T. NICHOL.

METHOD OF MINING COAL.

APPLICATION FILED JULY 29, 1909.

979,086. Patented Dec. 20, 1910.

Witnesses

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THOMAS NICHOL, OF GLEN JEAN, WEST VIRGINIA.

METHOD OF MINING COAL.

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Application filed July 29, 1909. Serial No. 510,305.

To all whom it may concern:

Be it known that I, THOMAS NICHOL, a citizen of the United States, residing at Glen Jean, in the county of Fayette and State of West Virginia, have invented certain new and useful Improvements in Methods of Mining Coal; 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.

My invention relates to certain new and useful improvements in the method of mining coal.

In the usual manner of mining coal with chain breast machines the breast chain is projected within the body of coal in a horizontal plane, the bits on the chain drag out the slack coal and dirt to just outside the face of the coal and it becomes necessary to shovel the same out of the way of the machine before it can be moved to a new working position, and furthermore it also becomes necessary to "shoot down" the body of coal above the kerf, and before this is done it is necessary that the slack coal should be loaded out to avoid the danger of dust explosion.

My invention has for its object to avoid the disadvantages of the present method of mining coal and to render it unnecessary to shovel or unload the slack and dust produced by the pick teeth of the chain, and to also render it unnecessary in most cases to shoot down the coal above the kerf, and to thus secure a larger percentage of lump coal and avoid the danger of dust explosion.

With these ends in view my invention consists in mounting the chain breast machine upon a trestle provided with track rails arranged parallel with the face of the coal and with the rail nearest the coal, at a higher altitude than the other in order that the kerf produced by the picks on the chain shall be inclined in an upward direction.

In order that those familiar with coal mining operations may fully understand my improved method and appreciate its advantages, I will proceed to describe the same in detail, referring to the accompanying drawing which represents a side elevation of a room or chamber of a coal mine with the coal seam shown in section, and with a chain breast machine shown in side elevation mounted upon a suitably arranged trestle and at an angle to the face of the body of the coal.

Reference numeral 1 indicates the roof of the room or chamber and 2 the floor thereof.

3 represents the body of coal to be mined.

4 is a chain breast machine such as illustrated and described in another application for Letters Patent filed by me on even date herewith and bearing Serial No. 510,304, and which is provided with suitable flanged wheels 5 upon which the machine may be moved into the mine upon the ordinary track 6, and with transversely journaled small double flanged wheels 7 upon which the machine may be readily moved laterally across the face of the coal 3 from one working position to another.

8 and 9 are parallel trestles equipped with rails upon which the wheels 7 are designed to travel. The altitude of the trestles is such as shown that when the machine is mounted upon them it will have a predetermined pitch in order that as the chain with its pick teeth is advanced into the body of the coal the kerf 10 produced will incline in an upward direction, as clearly shown. The height above the floor at which the chain should enter the coal will depend upon the height of the coal in any particular instance, but I have found from practical experience that the best results are reached when the machine is placed upon such a pitch or slope that when the chain is run out its full distance the end of the cut or kerf made thereby will be about from three to six inches below the top of the coal.

Variations in the pitch of the machine and the altitude at which the chain enters the coal may be made according to circumstances without departing from the spirit of my invention, which involves the generic principle of producing the kerf in the coal at an acute angle to the top thereof, in order that the body of coal above the kerf shall be heavier at the front than at the rear and consequently will settle down and break away from the roof, thereby avoiding the necessity of shooting it down, which not only involves labor and expense but is also attended with danger. Less dust is put in suspension and therefore less danger of dust explosion. Furthermore, by reason of mounting the machine upon trestles and with its front or working end elevated as shown, the slack and dust cut and drawn

out by the chain fall by gravity and are deposited beneath the machine and do not constitute an obstruction to the lateral movement of the same from one working place to another as is the case in the present method of mining.

Having described my improved method of mining coal and the means employed in carrying the same out, what I claim as new and desire to secure by Letters Patent is:

The method herein described of mining coal which consists in cutting a kerf in the body of the coal, adjacent to the roof of the mine, and at an acute angle to the roof, whereby the body of the coal above the kerf shall be heavier at the front than at the rear and will settle down and break away from the roof.

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

THOMAS NICHOL.

Witnesses:
J. R. GUNNING,
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