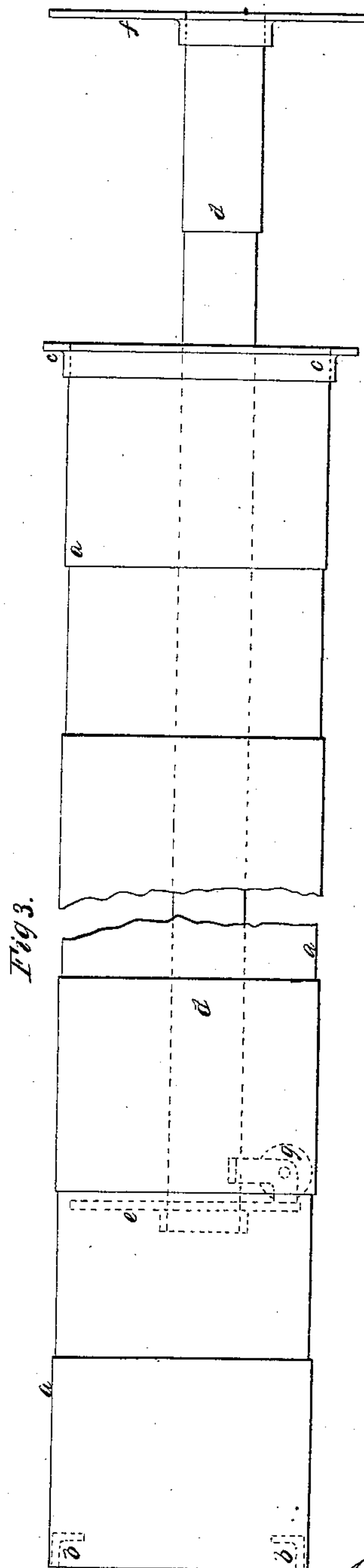
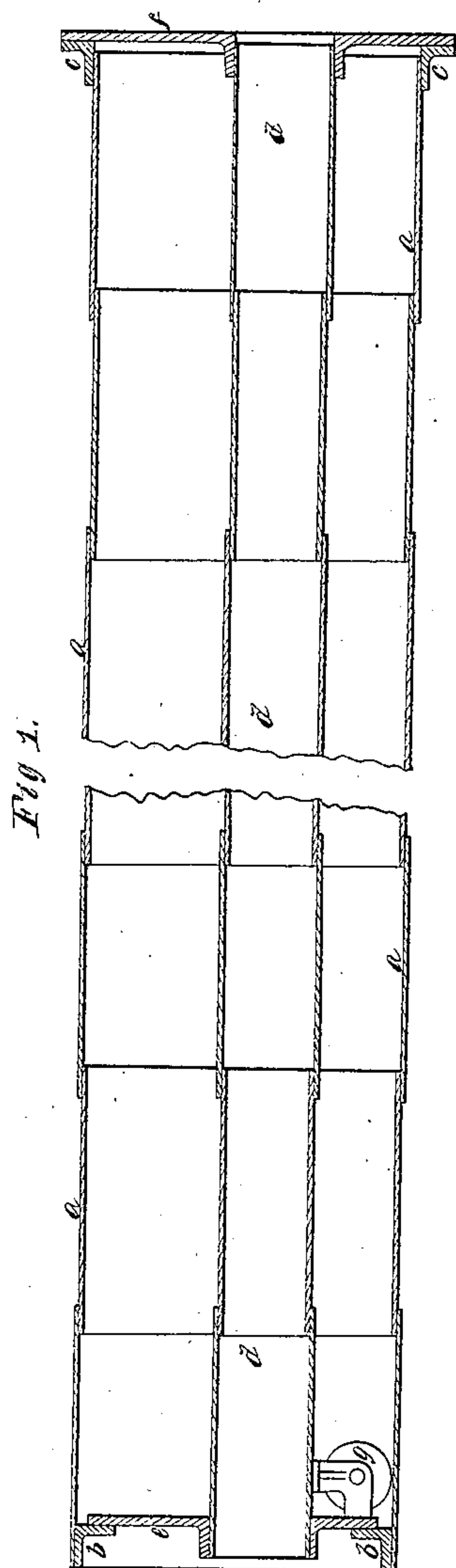
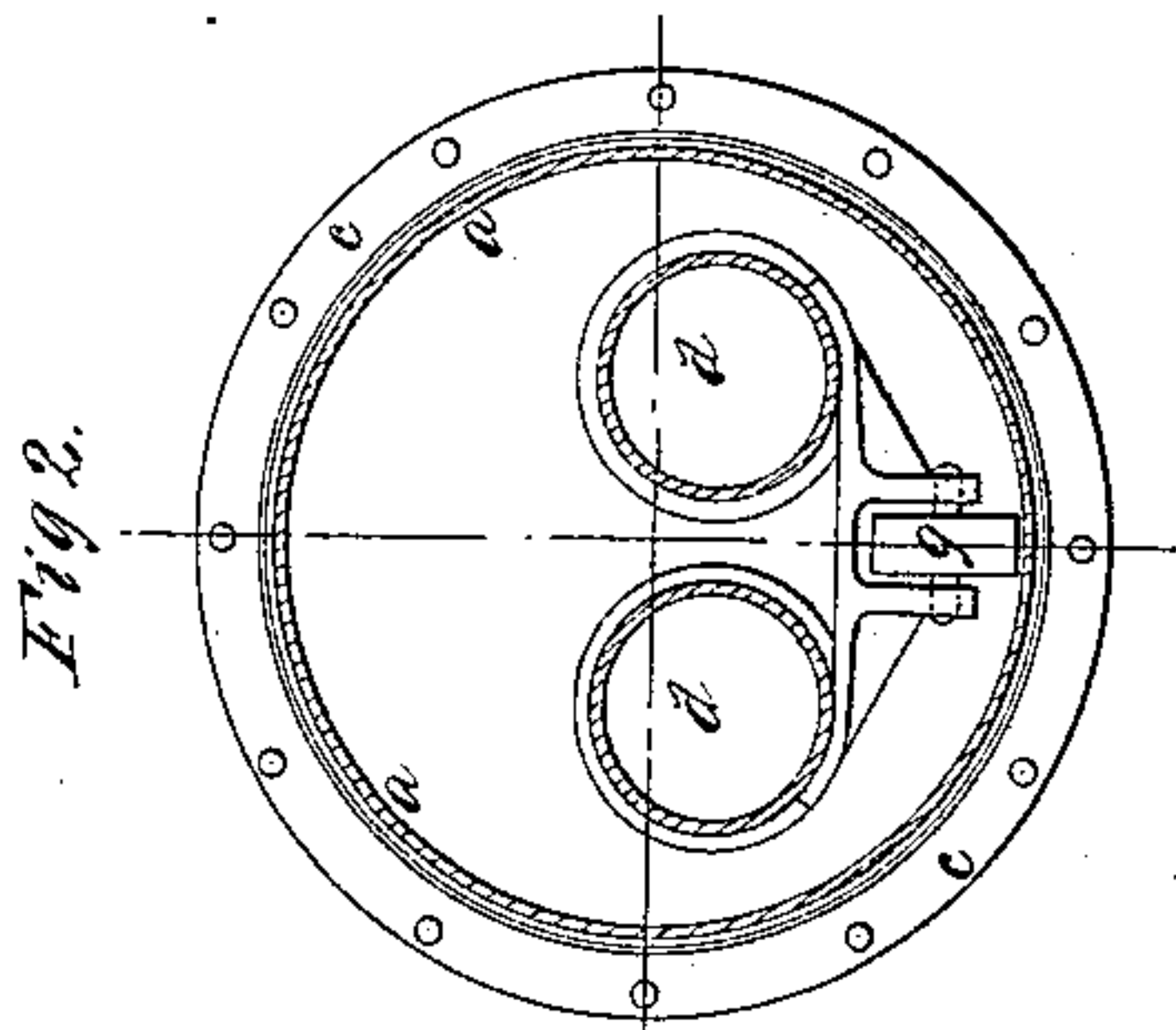


A. Hitchcock,

Securing Steam-Boiler Flues,

Nº 39,047.

Patented June 30, 1863.



Witnesses.
A. Burnham
Wm. Kimble Hall.

Inventor.
Alonzo Hitchcock

UNITED STATES PATENT OFFICE.

ALONZO HITCHCOCK, OF NEW YORK, N. Y.

IMPROVEMENT IN STEAM-BOILERS.

Specification forming part of Letters Patent No. **39,047**, dated June 30, 1863.

To all whom it may concern:

Be it known that I, ALONZO HITCHCOCK, of New York, in the county and State of New York, have invented a new and useful Improvement in Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

The object of my invention is to facilitate the cleaning and repairing of steam-boilers; and it is accomplished by constructing them in such a way that the flues can be separated and withdrawn from the shell so that access may be easily had to any part of either.

My invention consists in bolting the heads to which the flues are attached to internal and external flanges placed at the ends of the boiler in such a manner that on removing the bolts the flues and the smaller head may be drawn through the interior of the boiler.

To enable others skilled in the arts to which my invention appertains to make and use the same, I will proceed to describe its construction and operation with reference to the drawings.

Figures 1 and 2 are longitudinal and transverse sections of an ordinary cylindrical boiler with return-flues, and Fig. 3 is a representation of the same with the flues partially withdrawn.

The shell *a* is furnished with flanges *b* and

c at each end. One of the flanges is placed on the interior and the other on the exterior of the boiler. The flues *d* are riveted in the usual manner to the heads *e* and *f*, which are made to fit the flanges. On removing the bolts which secure the head to the flanges the smaller head, *e*, may be drawn through the boiler in withdrawing the flues from the shell, as is shown in Fig. 3. The roller *g*, placed on the flues near the inside and smaller head, facilitates its passage through the shell.

I have described and illustrated an ordinary cylindrical boiler such as are commonly used on the Western rivers, for the reason that although they have but a pair of internal flues, it is often convenient, in the absence of any better method, to cut away sound portions of the boiler to enable the workmen to reach parts that it is necessary to repair; but it is manifest that my invention may be applied with advantage to almost any of the systems of construction that have been hitherto adopted.

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

Securing the flues of steam-boilers to heads which may be removed from the shell substantially in the manner described, and for the purpose set forth.

ALONZO HITCHCOCK.

Witnesses:

I. BURNHAM,
WM. KEMBLE HALL.