A. Miller.

Steam Hammer.

No. 86,996. Patented Feb. 16, 1869.

Fig. 1.

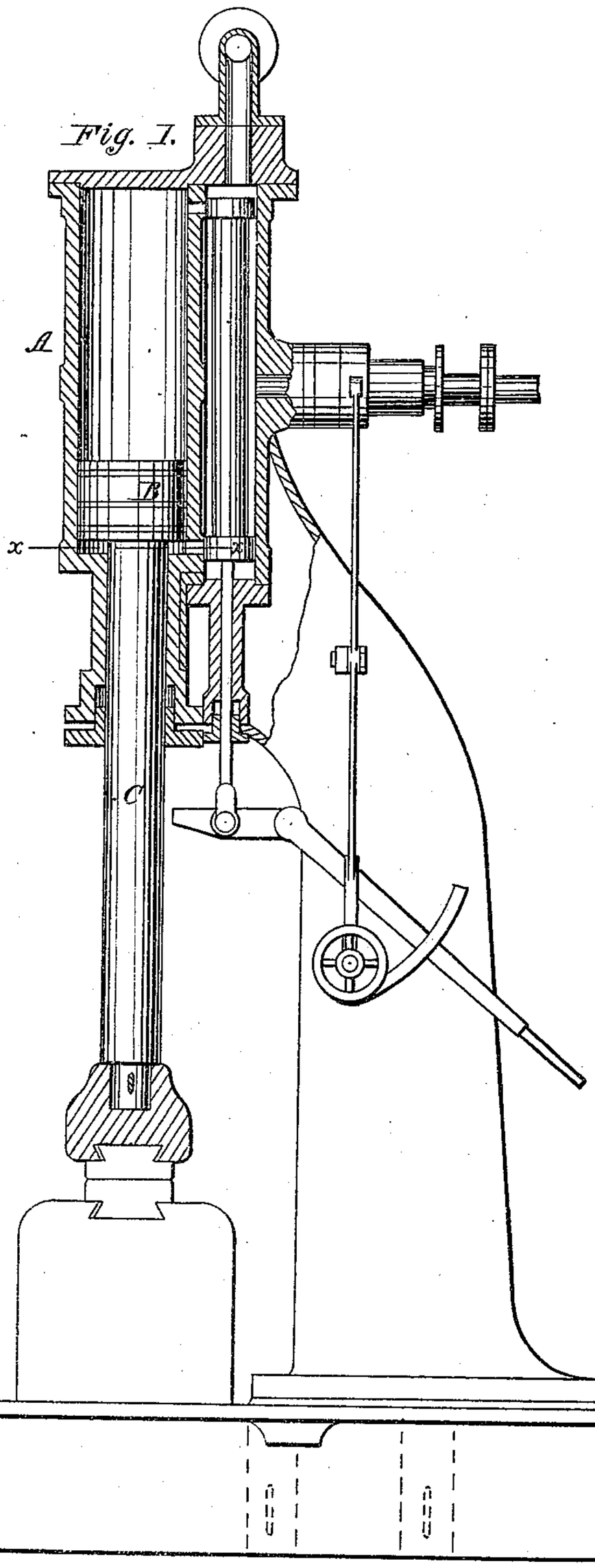
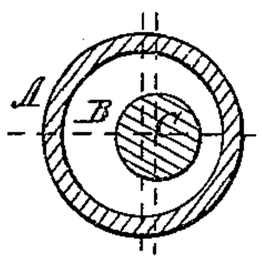


Fig. 2.



Witnesses:

H. C. Ashkettle

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ALEXANDER MILLER, OF RACINE, WISCONSIN, ASSIGNOR TO WILLIAM H. THOMPSON, OF ROCK ISLAND, ILLINOIS.

Letters Patent No. 86,996, *dated February* 16, 1869.

IMPROVEMENT IN STEAM-HAMMER ENGINES.

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, ALEXANDER MILLER, of Racine, in the county of Racine, and State of Wisconsin, have invented a new and improved Steam-Hammer; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to an improvement in steam-power hammers, whereby all guides and slides are dispensed with; and

It consists in attaching the piston-rod eccentrically to the piston, to prevent the latter from turning in the cylinder while in operation.

The drawing—

Figure 1, represents a vertical longitudinal section of a steam-hammer, showing the cylinder and piston therein, constructed according to my invention; also the steam-chest and valves, and other working-gear of the hammer connected therewith, in red colors.

Figure 2 is a cross-section of fig. 1 through the line *x x*, showing the piston and rod in the cylinder.

Similar letters of reference indicate corresponding parts.

A represents the cylinder which is attached to the hammer-stand, with the cylindrical steam-chest and valves, valve-rod, and steam-pipe, arranged in the ordinary manner, as seen in red in the drawing;

B represents the piston; and

C, the piston-rod, which is connected, as seen, directly with the hammer.

As the piston-rod has heretofore been arranged for operating steam-hammers, it has occupied a position central with the piston, and been provided with guides or ways, to keep it steady and in place.

In experimenting with the hammer, I have discovered that by placing the piston-rod eccentrically on the piston, as seen in the drawing, all guides and slides or ways may be dispensed with, thereby greatly simplifying, and consequently reducing the expense of the machine.

By attaching the piston-rod eccentrically to the piston, the latter is prevented from rotating or turning in the cylinder while working, and the use of additional guides avoided.

This arrangement of the piston-rod on the piston may be found useful for other purposes than for steam-hammer cylinders. I do not, therefore, confine myself to the particular application described.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

The construction of the piston B and rod C eccentrically to each other, whereby to prevent the piston from turning in the cylinder while in operation, as herein set forth.

The above specification of my invention signed by me, this 21st day of November, 1867.

ALEXANDER MILLER.

Witnesses:

H. C. CONNELLY,
D. C. THOMPSON.