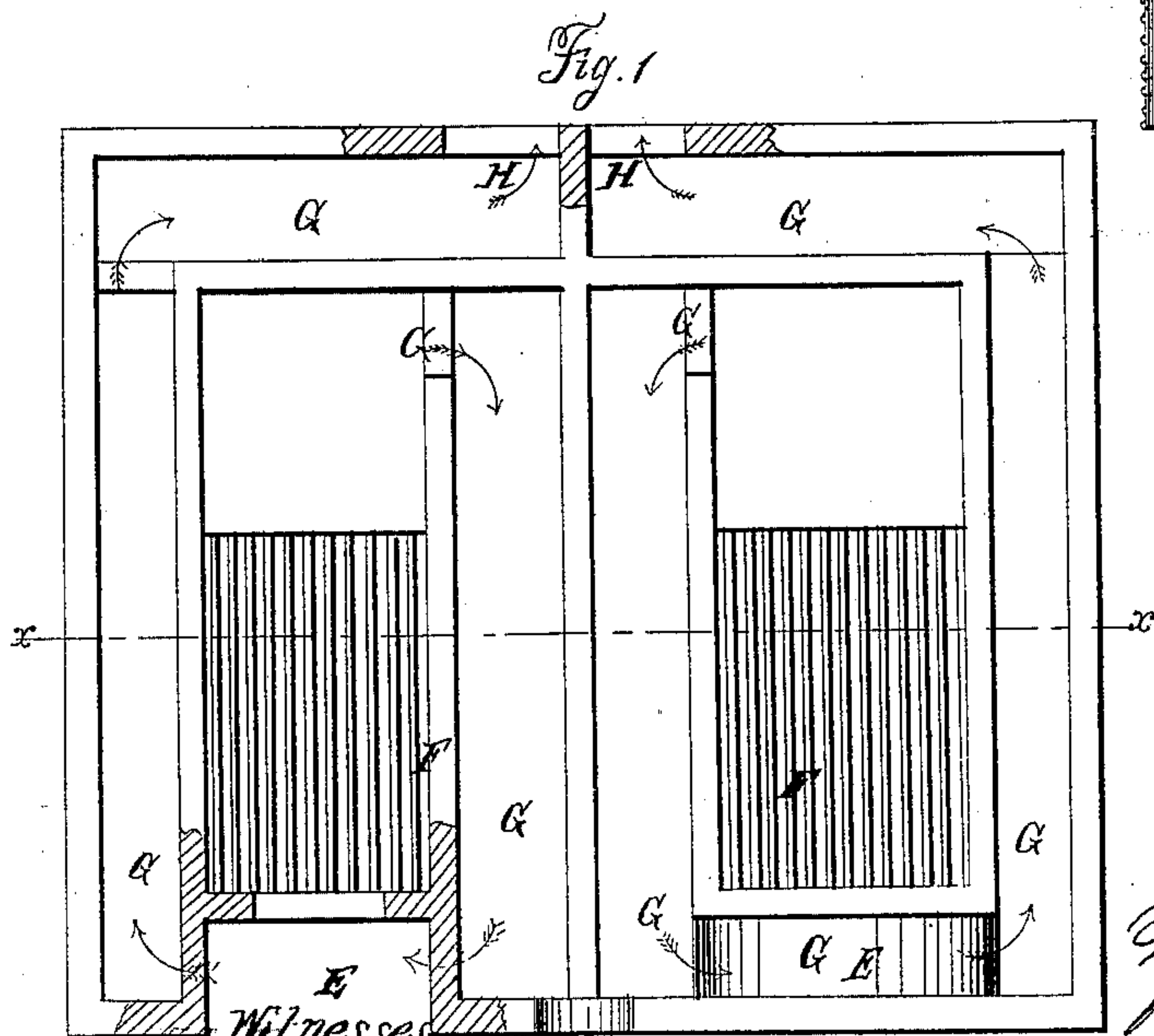
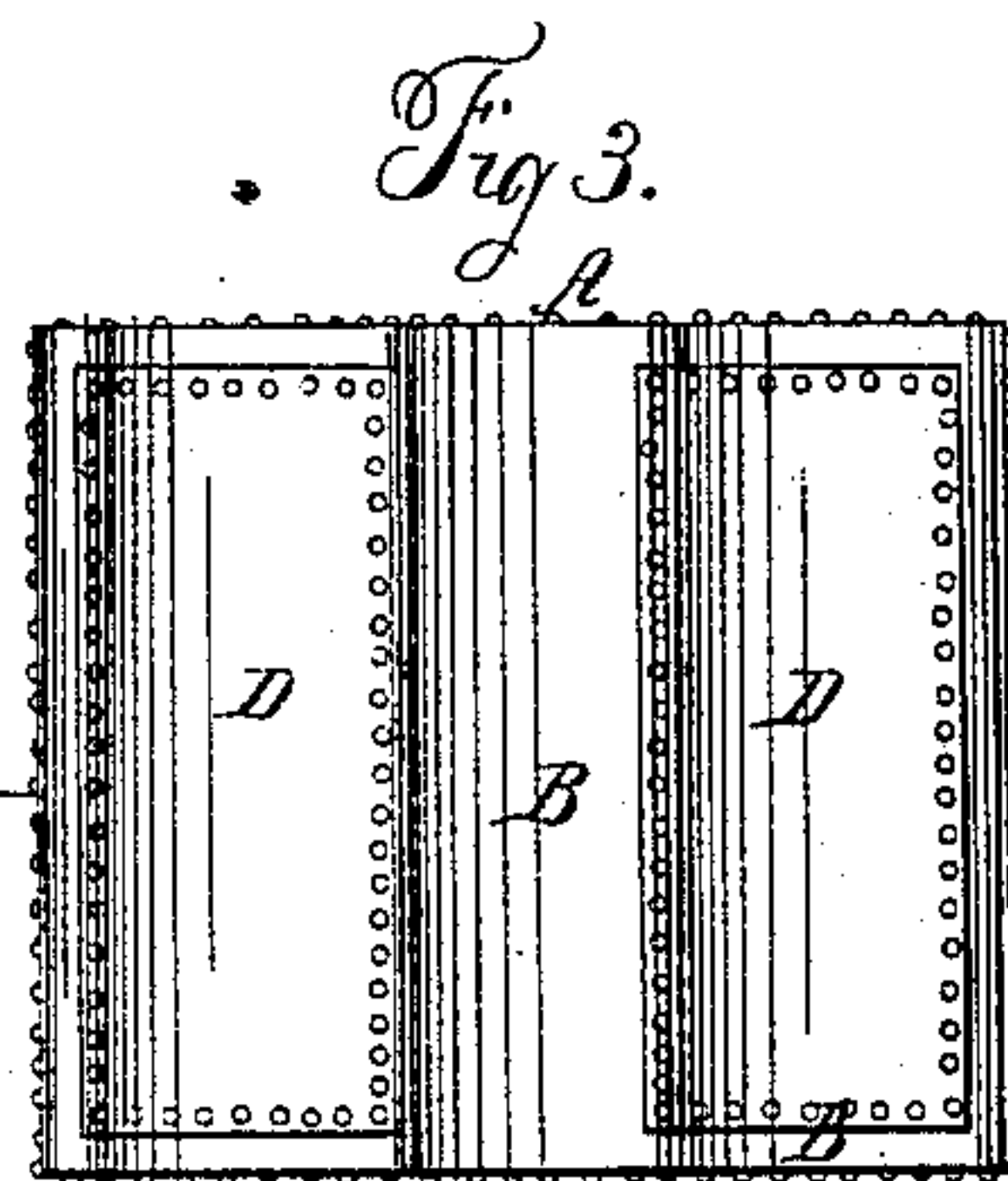
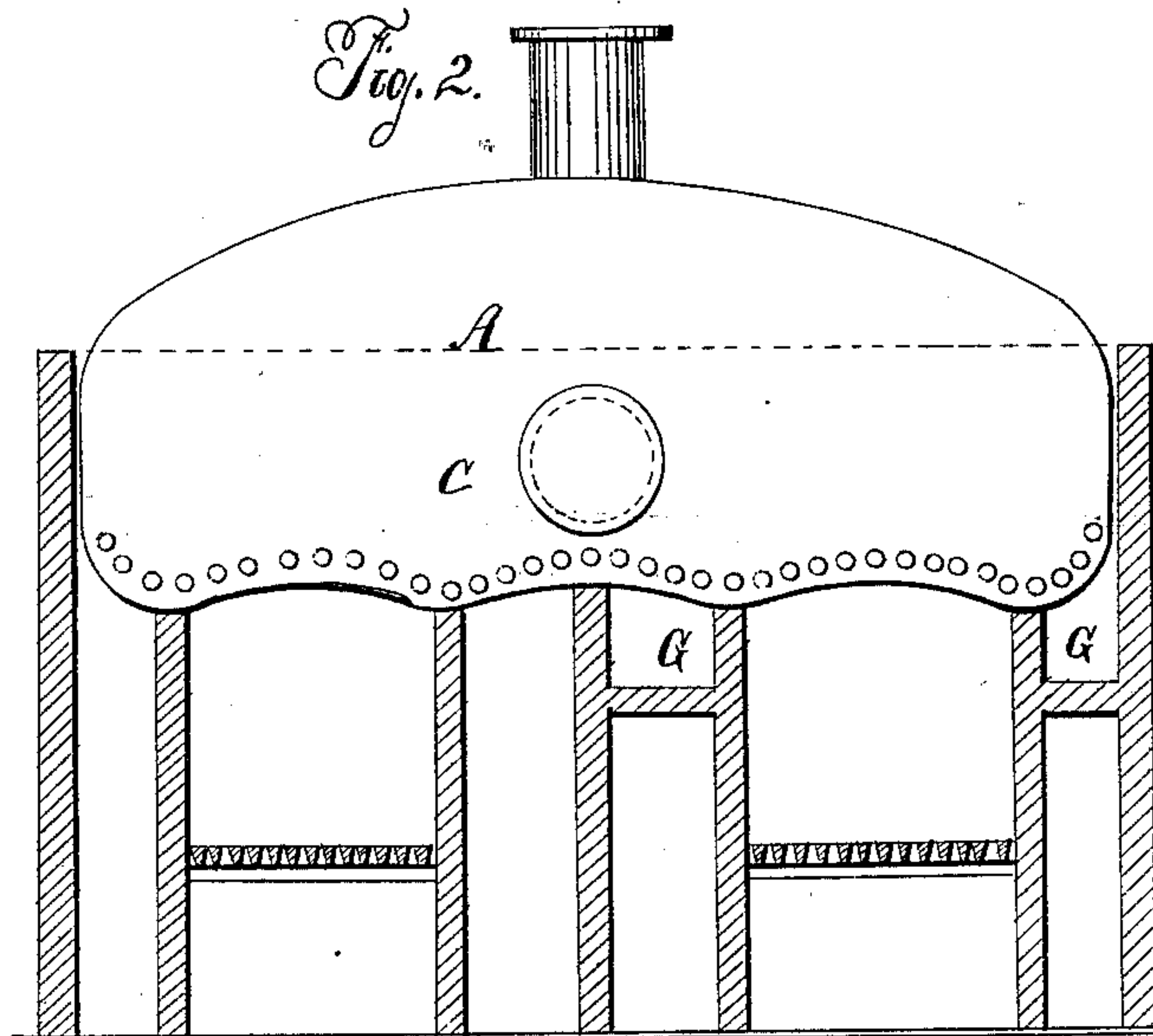


W. C. WELLES.
Oil Still.

No. 61,291.

Patented Jan. 15, 1867.



Witnesses,
J. A. Jackson
J. Service

Inventor,
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WILLIAM C. WELLES, OF PARKERSBURG, WEST VIRGINIA.

Letters Patent No. 61,291, dated January 15, 1867.

IMPROVED STILL FOR PETROLEUM.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM C. WELLES, of Parkersburg, in the county of Wood, and State of West Virginia, have invented new and useful improvements in "Petroleum Stills;" and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention consists, first, in securing the fire-sheets or plates to the bottom of the still through the medium of a frame, whereby many important advantages are secured, as will be hereinafter stated; and, second, in a novel arrangement of the furnace-flues under the still, whereby the products of combustion after leaving the fire-chamber are made to pass over the entire surface of the bottom of the still, thus effecting not only a great economy in coal, but diffusing a greater proportion of heat, and producing a much better quality of oil. In the accompanying plate of drawings my improvements in petroleum stills are illustrated—

Figure 1 being a plan or top view of the furnace, with the still or retort removed; and

Figure 2, a transverse vertical section, taken in the plane of the line $x x$, fig. 1; and

Figure 3, a view of the under side of the still.

Similar letters of reference indicate like parts.

A in the drawings represents a still, the form and construction of which, except so far as the present invention extends, may be similar to any of the stills ordinarily used for distilling petroleum and other hydro-carbons. The bottom of the still is produced by a frame, B, which is to be securely attached to the main or body portion C, and on its bottom can be either made curved, as shown in the drawings, or straight or plain, if so desired. To the under side of the frame B the fire-sheets or plates D are riveted or otherwise properly secured, whereby, as is obvious, they can be removed and replaced without disturbing the still, the said framework B furnishing sufficient thickness for riveting the bottom upon the inside. The framework B also forms the flue-sheets of the still, and obviates the necessity of taking out and replacing any iron but that immediately over the fire, and it also enables us to make a larger still than if we used a solid bottom. E, the furnaces under the still, and F the fire-pots or chambers of the same, to the rear ends of which flues G communicate, that, running to the front end of the furnace, cross there and return to the back of the furnace, where, at H, they communicate with the exit-flue or chimney, the direction of the flues G corresponding to that of the fire-sheets of the frame B secured to the under side of the still A. It is intended, to make the walls of the furnace-flues independent of the main and outside walls of the furnace, so that they can be removed at pleasure for repairs, or for renewal, or other reasons.

Among the many advantages secured by my improvements in stills above described, may be here enumerated, as the most important, that by the return-flues of the furnace, a great economy in fuel is produced, and a greater amount of heat brought to bear upon the still, and thus a better quality of oil obtained.

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

1. The framework B, for the bottom of the still and to receive the fire-sheets or plates, substantially as described, and for the purpose specified.

2. In combination with the bottom framework B of the still, the return-flues G of the furnace corresponding with its fire-sheets C, substantially as and for the purpose described.

WM. C. WELLES.

Witnesses:

GEO. A. WELLES,

JOSEPH ZING.