T. R. MORGAN.

Improvement in Cylinders for Steam-Hammers.

No. 125,976. Patented April 23, 1872.

Fig. 1

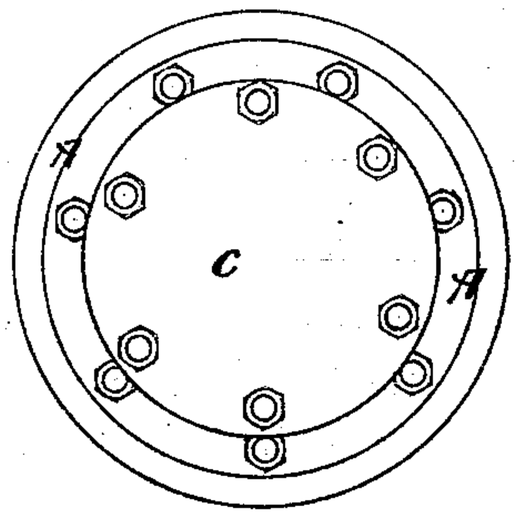
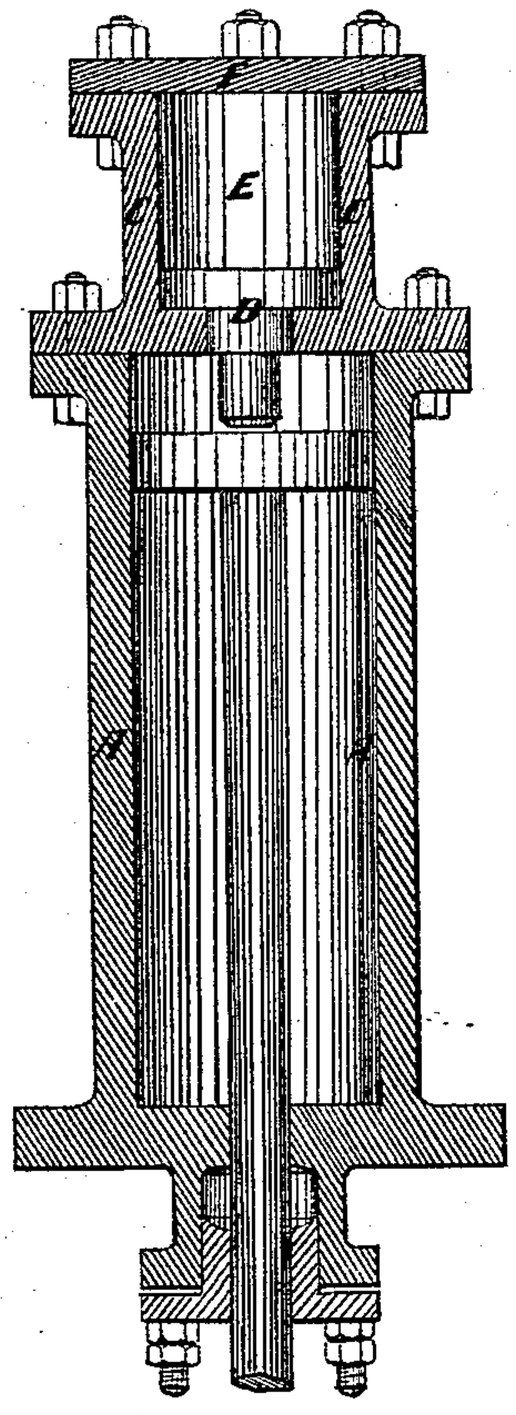


Fig 2



WITNESSES:
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UNITED STATES PATENT OFFICE.

THOMAS R. MORGAN, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHARLES E. MARCHAND, OF SAME PLACE.

IMPROVEMENT IN CYLINDERS FOR STEAM-HAMMERS.

Specification forming part of Letters Patent No. 125,976, dated April 23, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, THOMAS R. MORGAN, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Cylinder-Heads for Steam-Hammers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a new and improved device for preventing the breakage of steam-hammer cylinder-heads and cylinders by means of a spring or a positive elastic cushion.

In the accompanying drawing, Figure 1 is a top view of the cylinder of an ordinary steam-hammer, having attached to it my improvement. Fig. 2 is a vertical section of the cylinder of an ordinary steam-hammer, showing the position of my improved device.

Letters of reference denote parts.

In Fig. 2 of the accompanying drawing, A represents an ordinary cylinder of a steam-hammer, showing the piston at its upper stroke. Attached to, and upon the top of cylinder A, is a detachable cylinder-head, C, securely fastened thereto by bolts or other suitable means. The cylinder-head C has a covering or head-plate, F. The bumper-pin D, which can be made of iron or any other suitable material, is placed in position through the upper end of said cylinder-head C, and rests upon two shoulders inside of the cylinder-head C. This bumper-pin D extends through the lower part of said cylinder-head C a sufficient distance to prevent the piston from striking its under side. The remaining space, E, in said cylinder-head C is occupied by a spiral or any other kind of metal spring, or by rubber or any other kind of fibrous packing, such as hemp. Upon the said bumper-pin D and the said spring or packing in space E being placed in position, the covering or head-plate F is placed on top and securely held in position by bolts or other ordinary means.

The operation of my improvement, and the advantages arising from the adoption of same, I will proceed to describe.

When, by changing the valve-motion of an ordinary steam-hammer more than is necessary, or from any other cause, the piston is allowed to travel against the cylinder-head, the advantages of my improved device become apparent. Instead of the piston striking the cylinder-head the bumper-pin D receives the concussion, which, being forced against the spring or packing-cushion in the space E, prevents the breakage of either the cylinder or cylinder-head. It is also of great value, because not requiring the amount of care or skill on the part of the person engaged in working said steam-hammer.

A cylinder with a cylinder-head constructed as described permits of the piston-rod being made long enough to allow its withdrawal at the upper end of said cylinder, for the purpose of changing packing or making examination of the interior of said cylinder, by simply removing said cylinder-head C, and without disarranging other parts of the steam-hammer. The bumper-pin D or the spring or cushion placed in the space E can also be readily withdrawn by removing the head-plate F.

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

The combination and arrangement, in a steam-hammer, of rubber spring E and pin D, with the closed cylinder E having the head F, all constructed and arranged substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

THOS. R. MORGAN.

Witnesses:

MAX EVERLING,

BOLIT SMITH.