

S. Gissinger.

Coal-Mining Machine Drill-Carriage.

N^o 72390

Patented Dec. 17, 1867.

Fig. 1.

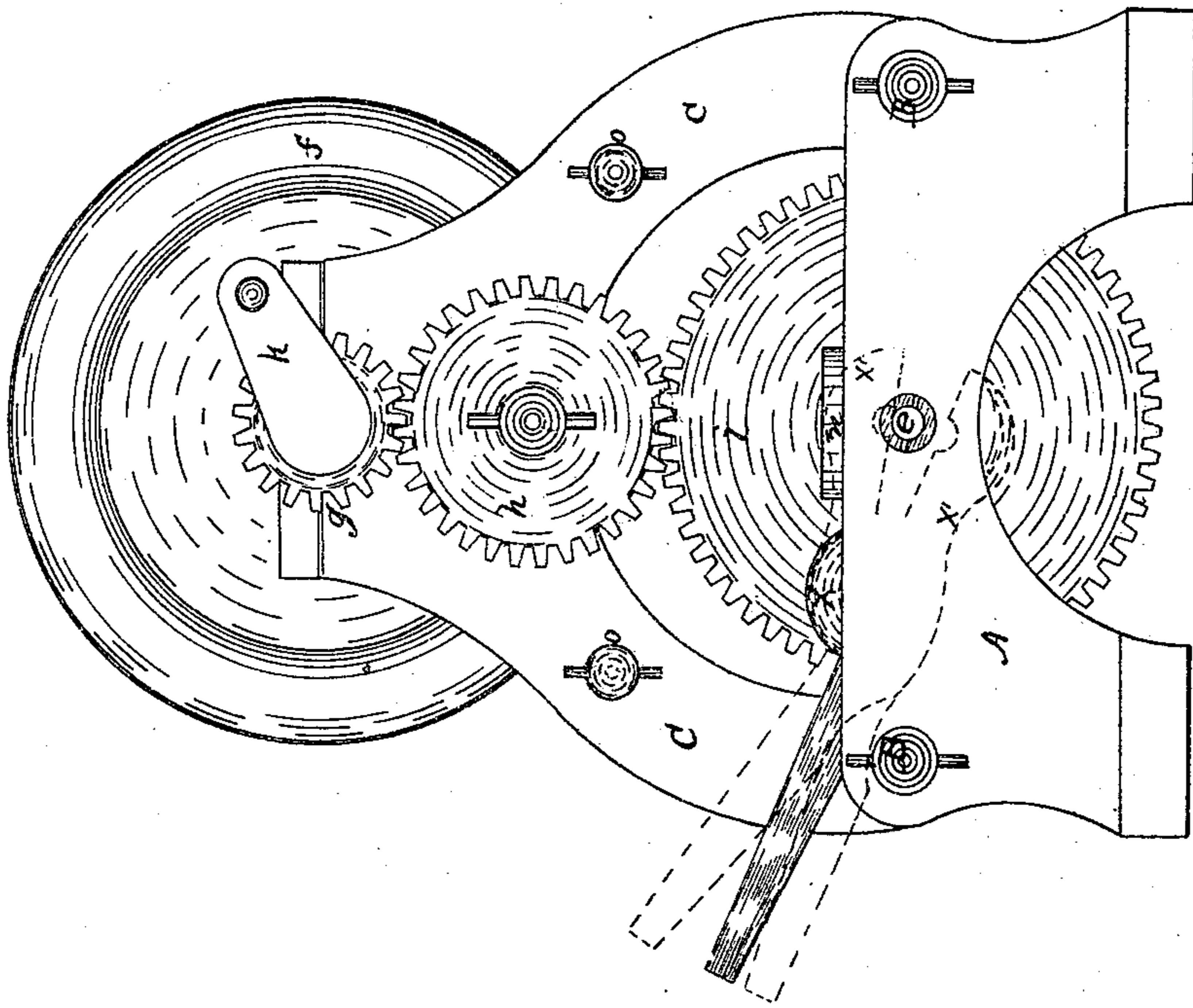
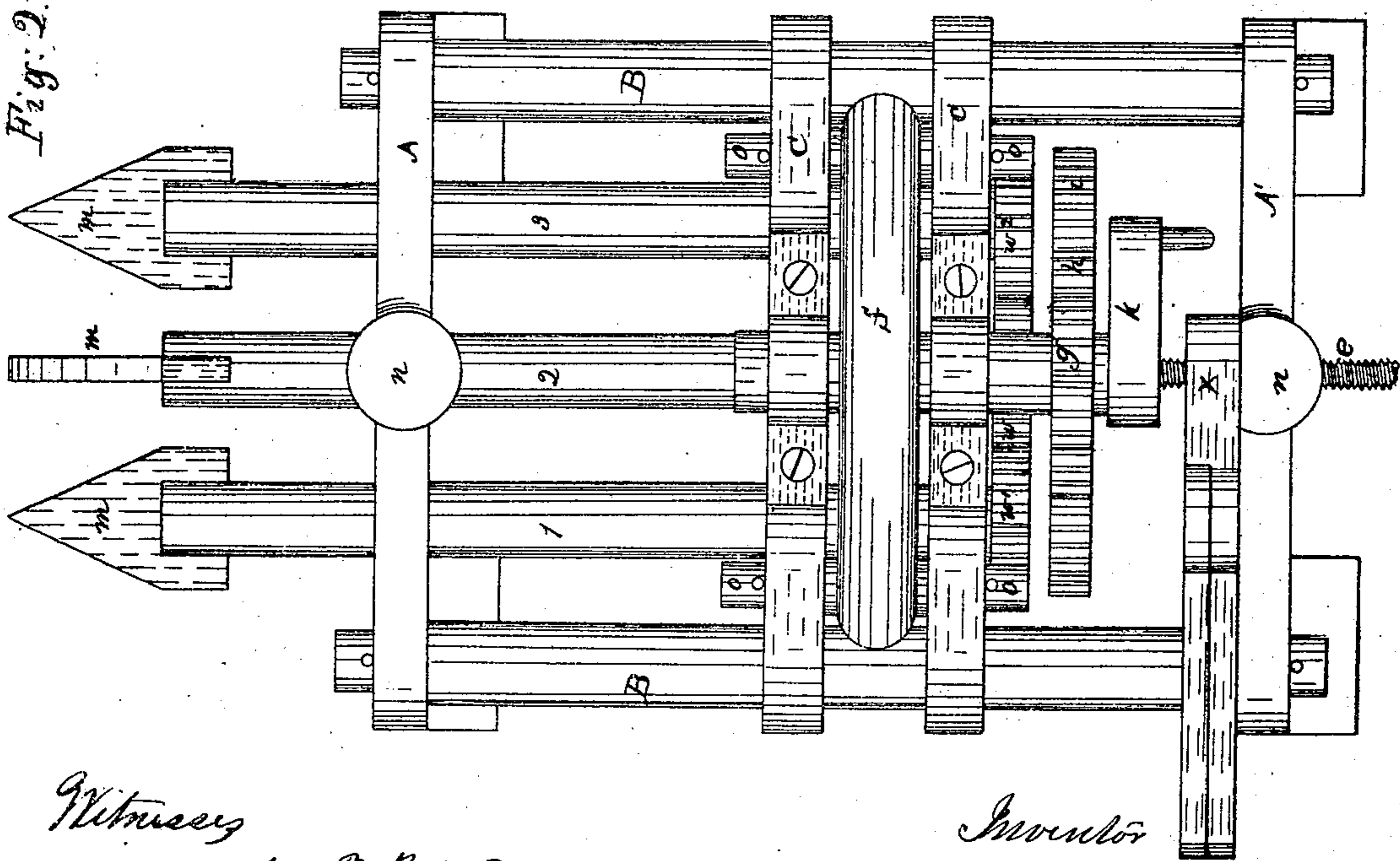


Fig. 2.



Witnesses

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SAMUEL GISSINGER, OF ALLEGHENY CITY, PENNSYLVANIA.

Letters Patent No. 72,390, dated December 17, 1867.

IMPROVEMENT IN COAL-MINING MACHINE DRILL-CARRIAGE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, SAMUEL GISSINGER, of the city and county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Machines for Mining Coal; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in undermining coal by operating a series of drills by means of wheels, and moving or feeding the drills up to their work by means of a screw, said drills, wheels, and screw being constructed, arranged, and operating in the manner hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation. In the accompanying drawings, which form part of my specification—

Figure 1 represents an end elevation of my improvement in machines for mining coal.

Figure 2 is a top view or plan of the same.

In the drawings, A and A' represent two end pieces of a frame, which end pieces are held in position by two round bars marked B. These bars pass through openings in the lower part of the end pieces C of the drill-carriage. The end pieces C are held in position by two round bars marked O. The frame which supports the drill-carriage is composed of the end pieces A and A', and bars B, and the drill-carriage is composed of the end pieces C, and bars O. The drill-bars marked 1 2 3 have their bearings in the end pieces C. The front end of these drill-bars move in openings made in the end piece A of the frame which supports the drill-carriage. On the back end of the drill-bars 1, 2, and 3, are secured wheels marked w , w^1 , and w^2 . These wheels gear into each other, and are the same diameter, and each wheel is provided with the same number of cogs or teeth. To the back end of the drill-bars 2 is connected a screw, e , which is made operative by means of a clamp or tongs marked X, pivoted to the end piece marked A'. On the back end of the drill-bar 2 is a large wheel marked i . f represents an ordinary "balance-wheel." k represents a crank; g and h , driving-wheels.

As the construction and arrangement of the several parts will be readily understood from the above description, and by reference to the accompanying drawings, without further description, I will therefore proceed to describe its operation, which is as follows:

Having the frame which supports the drill-carriage securely braced down, by placing posts on the plates n of the end pieces A and A', said posts to extend to the roof of the coal-pit, and so wedged as to hold the frame of the machine in a fixed position, I then draw the drill-carriage back near to the end piece A'; I then close the clamp-screw nut x upon the screw e ; I then turn the crank k , which will turn the wheel g , which will revolve the wheel h , which will revolve the wheel i , which will revolve the wheel w and drill-bar 2, and the wheel w will revolve the wheels w^1 and w^2 , and thereby revolve drill-bars 1 and 2. The revolving of the drill-bar 2, and the screw e attached to it, will cause the drill-carriage to move forward by the screw e turning in the clamp-screw nut x , thereby feeding the drills m up to their work. The drills m , when arranged on the drill-bars, as shown in fig. 2, will cut out a single cavity, that is to say, there will be no coal left standing in the drills m . When the drills have been moved forward as far as the screw e will drive them, the screw-clamp X is opened, as indicated by the dotted lines x' , and the drill-carriage is drawn back; the screw-clamp X' is closed, and the machine moved to the place desired, and again secured in the manner described, and it is again ready for drilling, "bearing in," or undermining the coal.

Having thus described the nature, construction, and operation of my said improvement, what I claim as of my invention, is—

The drill-carriage, constructed as herein described, and provided with drill-bars made operative through the medium of the wheels w , w^1 , w^2 , i , h , and g , arranged and operating in the manner and for the purpose set forth.

I also claim, in combination with the above, the screw e and the clamp-screw nut x , constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

SAMUEL GISSINGER.

Witnesses:

JAMES J. JOHNSTON,
JOEL SMITH, Jr.