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D. W. JONES.

REAR JACK FOR COAL CUTTING MACHINES.

(Application filed Nov. 28, 1900.)

(No Model.)

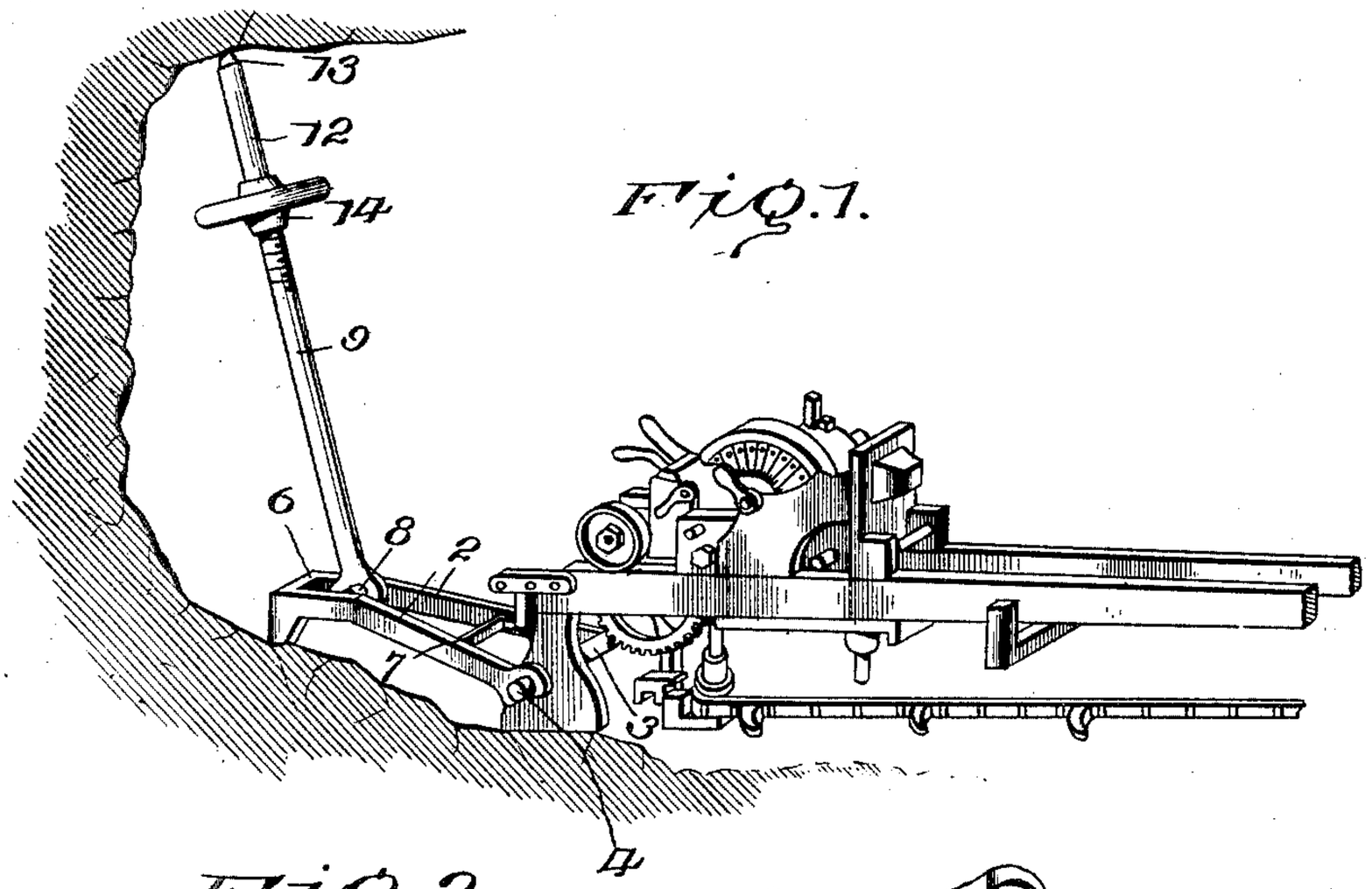


FIG. 1.

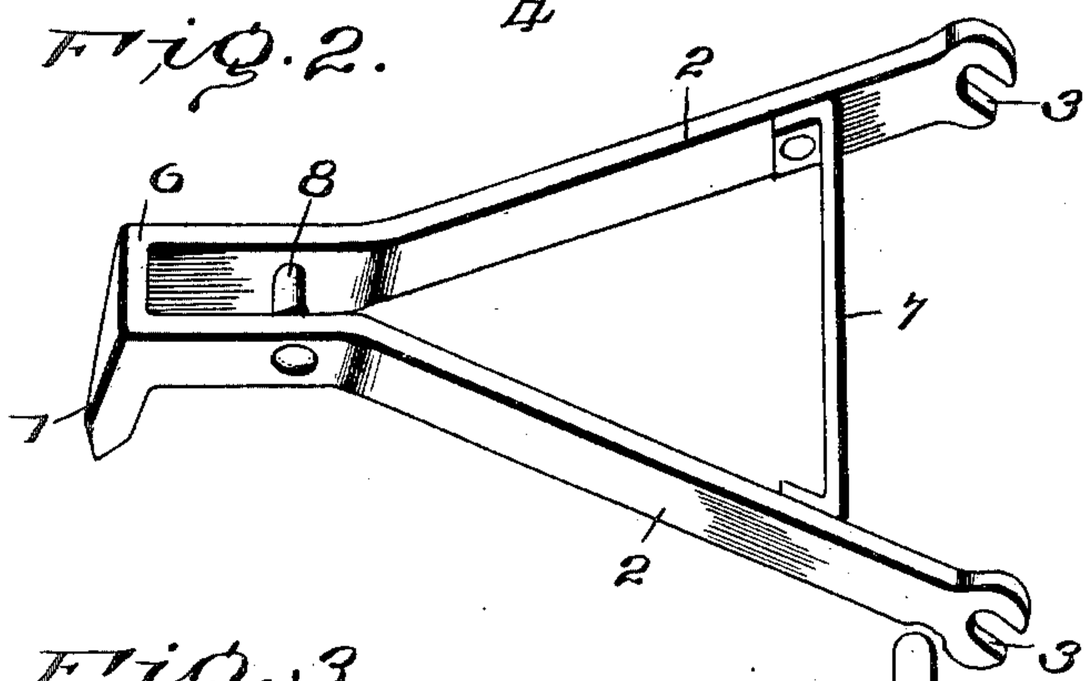
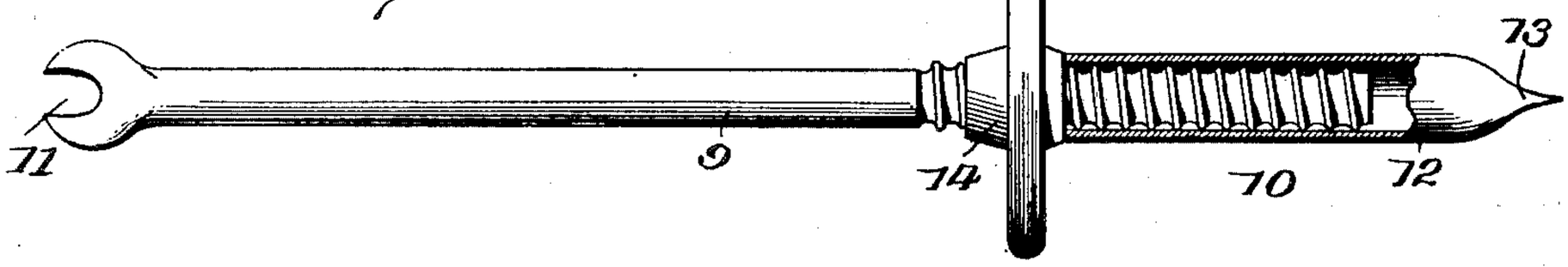


FIG. 2.

FIG. 3.



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UNITED STATES PATENT OFFICE.

DAVID W. JONES, OF RAWNDALE, OHIO.

REAR JACK FOR COAL-CUTTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 667,823, dated February 12, 1901.

Application filed November 28, 1900. Serial No. 38,067. (No model.)

To all whom it may concern:

Be it known that I, DAVID W. JONES, a citizen of the United States, residing at Rawndale, in the county of Athens and State of Ohio, have invented certain new and useful Improvements in Rear Jacks for Coal-Cutting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to means for securing mining-machines against accidental displacement when in operation, and is most especially designed for use in connection with coal-cutting machines of the type employing endless cutters and is constructed to be fitted to the rear end thereof.

The jack is of such formation as to prevent vertical and rearward displacement of the machine and to hold it stanch, thereby saving the repairs necessitated by machines permitted to move or vibrate, and to enable it to be quickly and easily placed in position and removed as required.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are necessarily susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view showing the jack in operative position. Fig. 2 is a perspective view of the base. Fig. 3 is a detail view of the adjustable stay.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The jack is composed, essentially, of two parts, a base and a stay, the latter being adjustable and serving to hold the base securely upon the floor of the lead, drift, or passage in which the machine is operated.

The base is provided at one end with a spur 1, to be embedded in the floor of the mine and fix the position of the jack, and its opposite end is composed of spaced members 2, terminating in notched portions 3, opening downward, so as to engage over the terminal portions of the transverse rod or shaft 4 at the rear end of the mining-machine 5. The base in its general outline is of Y form, the spur 1 being at the terminal of the stem and the notches 3 at the extremities of the divergent arms 2. The stem portion 6 is bent relative to the plane of the divergent arms 2, so as to permit the latter to incline at such an angle as to insure the positive engagement of the spur 1 with the floor of the mine. The divergent arms 2 are connected a short distance from their notched extremities by mesns of a transverse bar 7, having its end portions bent and bolted or otherwise fastened to the said arms. A pin or bolt 8 extends across the space formed between the parts of the stem 6 and is located adjacent to the angle formed between the arms 2 and the parts of the stem 6. This pin or bolt 8 in addition to transversely strengthening the base forms a point of engagement of the stay with the base. The extremities of the arms 2 are widened and the notches 3, formed therein, open downward, so as to be fitted over the projecting terminals of the shaft 4 and prevent vertical and longitudinal movement of the machine after the latter has been positioned and anchored.

The stay consists of a member 9, having an end portion threaded for a short distance, as shown at 10, and having its opposite end widened and formed with a notch 11 of a size to snugly fit the pin or bolt 8. A tubular member 12 has one end formed into a point or spur 13 and its opposite end open to receive the threaded end portion 10 of the member 9, which moves freely therein, the diameter of the bore being such as to prevent any possible lateral play between the members 9 and 12 and insure their alinement under all conditions. The nut 14 has screw-thread connection with the threaded end portion 10 of the member 9 and bears against the inner end of the member 12. This nut 14 is in the form of a hand-wheel which is of such diametrical extent as to admit of the ready operation of the nut when it is required to apply force to cause the spurs 1 and 13 to en-

ter the roof and floor of the lead, drift, or passage of the mine in which the machine is to operate.

The machine 5, by means of which the mining is effected, may be of any variety and is preferably of the type having an endless-chain cutter, and the rear portion shown is illustrated to demonstrate the manner of applying or fitting the jack thereto. The space between the notched terminal portions of the arms 2 corresponds with the distance between the standards or transverse width of the machine at its rear end, so as to enable the end portions of the parts 2 to snugly embrace the sides of the machine, while at the same time the notches 3 engage over and receive the terminal parts of the shaft or rod 4. When the base is in position, the spur 1 is in the rear of the machine and the notched ends 3 in engagement with the terminals of the shaft 4. The stay inclines at an angle of about twenty degrees, and its lower notched end 11 engages over the transverse pin or bolt 8 and its upper end inclines rearward or away from the machine. By operating the nut 14 the section 12 is moved outward until its spur or point 13 is caused to enter the roof or wall of the lead and the spur 1 of the base made to enter the floor of the said lead, and after the parts 13 and 1 have been firmly seated in opposite parts of the lead the base will be held with such force against the floor of the lead as to hold the machine 5 against rearward and vertical displacement. When it is required to shift the machine or to loosen it for any purpose, the nut 14 is rotated in a reverse direction, so as to permit the ready disengagement of the parts 1 and 13 from the walls of the mine and the separation of the stay from the base and the detachment of the latter from the machine, as will be readily comprehended.

Having thus described the invention, what is claimed as new is—

1. A jack for mining-machines comprising a base having an engaging spur at one end and coupling means at its opposite end for detachable connection with the machine to be anchored, and a stay for connection with the base at a point intermediate of its ends and composed of adjustable members having telescopic connection, the end portion of one of the members being threaded, and a nut mounted upon the threaded portion of the member and adapted to engage with and move the other member outward, substantially as and for the purpose set forth.

2. A jack for mining-machines, comprising a base having an engaging spur at one end and coupling means at its opposite end for detachable connection with the mining-machine, and a stay composed of a member having an end portion threaded and its opposite end notched for detachable connection with the base at a point intermediate of its ends, a tubular member slidably fitted upon the threaded end of the member having the notched terminal, and a nut mounted upon the threaded member and adapted to forcibly extend the members, substantially as and for the purpose set forth.

3. In a jack for mining-machines, and in combination with the base having coupling means for attachment to the machine and having a transverse pin or bolt intermediate of its ends constituting a support, an extensible stay composed of members telescopically related, one of the members having an end portion widened and notched for detachable connection with the pin or support of the base and having its opposite end portion threaded and adapted to fit within the coöperating member, and a hand-wheel having screw-thread connection with the threaded end of the member having the notched terminal, substantially as specified.

4. In a jack for mining-machines, a base of Y form having a spur at the outer end of its stem and having the terminals of the divergent arms widened and notched, the notches opening downward and adapted to engage over and make detachable connection with a transverse shaft of the mining-machine, a transverse pin or bolt intermediate the ends of the base, and an extensible stay adapted for detachable connection with the said transverse pin or bolt and comprising a threaded portion and coöperating nut, substantially as set forth.

5. A jack for mining-machines comprising a base of Y form having its stem portion bent at an angle to the plane of the divergent arms and terminating in a spur and having the extremities of the divergent arms notched to make detachable connection with a shaft of the mining-machine, a pin or bolt connecting the separated parts of the stem adjacent to the angle formed between said parts and the divergent arms, and a stay comprising members telescopically related, one of the members having a notched end for detachable connection with the pin or bolt of the base and the other member having its outer end pointed or provided with a spur, and a hand-wheel having screw-thread connection with one of the members to effect a positive extension thereof, substantially as specified.

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

his
DAVID W. × JONES. [L. S.]
mark

Witnesses:
HENRY LOGAN,
ROBERT JACKSON.