

No. 645,687.

Patented Mar. 20, 1900.

S. F. LECHNER.
DEVICE FOR MOVING MINING MACHINES.

(Application filed Dec. 2, 1898.)

(No Model.)

FIG. 1.

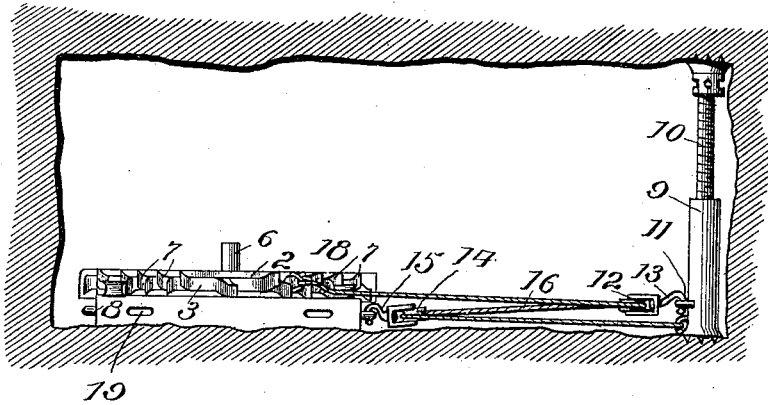
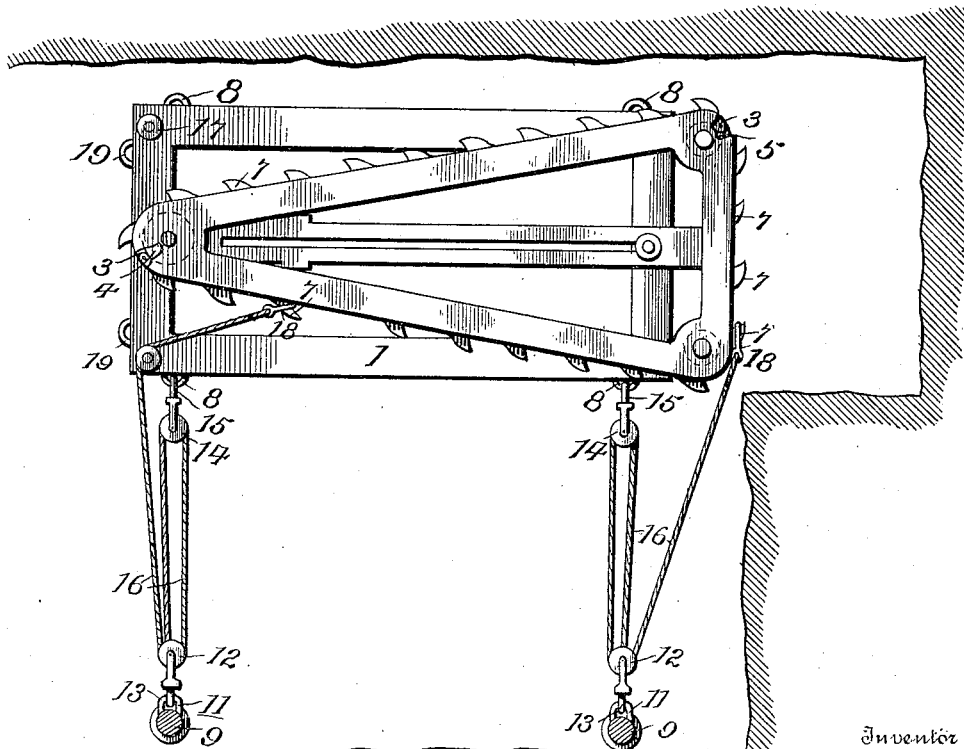


FIG. 2.



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SANFORD F. LECHNER, OF LINDENTREE, OHIO.

DEVICE FOR MOVING MINING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 645,687, dated March 20, 1900.

Application filed December 2, 1899, Serial No. 738,977. (No model.)

To all whom it may concern:

Be it known that I, SANFORD F. LECHNER, a citizen of the United States, residing at Lindentree, in the county of Carroll and State of Ohio, have invented certain new and useful Improvements in Devices for Moving Mining-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a rear end view of a mining-machine, the same placed in a coal-mine and illustrating the means for moving the machine laterally. Fig. 2 is a top view of a mining-machine, showing the device connected and in place to move the mining-machine laterally. Fig. 3 is a detached view of one of the connecting-hooks.

The present invention has relation to devices for moving mining-machines. The same consists in the novel arrangement hereinafter described, and particularly pointed out in the claim.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the base or frame of a mining-machine, which is constructed in the ordinary manner, and 2 represents the movable carriage, which is mounted upon the frame 1 in any convenient and well-known manner, reference being had to moving the carriage back and forth upon the frame 1.

The present invention has no particular reference to the kind or style of mining-machines except that class known as "endless cutters," the cutters being connected in the usual manner to a chain, such as 3, which chain is located around suitable wheels, such as 4 and 5.

In the drawings no device is shown for feeding the carriage 2 forward, inasmuch as the present invention does not relate to the detailed parts of the machine.

In use the mining-machine proper is placed upon the floor of the mine and its front or forward end placed adjacent to the coal designed to be mined. Power is applied by means of a power-shaft, such as 6 or its equivalent,

and motion is imparted to the cutting knives or blades 7 said cutting blades or knives, together with the chain to which they are attached, move around the wheels 4 and 5, and as the carriage 2 is moved forward by any suitable feed mechanism a kerf is cut or formed in the coal and on a horizontal plane with the cutting knives or blades 7.

In use the carriage 2, together with its different parts, is moved forward until a kerf is cut into the coal for a distance of from three to four or five feet, after which the carriage 2 is given a backward movement, which withdraws the forward end of the carriage from the kerf and brings the mining-machine proper into position to be moved laterally and brought into position for a new cut. Heretofore this lateral movement has been accomplished by sliding the machine by means of complicated machinery.

For the purpose of moving the machine laterally I provide the frame 1 with the eyes 8, which eyes are located upon either side of the frame 1, as illustrated in the drawings, and are so located that when power is applied, as hereinafter described, the machine will be moved bodily in a lateral direction.

To one side of the machine 1 and at any desired distance therefrom are located the posts or jacks 9, said posts or jacks being securely connected at their top and bottom ends to the floor of the mine and the roof thereof, and for the purpose of securely anchoring the posts and jacks a screw-threaded shaft, such as 10, should be employed.

At the bottom or lower end of the posts or jacks 9 are located the eyes 11, which eyes are for the purpose of connecting the pulley-blocks 12 by means of the hooks 13. The pulley-blocks 14 are connected to the eyes 8 by means of suitable hooks, such as 15.

Around the pulley-blocks 12 and 14 are located the ropes 16, said ropes being connected and located in the usual manner, except the manner of connecting the power or pull ends of the ropes.

In use when it is desired to move the machine laterally it is brought into the position illustrated in Fig. 2, the posts or jacks 9 located substantially as illustrated, and the pulley blocks and ropes connected as shown, and, as shown, one of the ropes 16 is extended

over one of the pulleys 17, said pulleys being located at the rear corners of the frame 1 and the hooks or eyes 18 connected to the cutting knives or blades 7, substantially as illustrated in Fig. 2. After the pulley-blocks, ropes, and hooks have been properly arranged, as illustrated in Fig. 2, power is applied to impart motion to the cutting-blades 7, which motion is the same as that employed to cut the kerf but it will be understood that the feed mechanism or whatever kind is employed to carry the carriage forward should be thrown out of gear at this time.

It will be understood that when the ropes 16 are connected to any two of the cutting-blades 7 and the ordinary cutting motion given to said cutting-blades the rope 16 will be moved or pulled with the cutting-blades to which they are attached, thereby pulling the mining-machine proper toward the posts or jacks 9, this result being accomplished by the same power that is employed to drive the cutting-blades during the time said cutting-blades are in action.

When it is desired to move the machine proper endwise, the posts or jacks 9 are located at the proper points and the hooks 18 connected to the cutting-blades 7 in such a manner that when motion is imparted to the cutting-blade the ropes 16 will be carried with the cutting-blades, thereby moving the machine endwise.

It will be understood that the pulley-blocks 14 are to be connected to the end eyes 19 when the machine is to be moved endwise.

The device for moving mining-machines can be used at all places without departing

from the nature of my invention—that is to say, the machine may be moved or placed upon a truck or moved to any point desired by the power of the machine.

It will be understood that by connecting the hooks or eyes 18 to the cutting-blades 7 no additional attachments are required for connecting the draft-ropes to the machine proper.

In mining-machines of this class the cutting-blades must necessarily be formed of such a shape that they within themselves provide suitable means for connecting the eyes of the draft-rope to the endless chain, by which arrangement a combination draft-hook and cutting-blade is provided.

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

The combination of a mining-machine provided with an endless carrier or chain having connected to said endless carrier or chain, combined cutting-blades and draft-hooks, pulleys 17 located upon the frame 1, pulley-blocks 12 and 14, ropes located around the pulley in the blocks and means for holding the ropes in a fixed position, and means for connecting the pulley-blocks, and ropes to the combined cutting-blades and draft-hooks, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SANFORD F. LECHNER.

Witnesses:

JAMES N. NELSON,
D. M. DPART.