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DUST PREVENTIVE ATTACHMENT FOR COAL CUTTING MACHINES.

APPLICATION FILED MAY 5, 1908.

908,928.

Patented Jan. 5, 1909.

2 SHEETS—SHEET 1.

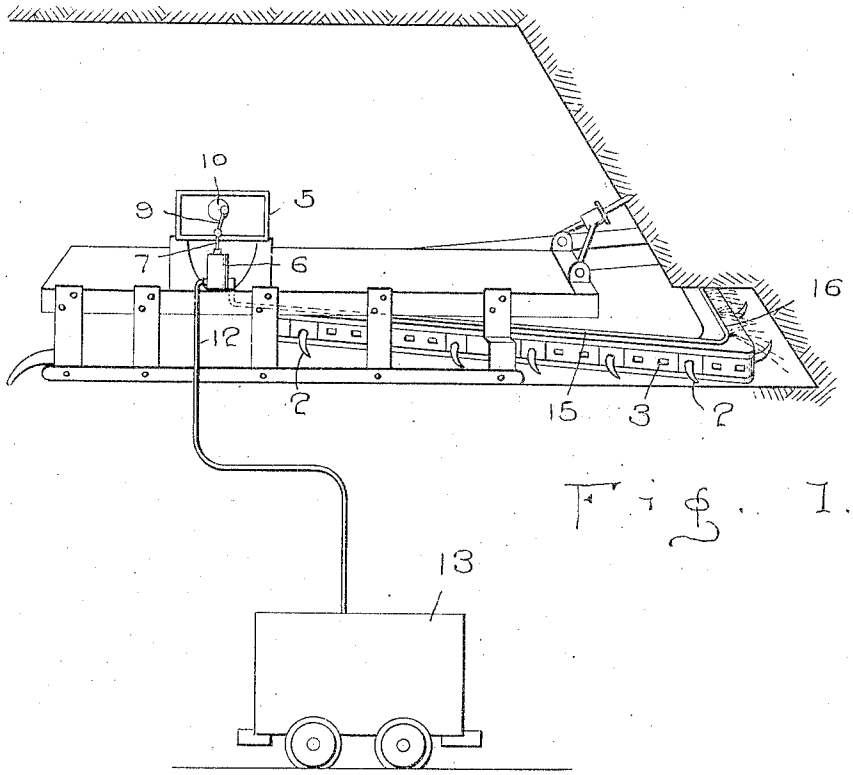


Fig. 1.

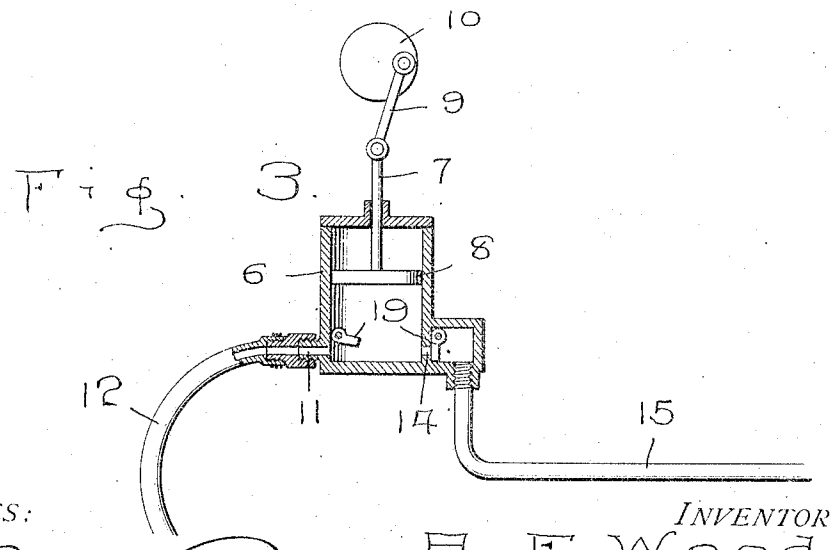


Fig. 3.

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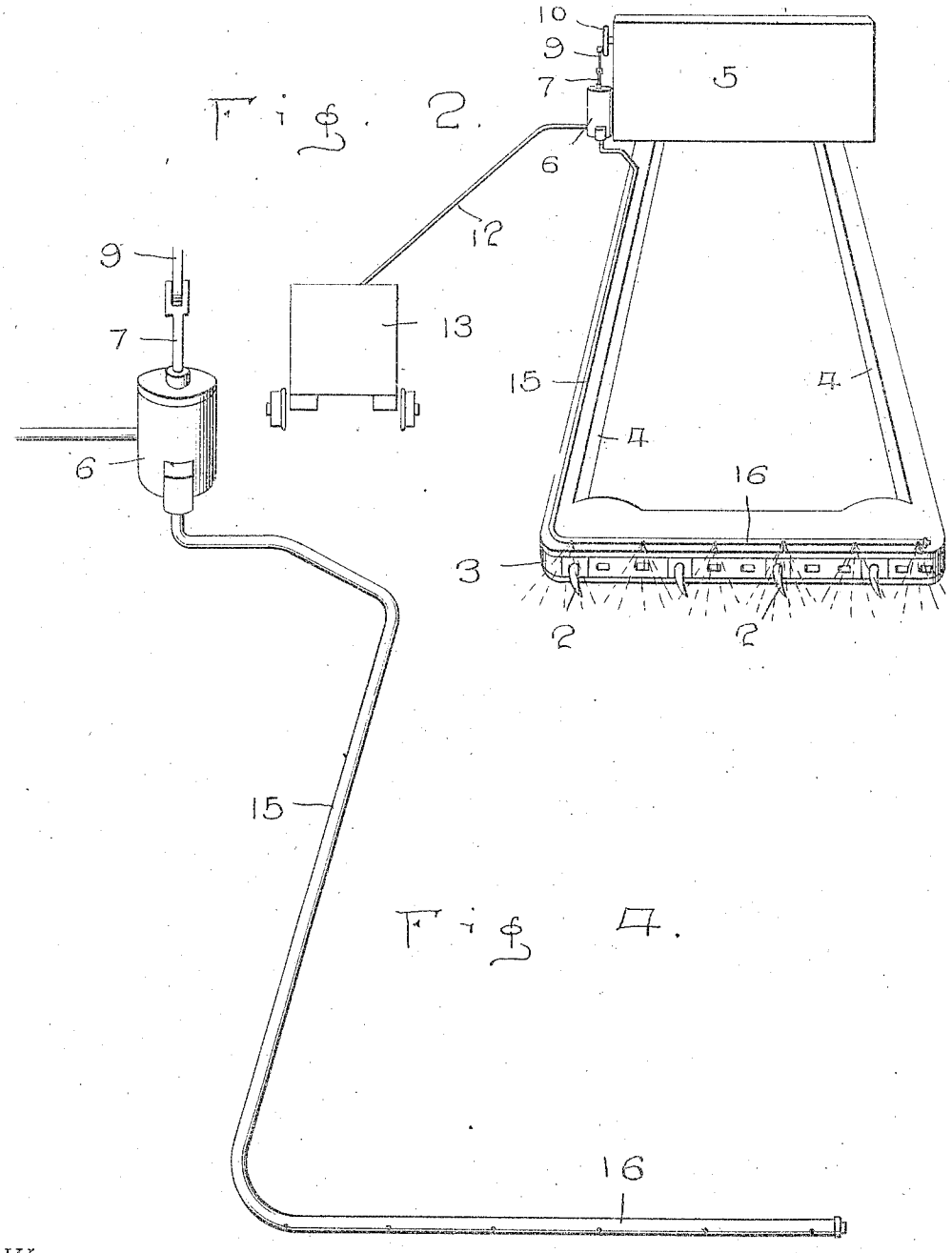


Fig. 2.

Fig 4.

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UNITED STATES PATENT OFFICE.

ARTHUR E. WOOD, OF CHARLESTON, WEST VIRGINIA.

DUST-PREVENTIVE ATTACHMENT FOR COAL-CUTTING MACHINES.

No. 908,928. Specification of Letters Patent. Patented Jan. 5, 1909.

Application filed May 5, 1908. Serial No. 430,969.

To all whom it may concern:

Be it known that I, ARTHUR E. WOOD, a citizen of the United States, residing at Charleston, in the county of Kanawha and State of West Virginia, have invented certain new and useful Improvements in Dust-Preventive Attachments 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 new and useful improvements in mining machines and has relation more particularly to an attachment therefor for preventing dust.

It is an object of the invention to provide a novel device of this character wherein a spray of water is directed upon the coal being cut.

In the cutting of coal, the dust at the face becomes a thick cloud forty to fifty feet back from the coal and is by the air currents carried all through the mine depositing itself in the roadways and is the greatest factor of danger in any mine when an explosion of gas occurs, for it is then blown about by the force of the explosion and ignites immediately, which proves a menace to life and property.

It is an object of the invention to obviate this disadvantage.

It is an object of the invention to provide a novel device of this character wherein the spraying jets travel into the cuts with the blades or cutting instrument.

It is also an object of the invention to provide a novel device of this character wherein a motor is employed for the operation of the machine, said motor also operating the pump for ejecting the spray.

It is also an object of the invention to provide a novel device of this character which will be simple in construction, efficient and advantageous in practice and comparatively inexpensive to manufacture.

With the above and other objects in view, the invention consists in the details of construction and in the novel arrangement and combination of parts to be hereinafter more particularly referred to.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification, wherein like characters of reference denote corresponding parts in the several views, and in which,

Figure 1 is a view in perspective, showing a mining machine with the invention applied thereto. Fig. 2 is a sectional view illustrating a form of pump that may be employed in connection with the invention, and, Fig. 3 is a view in perspective of the invention, detached.

In the drawings, 1 denotes a mining machine, wherein the cutters 2 carried by an endless chain 3 are employed. The endless chain 3 is mounted on a frame 4, which is adapted to be moved forwardly as the cut is made.

Mounted on the movable frame 4, is a motor 5 for operating the endless chain 3. This motor may be as desired, as may any of the other features before enumerated.

Suitably attached to the movable frame, preferably beneath the motor 5, is a pump, which in this instance, is shown as of the reciprocatory type. The stem 7 of the piston 8 has pivoted thereto a pitman 9, which is in turn pivoted to a disk 10 suitably fixed to a rotatable shaft included in the motor mechanism. As the form of the pump and the form of motor form no essential feature of the present invention, a detail description thereof is believed unnecessary.

The pump cylinder 6 has an induction port 11 in communication with a flexible pipe 12, which leads to a suitable water source, which in this instance is shown as a portable tank 13. The pump cylinder is also provided with an eduction port 14, which is in communication with a pipe 15 fixed to the movable frame of the mining machine, preferably along one edge thereof. The specified location of the pipe is not necessary to the successful operation of the invention, it being only required that it be placed on a portion of the frame where it will not interfere with the movement of the frame.

This pipe 15 has its free end portion 16 bent to extend parallel with the line of travel of the cutters 2 when contacting with the coal or ore. This bent or angular portion 16 is perforated, so that a spray or jet discharged therefrom will thoroughly moisten the coal or ore at the point of contact of the cutters therewith.

It might be well to state that both the induction port 11 and the eduction port 14 is provided with a controlling valve 19.

What I claim is:

In combination with a mining machine including a movable frame and cutting means movable therearound; of means carried by the movable frame for imparting movement thereto, a pump on the movable frame adjacent the operating means of the frame, said operating means working the pump, a connection between the pump and a liquid source, and a pipe carried by the movable frame in communication with the pump, said pipe extending to the forward end of the movable frame and extending across the cutting end of the movable frame and above the cutting means that portion of the pipe extending across the end of the movable frame being provided with spraying apertures.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR E. WOOD.

Witnesses:
J. W. JENKINS,
A. C. HICKEL.