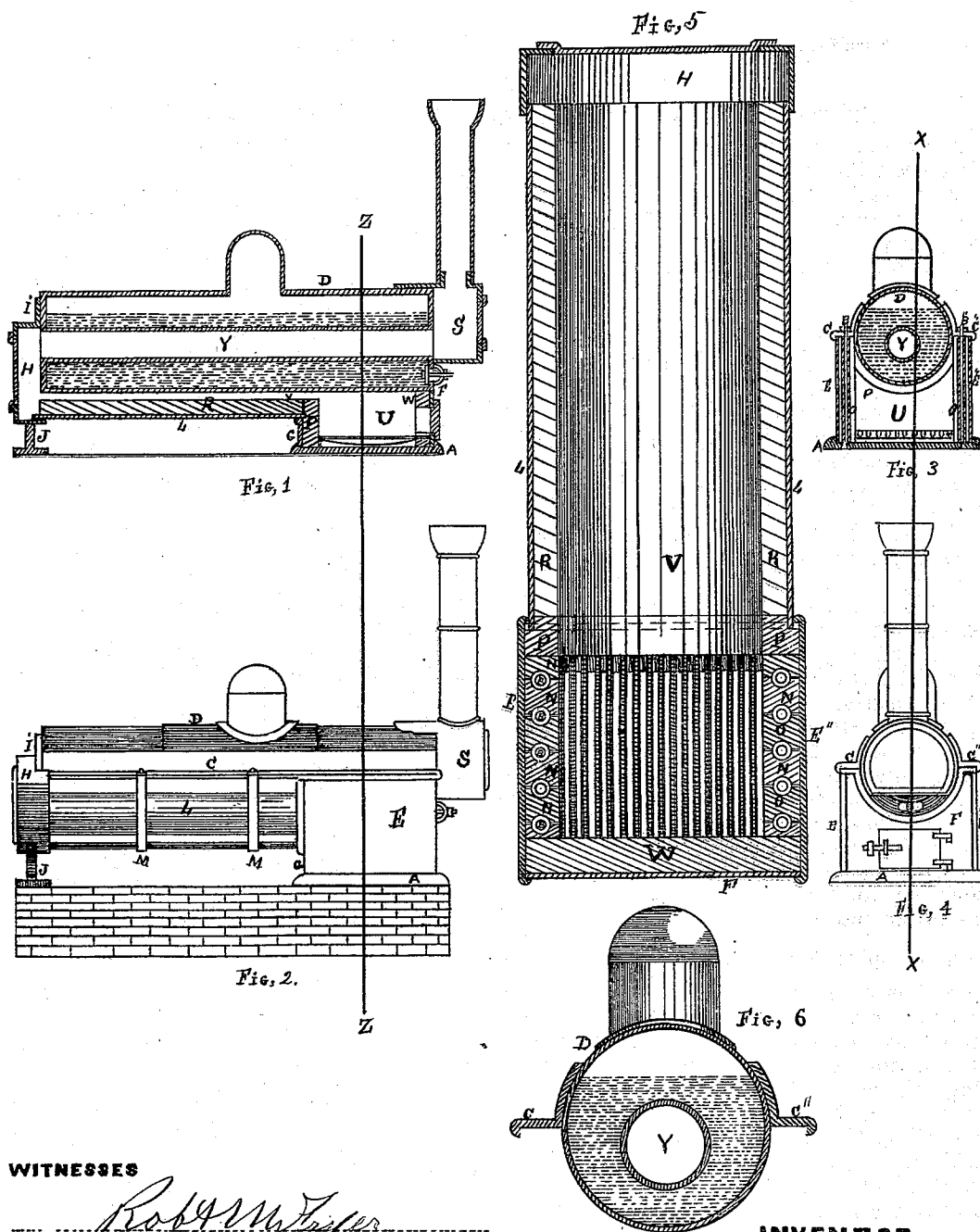


BURREL G. WOOD.

Improvement in Horizontal Flue Steam Boilers.

No. 125,871.

Patented April 16, 1872.



WITNESSES

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INVENTOR

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# UNITED STATES PATENT OFFICE.

BURREL G. WOOD, OF NASHVILLE, TENNESSEE.

## IMPROVEMENT IN HORIZONTAL-FLUE STEAM-BOILERS.

Specification forming part of Letters Patent No. 125,871, dated April 16, 1872.

### SPECIFICATION.

*To all whom it may concern:*

Be it known that I, BURREL G. WOOD, of the city of Nashville, county of Davidson, State of Tennessee, have invented certain new and useful Improvements in "Portable Steam-Boilers," of which the following is a specification:

### *Nature and Object.*

The object of my invention is to construct a fire-box, together with the necessary passages, in connection with a cylindrical flue or tubular boiler in such a manner as to admit of a shipment from place to place, as a boiler of the locomotive form, and as ready for use, avoiding the necessity of the usual brick-work setting. Such a boiler is capable of sustaining a much greater internal pressure than those of the locomotive style. As no flat surfaces are employed, (except the heads or ends,) it is more convenient to repair than a cylindrical boiler set in the ordinary way, and is at the same time far better supported. The nature of my invention consists of a metallic frame-work, which at the top is fastened to the sides of the shell of the boiler, forming a fire-box at one end, from which leads a flue or passage extending to the rear, communicating with a connection to the main flues or tubes of the boiler, and filling in or lining the said frame-work with tiling or other suitable non-conductor, and covering the same with a metallic casing, as hereinafter described.

### *Description of the Accompanying Drawing.*

Figure 1 is a longitudinal section through the line *x x*. Fig. 2 is a side elevation. Fig. 3 is a vertical section through the line *z z*. Fig. 4 is a front elevation. Fig. 5 is a plan showing the boiler-setting ready to receive the boiler. Fig. 6 is a vertical section of the boiler and lugs *C C'*.

The Figs. 1, 2, 3, and 4 are drawn on a scale one-quarter inch to one foot. The Figs. 5 and 6 are drawn on a scale one-half inch to one foot.

### *General Description.*

A is a hollow square piece of metal, situated at the base of the fire-box *u*, suspended by bolts B, which pass through and lead from *C C'*,

which are lugs fastened to the boiler-shell D. A has a flange turned upward, and *C C'* has a flange turned downward to receive the side plates *E E'*, which also have flanges turning inward and receiving the front plates F and rear plate G. H is a metallic connection rigidly attached to the rear end of the boiler by means of lugs *I'*. J is a leg attached to H for supporting that end of the boiler. L is a half-shell, supported at one end by the connection H, and at the other end by the plate G. M M' are metallic bands fastened to *C C'* for giving support to the central part of L. N is tiling, (or other suitable non-conductor,) so constructed that the sections will meet at the centers of the bolts B, forming a snug fit around the thimble O through which said bolts pass, as shown in Fig. 5 of my drawing. These thimbles are of sufficient length to extend from the bottom of C to the top of A, and are designed to render support to the former by resting upon the latter, and when the said bolts are properly adjusted, a substantial, rigid, and durable fire-box is obtained, as will be seen by the description already given. The tiling P, which is situated at the rear of the furnace *u*, is held in its position against plate G by the ends of N, which butt up against it, and the tiling W is held against the front plate F in a similar manner, while L may be lined with common fire-brick R, as its construction is such as to form an inverted arch. S is a connection or smoke-arch of the ordinary construction between the tubes and chimney, for the use of smoke, &c., which issues from the furnace *u* through passage *v*, connection H, tubes or flues Y, and so on to the chimney.

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

1. In combination, the boiler D, lugs *C C'*, side plates *E E'*, and bottom A, with their flanges, tiling N, thimble O, and bolts B, substantially as and for the purpose above set forth.

2. In combination, the boiler D, lugs *C C'*, half-shell L, bands M, and metallic connection H, substantially as and for the purpose set forth.

B. G. WOOD.

Witnesses:

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