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J. GRIFFITH & G. W. WUNDRAM.

Improvement in Section Steam-Boilers.

No. 130,294. Patented Aug. 6, 1872.

Fig. 1.

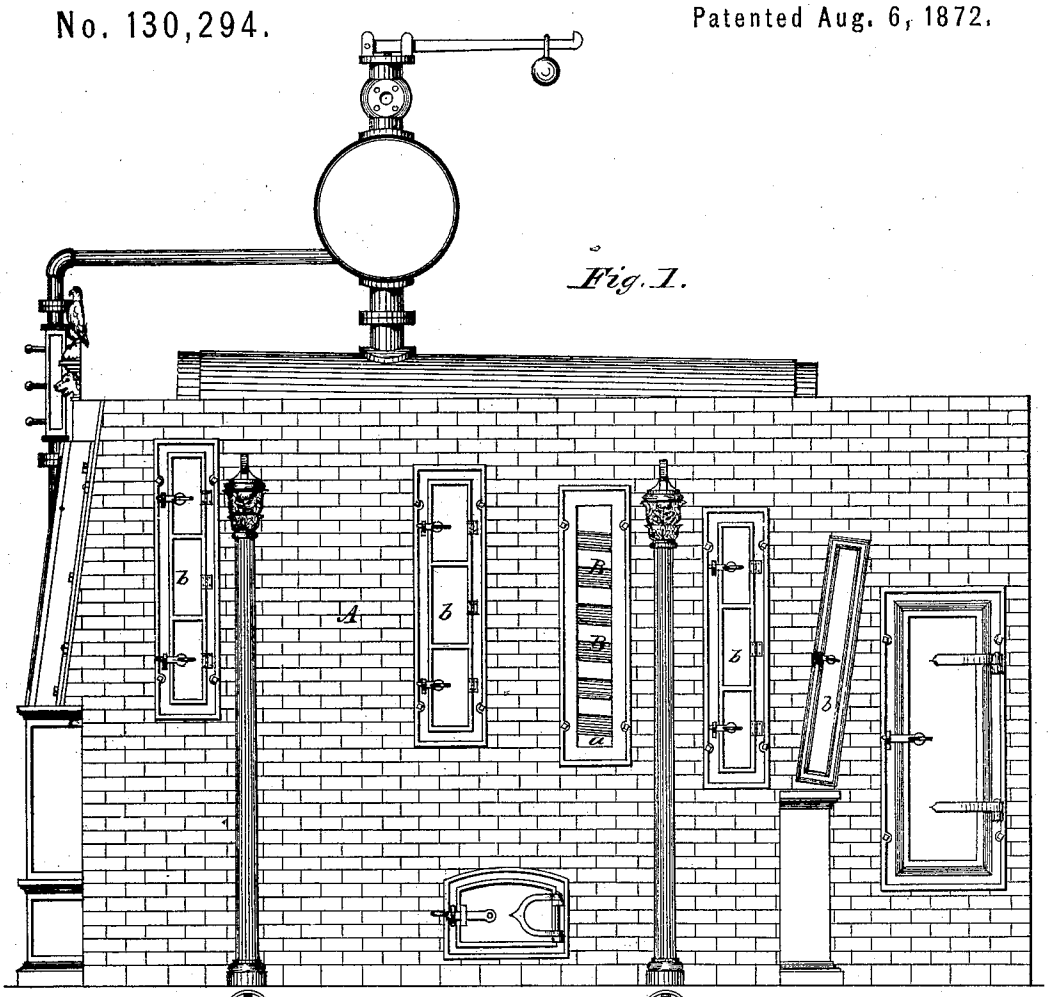
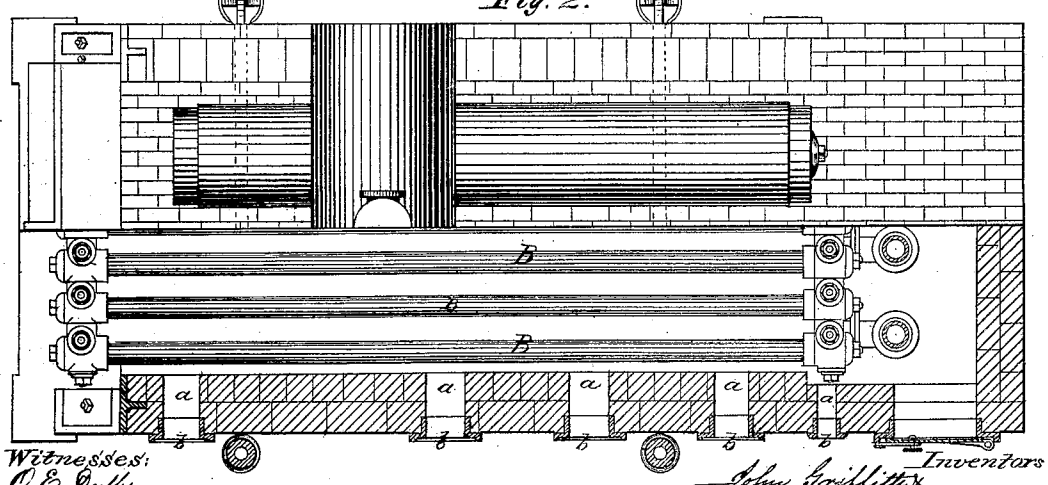


Fig. 2.



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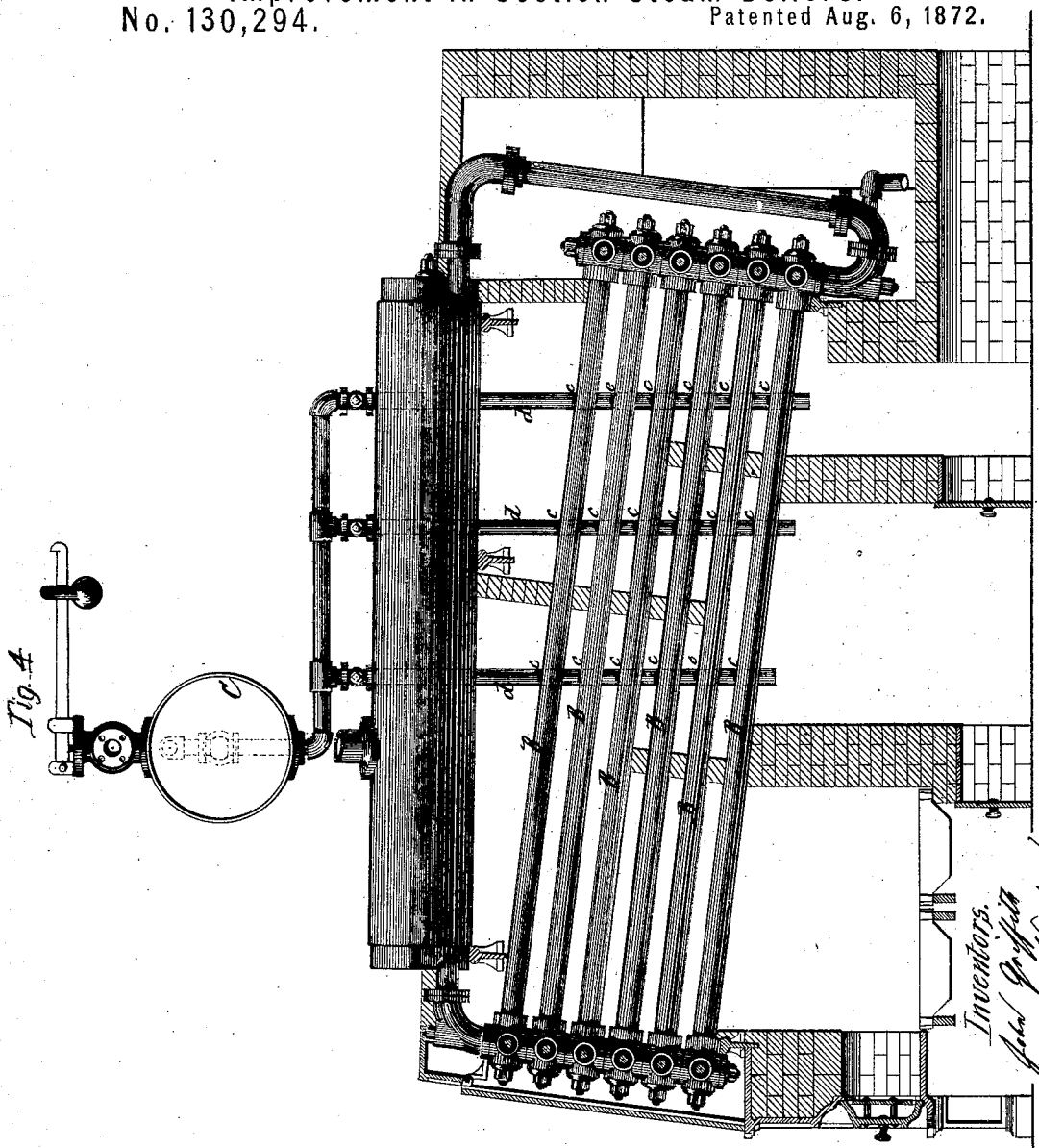


Fig. 4.

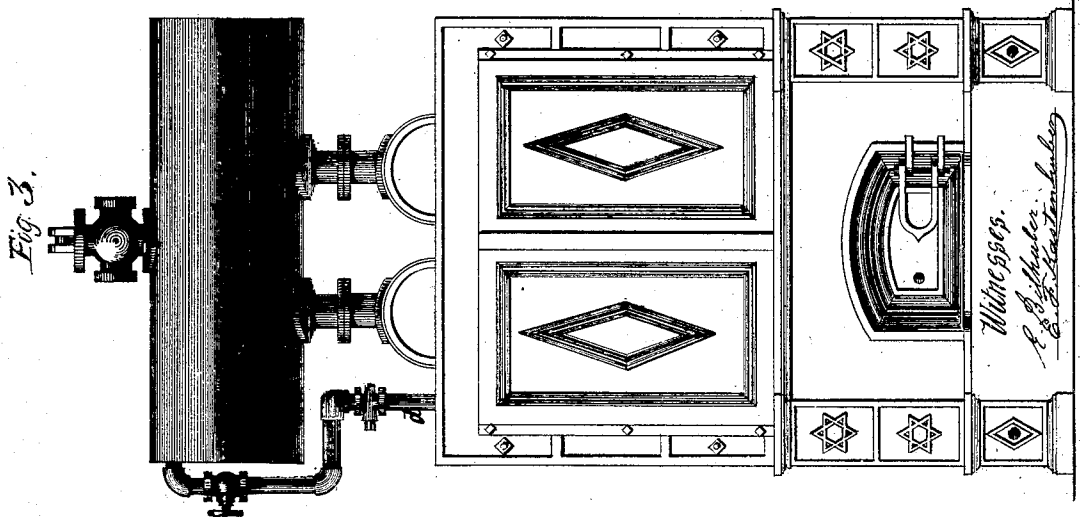


Fig. 3.

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Fig 5.

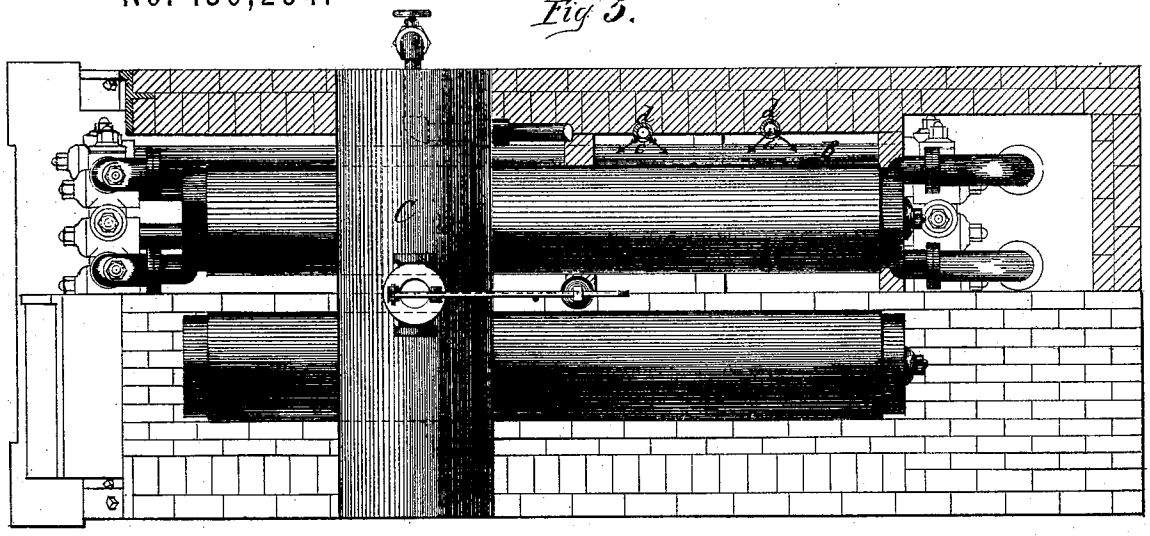
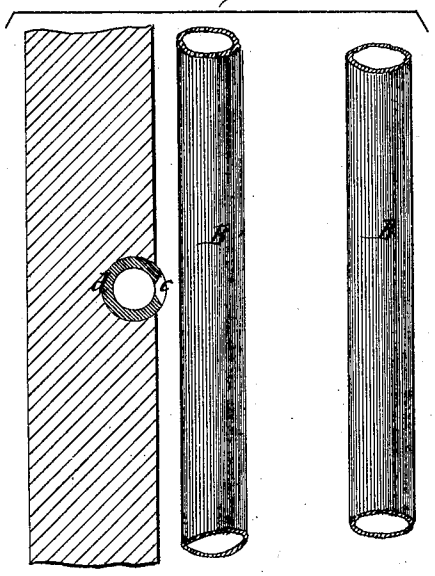


Fig: 6.



Fig 7.



Witnesses.
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AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

JOHN GRIFFITH AND GEORGE W. WUNDRAM, OF NEW YORK, N. Y.

IMPROVEMENT IN SECTIONAL STEAM-BOILERS.

Specification forming part of Letters Patent No. **130,294**, dated August 6, 1872.

To all whom it may concern:

Be it known that we, JOHN GRIFFITH and GEORGE W. WUNDRAM, of the city, county, and State of New York, have invented a new and useful Improvement in Sectional Steam-Boilers; and we 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 drawing forming part of this specification, in which drawing—

Figure 1 is a side view of our boiler when set so that access can be had to it from either or both sides. Fig. 2 is a plan or top view of the same, partly in section. Fig. 3 is a front of our boiler when set so that no access can be had to it from either side. Fig. 4 is a longitudinal vertical section of the same. Fig. 5 is a plan or top view of the same, partly in section. Fig. 6 is a detached side view of one of the steam-pipes which we use for cleaning our boiler, in a larger scale than the previous figures. Fig. 7 is a horizontal section of the same.

Similar letters indicate corresponding parts.

The object of our present invention is to facilitate the operation of cleaning the outer surfaces of the water-pipes of a sectional boiler from dust, ashes, or other impurities lodging on or adhering to them, and we effect this purpose by means of steam-jets issuing from pipes which extend down on the sides of the water-pipes.

In Figs. 1 and 2 of the drawing, the letter A designates the side wall of one of our sectional boilers, which is supposed to be so situated that free access can be had to it. In this wall is made a series of apertures, *a*, which are of such a height that they give access to all the water-pipes B of the boiler, from the top row down to the bottom row. Said apertures are closed by doors *b*, and if the pipes are to be cleaned the doors are opened and suitable brushes are introduced to remove from the pipes ashes or other impurities which may have lodged thereon or adhered to the same. The apertures *a* in the side wall A are so distributed that all parts of the pipes B can be conveniently reached, and by these means the labor of cleaning the pipes is materially increased. By means of the apertures above described access can be had to cleanse the pipes by hand, but when boilers are so situated that free access to the side wall cannot be had—for instance, when several boilers are arranged side by side—by our invention we clean the water-pipes by a series of steam-jets, *c*, injected through pipes *d*, which connect with the steam-dome C of the boiler, (see Figs. 3 and 4,) and which extend down on the sides of the water-pipes, as shown more particularly in Fig. 4. The steam-jets *c* issue from apertures in these pipes, situated on a level with the upper surfaces of said pipes, and such apertures are made oblong, (see Figs. 6 and 7,) so that the steam issuing therefrom is capable of spreading and of striking a large portion of the surfaces of the pipes B. The steam-pipes *d* are by preference embedded in one or both of the side walls of the boiler, as shown in Fig. 7, so that they are as much as possible protected against the direct action of the fire. By admitting steam to the steam-pipes *d* the impurities resting on or adhering to the water-pipes are readily blown away, and the boiler can be kept clean without difficulty.

What we claim as new, and desire to secure by Letters Patent, is—

The pipes *d*, extending from the steam-dome C along the sides of the water-pipes, and provided with a series of oblong apertures, *c*, through which a "jet" passes to operate upon and cleanse the outside surface of said water-pipes, all constructed and arranged substantially as set forth.

This specification signed by us this 9th day of February, 1871.

JOHN GRIFFITH.
G. W. WUNDRAM.

Witnesses:
W. HUAFF,
CHAS. WAHLERS.