S. INGERSOLL.

Improvement in Valve-Motions.

No. 115,478. Patented May 30, 1871.

Fig. 1.

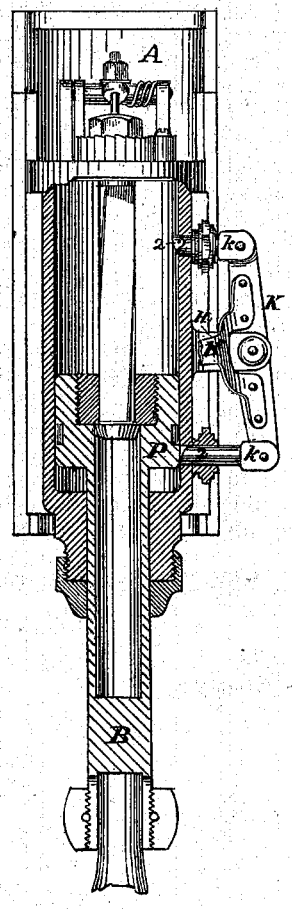


Fig. 2.

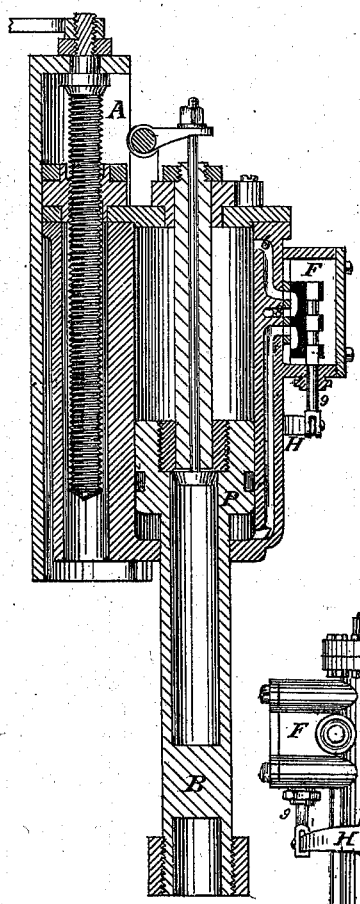


Fig. 3.

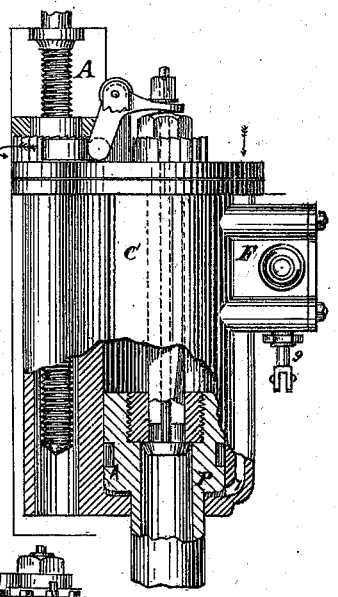
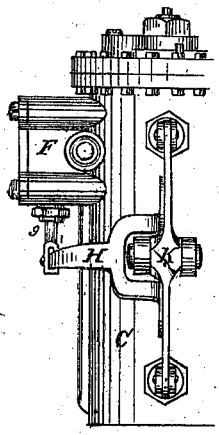


Fig. 4.



Witnesses:

Fred. Artos

Wm. M. Evans.

Inventor:

Simon Ingersoll

by his attorneys

A. H. & R. K. Evans

UNITED STATES PATENT OFFICE.

SIMON INGERSOLL, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN VALVE-MOTIONS.

Specification forming part of Letters Patent No. 115,478, dated May 30, 1871.

To all whom it may concern:

Be it known that I, SIMON INGERSOLL, of the city of Brooklyn and State of New York, have invented a new and useful Improvement in Valve-Motions, of which the following is a clear, full, and exact description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a longitudinal section, showing the tappet-valves. Fig. 2 is a longitudinal section through the steam-chest and cylinder. Fig. 3 is a broken section of the cylinder with the steam-chest attached. Fig. 4 shows the opposite side of the cylinder and steam-chest to Fig. 3.

My invention has reference more particularly to machinery for working rock-drills, such as was patented to me by Letters Patent bearing date February 28, 1871; and consists of a new and peculiar valve-motion controlled and regulated by beveled tappets working into the cylinder.

In order that others skilled in the art may use and understand my invention, I will proceed to explain how I have carrried it out.

K is a tappet-lever, the motions of which are regulated and controlled by the beveled tappets *k k*, operated on, alternately, by the piston P. The beveled ends of the tappets pass into the cylinder C just far enough to allow the beveled or inclined edges of the piston to strike alternately against the bevel or incline Q, Fig. 1, on the inner ends of the tappets, thus giving motion to the tappet-lever K. The bent lever H is attached at one end to the tappet-lever K, and at the other end to the valve-stem 9, as shown in Fig. 4.

It is evident the motion of the tappet-lever K will give a lateral motion to the bent lever H, and thus cause the valve-stem 9 to slide within the steam-chest F, which is constructed after the usual manner of constructing steam-chests, in which 6 and 7 are ports, and 8 is an exhaust-port.

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

The tappet-lever K, with its beveled tappets *k*, in combination with the piston P and bent lever H, to give motion to the valve-stem 9, and cause it to slide within the steam-chest F, substantially as and for the purpose set forth.

SIMON INGERSOLL.

Witnesses:
A. H. EVANS,
FREDERICK ZIMMER.