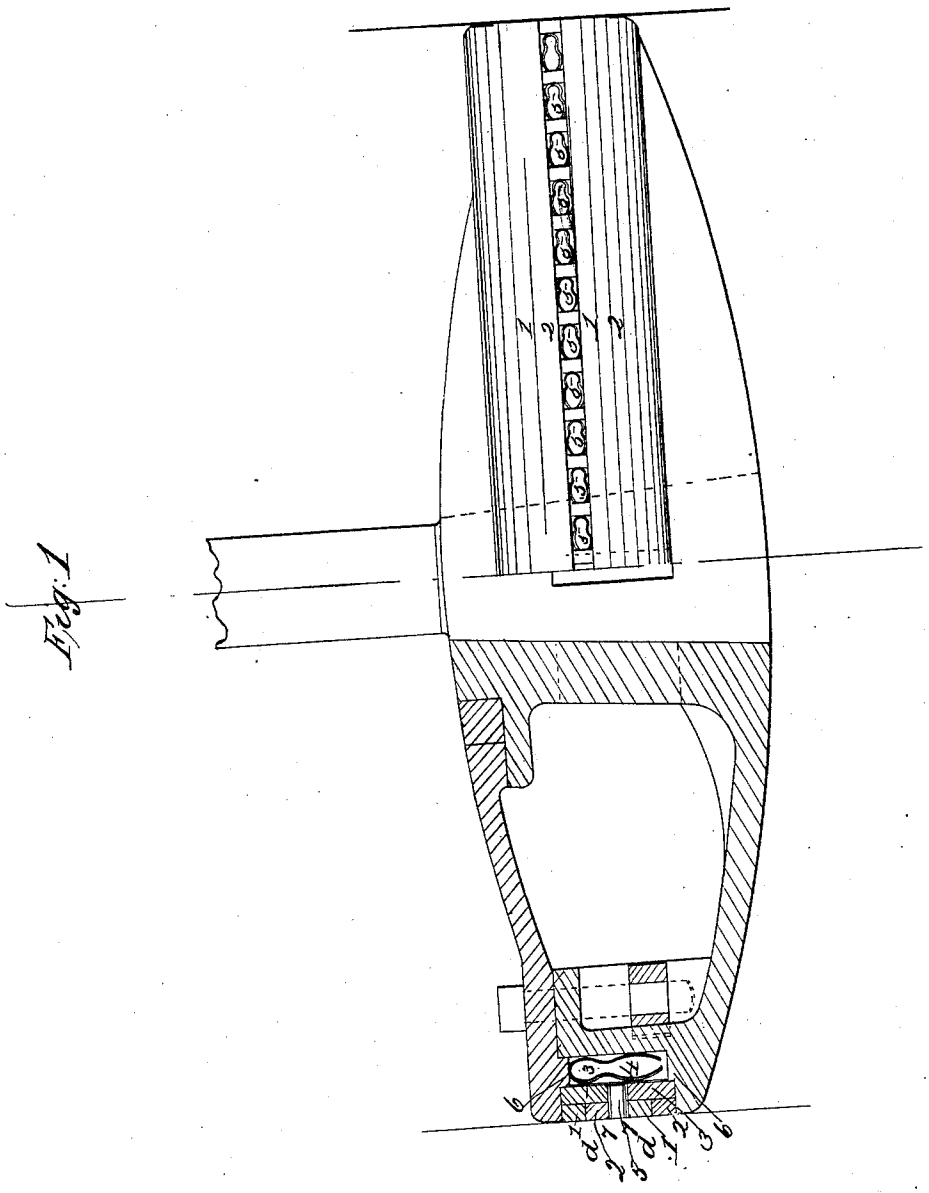
H. Horton,

Piston Packing.

No. 21,678. Patented Oct. 5, 1858.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HANFORD HORTON, OF NEW YORK, N. Y.

PACKING PISTONS FOR STEAM-ENGINES.

Specification of Letters Patent No. 21,678, dated October 5, 1858.

To all whom it may concern:

Be it known that I, HANFORD HORTON, of the city, county, and State of New York, have invented a new and Improved Mode of Packing the Pistons of Steam-Engines; 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 a new mode of applying "springs" for the purpose of keeping the "packing rings" in their places, and preventing the rings from working against the "follower" and the main portion of the piston (in the upright cylinder), by which means the wear and consequent necessity of frequent refitting is greatly lessened.

To enable others skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

Figure A is intended to represent a half section of the ordinary piston.

a, 1, 2, 3, are, three metallic rings, surrounding the piston, ("breaking joints" as usual,) and kept in their position by the springs 5, 5 5 &c., which by their pressure, on the lower surface of rings 2 and 3 and on the upper surface of rings 1 and 3 of the lower set, has the effect of keeping, apart, and in their proper places, the upper set *a* 1, 2, 3, and the lower set *b* 1, 2 3.

The rings 3, 3, are pressed outward and kept in their proper place by the spring 4 in the mode now in use.

A rim of sheet iron *b*, *b* or other metal is interposed between the spring 4 and the metallic rings 3, 3, and a similar rim of sheet iron may be inserted in the space 7, 7, between the rings 7, 2 and 7, 1 extending around the piston and covering the edges of the springs 5, 5 &c., and between them and the inner surface of the cylinder.

What I claim as my invention and desire to secure by Letters Patent, is—

1. The application of the figure 8 or other appropriate spring between the upper and the lower set of metallic cylinder rings, as herein before described and set forth, by which an upward and a downward pressure is obtained on said rings.

I do not claim the application of springs to produce an outward pressure, said springs acting on a single or "spring ring" which keeps out the two "cylinder rings" as that has heretofore been in use by others as well as myself but—

2. I do claim the combination of the six rings *a*, 1, 2, 3, *b* 1, 2, 3, with the figure of 8 or other appropriate spring between them, to produce an upward and downward pressure, in combination with the figure of 8 or other appropriate spring acting on the two "spring rings" producing an outward pressure on the four cylinder rings, thus making a steam tight joint, on the upper edge of the upper cylinder ring, as well as on the lower edge of the lower cylinder ring, and also on the cylinder surface of the cylinder rings.

HANFORD HORTON.

Witnesses:
HAMILTON MORTON,
A. VAN HORNE ELLIS.