

P. WALKER.
BOILER-TUBE STOPPER.

No. 172,528.

Patented Jan. 18, 1876.

Fig. 1

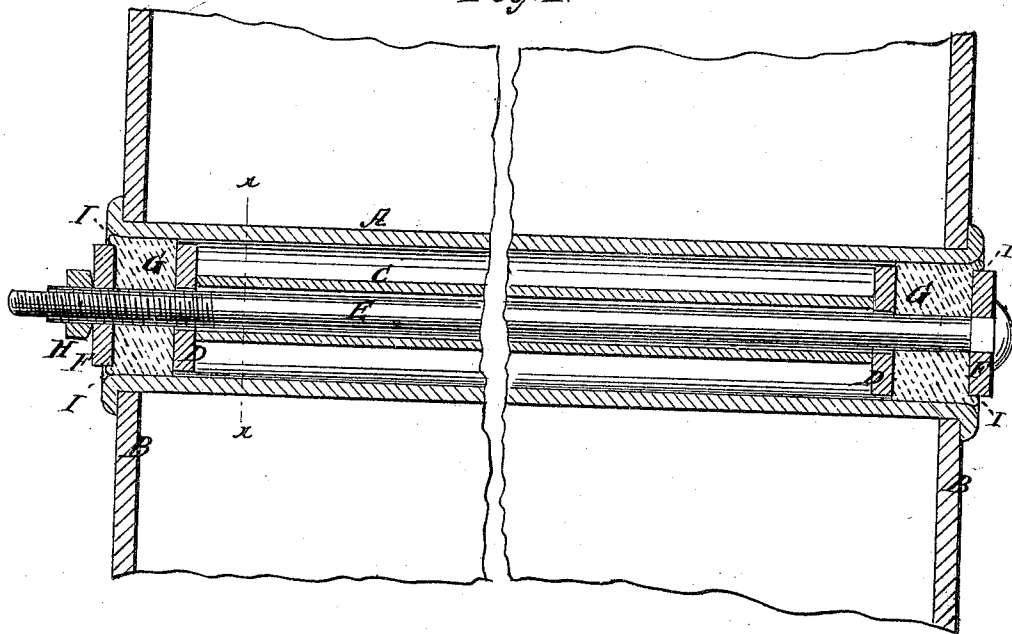
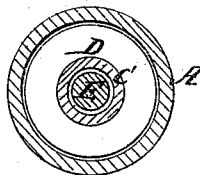


Fig. 2



WITNESSES:

E. Wolff
Alex. T. Roberts

INVENTOR:

P. Walker

BY

Murray
ATTORNEYS.

UNITED STATES PATENT OFFICE.

PETER WALKER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN BOILER-TUBE STOPPERS.

Specification forming part of Letters Patent No. **172,528**, dated January 18, 1876; application filed December 18, 1875.

To all whom it may concern:

Be it known that I, PETER WALKER, of Jersey City, Hudson county, New Jersey, have invented a new and Improved Tube-Stopper, of which the following is a specification:

My invention consists of a spring packing-ring and a clamp for expanding it for each end of the boiler-tube, the clamps being formed of a collar on each end of the tube, and other collars on a rod passing through the tube, and fixed so as to clamp and expand the packing-rings tightly into the tubes of the boiler, the rod and tube of the stopper being of suitable length to fasten the packing-rings into the tube at the ends.

Figure 1 is a longitudinal section of a boiler-tube and my improved stopper; and Fig. 2 is a transverse section of the stopper, taken on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A is the boiler-tube to be stopped; B, the tube-sheets; C, the tube of the stopper; D, the collars on the end of the stopper-tube; E, the rod of the stopper; F, the clamping-collars on it; G, the expanding packing-springs,

and H the nut for screwing up the collars F on the rod, and expanding the springs.

It is designed to have the stopper so constructed that, besides expanding the face of the springs directly against the tube, the outer edge will be forced out against the ends of the tube, as shown at I, so that the collars F will squeeze the parts so forced out directly against the ends of the tube, thus insuring perfectly steam-tight joints. A stopper of this kind can be put in a locomotive or marine boiler, by the aid of suitable tools, without stopping the fire.

I am aware that boiler-tubes have been stopped by plugs held between two nuts; but What I claim is—

The combination, with boiler-tube A, of the tube C, having collar D at each end, and the screw-bolt E, having collar F at each end, one of the latter being movable in front of a clamping-nut, the whole to act upon the springs G, in the manner set forth.

PETER WALKER.

Witnesses:

T. B. MOSHER,
ALEX. F. ROBERTS.