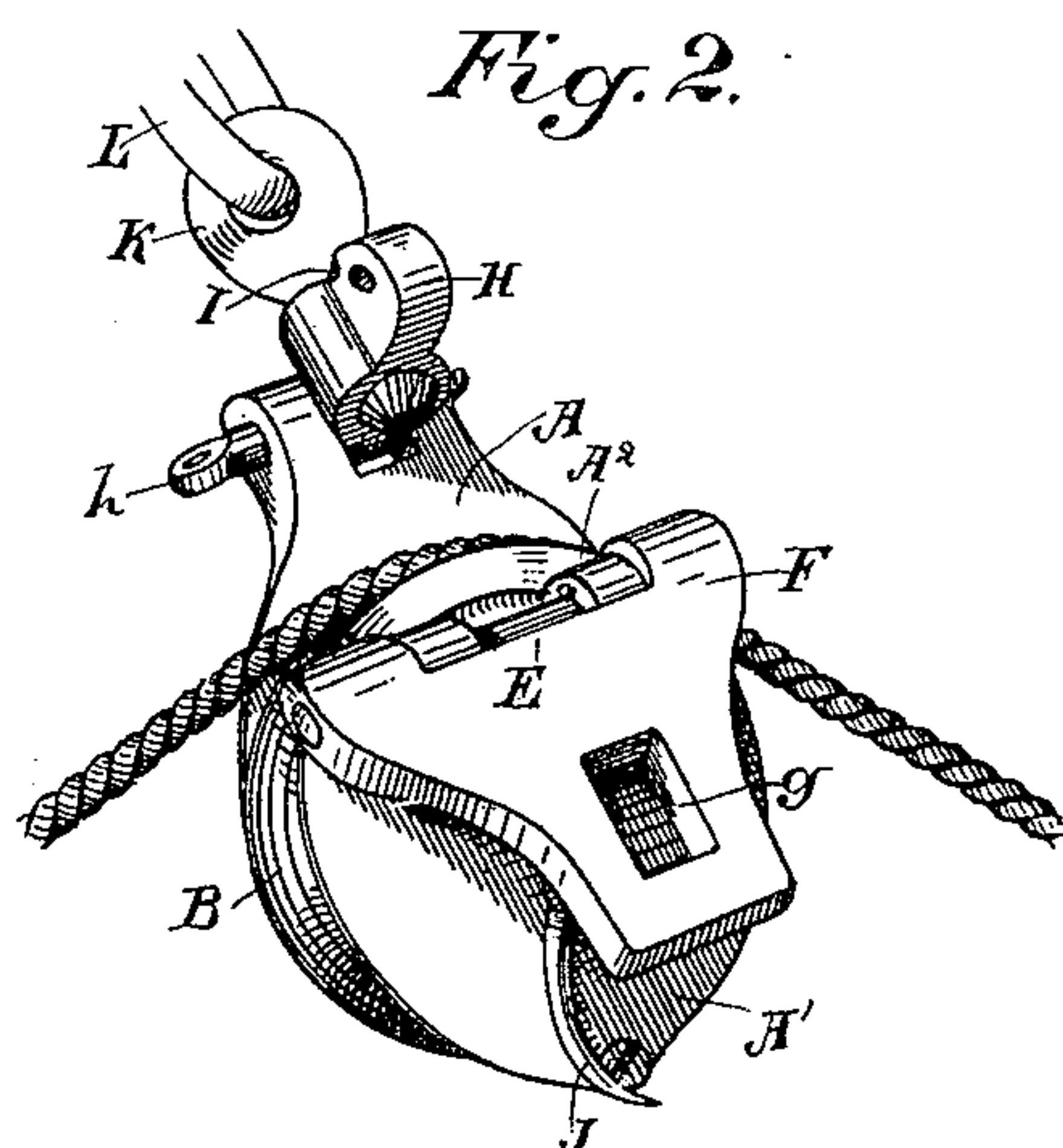
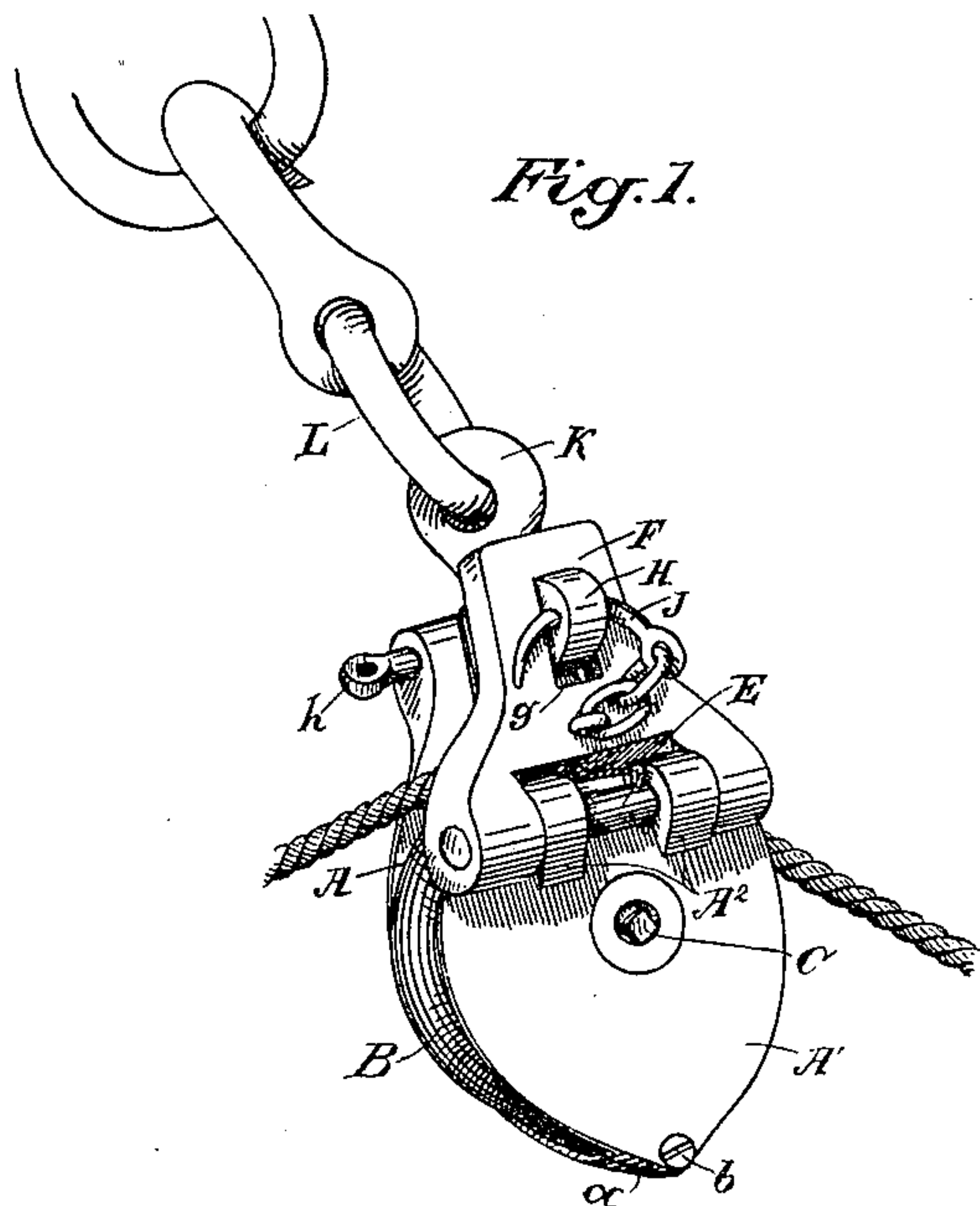
No. 644,729.

Patented Mar. 6, 1900.

W. W. BOUSE.
SNATCH BLOCK.

(Application filed Nov. 15, 1899.)

(No Model.)



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SNATCH-BLOCK.

SPECIFICATION forming part of Letters Patent No. 644,729, dated March 6, 1900.

Application filed November 15, 1899. Serial No. 737,040. (No model.)

To all whom it may concern:

Be it known that I, WALTER W. BOUSE, a citizen of the United States, residing at Aberdeen, county of Chehalis, State of Washington, have invented an Improvement in Snatch-Blocks; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in snatch-blocks of that class having one side arranged to be opened, so as to allow the rope or cable to be introduced or removed.

It consists in a novel construction of a shell formed of cast-steel or forged plates, one side being made in two parts, having the hinged portion and the hinge-pin, which is located below the line of curvature of the pulley-rim where it crosses the open space, said hinged side converging from the pin and forming an essentially-continuous curve with the lower part of the divided shell. The upper end of this hinged portion is slotted, and through the slot passes a latch which is fulcrumed in the opposite side of the shell and to which is attached the swivel-pin for the connection of the holding-chain. The latch has a slight depression where it passes through the slot and the hinged portion of the shell, and a pin passing through the outer end of the latch prevents its being accidentally disengaged. The lower shell is rigid with a hollow pin of large diameter, upon which the sheave turns, said pin being provided with means for containing and gradually discharging the lubricant within the sheave. The pin is so secured in the two sides of the shell as to lock them together and present no projections exterior to the shell.

My invention also comprises details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view of the block closed and in readiness for the strain to be brought upon the cable. Fig. 2 shows the block open. Fig. 3 is a sectional view showing the construction of the journal-pin of the sheave.

The object of my invention is to provide a block which is especially valuable in lumbering districts where logs are hauled by engine-power over considerable distances through

brush, logs, stumps, and other obstructions, where it is necessary to frequently change the line of travel of the log to prevent its being stopped by obstructions.

In order to understand the value of this block, it should be explained that in hauling logs to the main road it sometimes takes twelve or fifteen hundred feet of wire cable, the size of which is usually seven-eighths of an inch in diameter. Where there is no road to the logs, the ground is rough and uneven. There are tree-tops, stumps, brush, old logs, &c., so thick that only a trail can be made through it to the logs. This trail will have as many angles as there are obstructions to be avoided. In each angle a lead-block is set to guide the log to that particular point, and when the log has been hauled to this point the cable is let go and the log is dragged to the next lead-block, the cable is disengaged from the block, and the log is dragged to the next lead-block, where it is stopped, the cable taken from this block, and so on, until it is landed at the engine. When these blocks are anchored to stumps or trees convenient to the line of travel of the log, they may lie horizontally, and when the strain is brought upon the cable they will be suspended a foot, more or less, from the ground. When the engine is stopped, these blocks will drop. They land on roots, stumps, rocks, or uneven ground at the best, perhaps upside down, edgewise, or just as they happen to strike. When the engine again picks up the cable, these blocks must all pull into position, and the heaviest part of the block will be the last to leave the ground—that is, the end in which the sheave is journaled. The cable is therefore liable to work up toward the hook or cross-head which the block is held in place, and when pulling around the block at a short angle the cable is liable to bend across the side of the shell in such a manner that it cannot slip down upon the sheave, and it will tear off the side of the shell or so damage the block that it will have to go to the blacksmith. It is the object of my invention to so construct this hinged portion of the shell of the block that it will act as a guide to direct the cable down into the sheave even although it is pulling at a considerable angle transversely and to so

construct the latch that it can be easily released to allow the side to open when the cable is to be taken from the block.

In the ordinary construction of snatch-blocks having the side of the block carried up above the periphery of the pulley and having the connection made with links and hooks or equivalent latching devices the strain upon the cable is so great that it is very difficult to slack it up sufficiently to disengage it from the block, and when the block is opened there is danger that the cable will tear off the side, which usually projects above the periphery of the sheave. This will be understood when the weight of the cable is taken into consideration. Seven-eighths-inch cable weighs at least two pounds to the foot. Twelve hundred feet of this cable would weigh two thousand four hundred pounds, and when the engine is stopped for the purpose of removing the cable from a sheave, as previously described, it will be necessary to take in sufficient slack of the cable to release it from the sheave, which would take four or five men, or even a horse, to do, thus causing great delay.

In my block the construction is such that the latch can be released by a movement not more than one-fourth of an inch, and if the cable is pulled sidewise out of the block it will be so guided as to pass over the edge without catching or tearing away the side of the block.

A is one side of the shell, which I will hereinafter designate as the "back" section, and A' is the stationary or lower member of the front section of the shell. These two sections of the shell are made of cast-steel or forged or otherwise-constructed metal and preferably about three-fourths of an inch thick at the center, tapering slightly toward the edges, each being made in a single piece and having in-turned flanges or lugs *a* at the tail end, which meet and are secured by one or more screw-bolts *b* passing through them to hold these parts together. The depth of these lugs is sufficient to hold the sides of the shell far enough apart to receive the sheave B, which turns upon a hollow pin C. This pin is made rigid with the back of the shell and screw-threaded at the opposite end for a length equal to the thickness of the shell and has a shoulder *t* formed at the bottom of the screw-threaded portion, so that when the two parts of the shell are screwed firmly down against the shoulders and the tail end secured by the bolt *b* the structure will be rigidly united without any projection beyond the smooth outer surface of the shell, so that the blocks may be dragged over rough ground, as they frequently are when in use, without catching against the obstructions. The fixed member of the front section A' has a hinge-lug A² projecting upward from the end of the base upon which the sheave turns, and this has a hole made transversely through it to receive the pin E, which connects the hinged member F

with the part A'. This hinged member has its edges rounded and is itself made of a width equal to the width of the member A' at its widest portion, and the contour of this hinged member is similar to that of the upper end of the back section A. Through the upper end of this hinged member is made a slot *g*, which is adapted to receive the end of the latch H. The opposite end of this latch is pivoted in the corresponding end of the back section A by a transverse pin *h* passing through the enlarged head of this portion of the shell. The outer end of the latch has a small groove or depression *I* made in it, which when the hinged portion of the front section is in position engages with it and prevents its slipping off the latch. A pin *J* is connected by a chain with the hinged member of the front section, and when this part is engaged with the latch the pin is passed through a hole in the outer end of the latch, which prevents the latter from being accidentally disengaged.

K is a swiveled head passing through the latch and serving for the attachment of the hook or chain L, through which the sheave is attached at any point where it is desired to hold it, so that the rope or cable may lead through the block passing over the sheave where a change of direction is required. By this construction the hinged member is so engaged with the latch that it can be easily disengaged after withdrawing the pin *J* by very slightly slackening the tension on the cable, as the latch has to be moved but a slight distance to allow the hinged member to open outward about its hinges. When the member has thus opened outwardly, it turns down below the top of the pulley, and this, together with the rounded edges, allows the cable to pull out of the sheave without in any way endangering the block by catching upon any projecting part. The strain of pulling logs in this manner is so great that it is difficult to properly lubricate the pin upon which the sheave turns and to prevent it from being rapidly worn out.

I have shown the pin C made hollow, as previously described, having one end closed and a spring O seated in this end. A piston or plunger-plate P rests upon this spring, and when the axle has been filled with a thick lubricant, such as is employed for the purpose, a plug R is screwed into the opposite end of the pin until it is flush with or below the end of the pin. In thus screwing the plug any pressure upon the thick lubricant will compress the spring O by pushing the plate P down against it, and there will thus be a little elastic pressure at all times, which will tend to force the lubricant out as it is needed through holes S, radiating outwardly in the central part of the pin and within the sheave.

Whenever necessary by means of a suitable tool the screw-plug R may be turned in a little way, and the pressure upon the lubricant

will be again brought to a sufficient tension to cause it to slowly exude into the bearing of the sheave.

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

1. In a snatch-block, a metal sheave-inclosing shell, consisting of a single back section, a front section comprising a fixed lower member and an upper member hinged thereto having its periphery coincident and continuous with the periphery of the fixed member, lugs formed at the tail end of the shell-sections, and abutting to maintain the distance between the two, a sheave and a pin upon which it is turnable between the sections of the shell, said pin having a screw-threaded end fitting a correspondingly-threaded opening in the front section, and a shoulder against which the inner face of front section abuts and securing means passing through the lugs of the tail end.

2. In a snatch-block, a shell including a back section formed rigid with a shouldered pin, threaded at one end, said section having an inturned lug at the tail end and a slotted head at the opposite end, a front section including a lower member having a lug at the tail end abutting against that of the said back section and having hinge-lugs, and a member hinged to said lugs and having a width at the hinge end substantially equal to that of the companion member to which it is hinged and

converging coincidently with the said back section, and having a slot made in its free end, a latch pivoted to the upper end of the back section and adapted to engage said slot, and having a depressed notch at its front where it passes through the slot, and a pin by which the hinged member is retained in engagement with the latch.

3. A snatch-block consisting of a shell composed of a back formed of a single elliptical section and a front of two transversely-divided hinged members, a sheave turnable between the front and back sections, a sheave-pin having shouldered screw-threaded end fitting corresponding threads in the front section, corresponding spacing tail-lugs and holding-bolt, a latch hinged to the top of the back section and extending transversely through a slot in the hinged front member, and a swivel-bolt turnable in the latch.

4. A snatch-block and a sheave in combination with a hollow radially-pierced screw-threaded sheave-pin by which the sides of the block are centrally connected, said pin being closed at one end, a spring-pressed piston-plate therein, and an adjustable screw-plug at the opposite end.

In witness whereof I have hereunto set my hand.

WALTER W. BOUSE.

Witnesses:

E. B. BENN,

JOHN C. HOGAN.