2 Sheets--Sheet 1.

L. SWEET.

Portable Steam-Engine.

No. 163,823. Patented May 25, 1875.

Fig 1

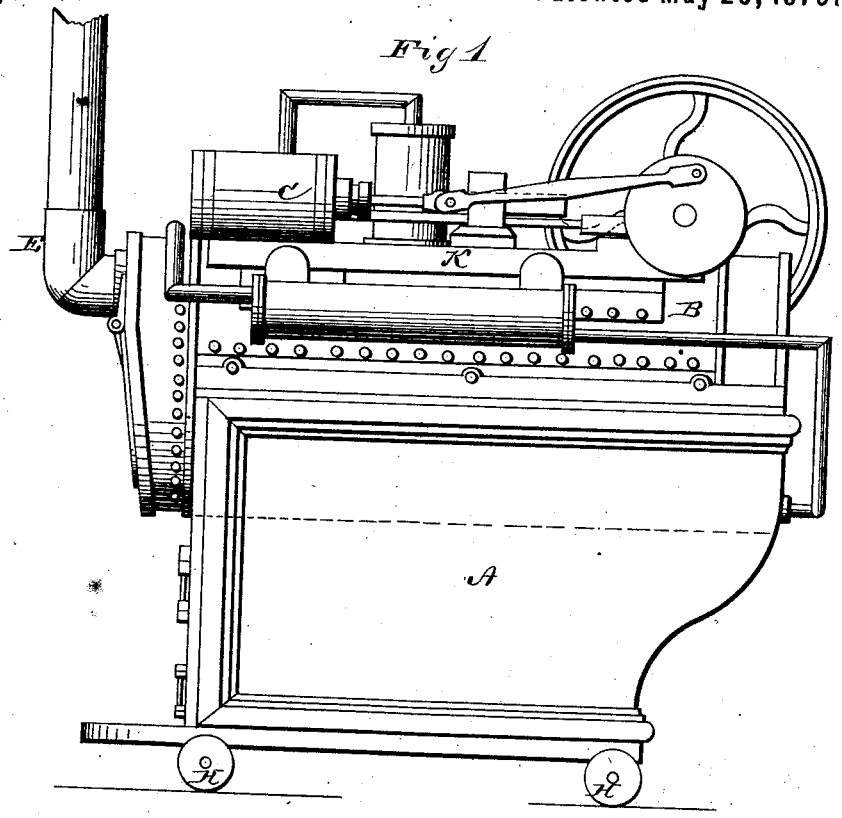
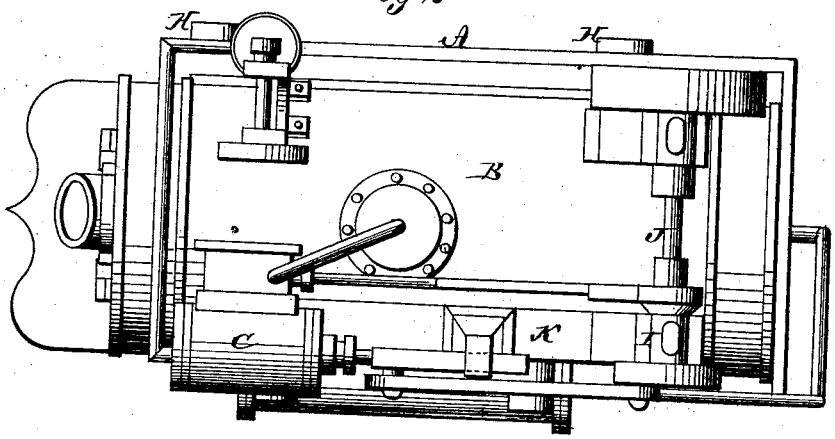


Fig 2



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2 Sheets--Sheet 2.

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Fig 3

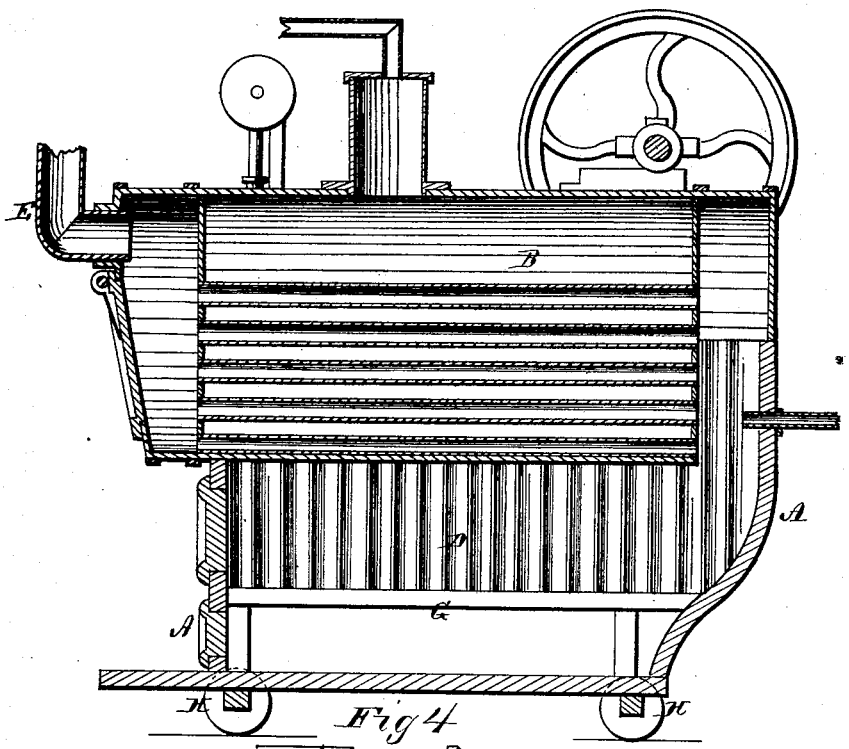
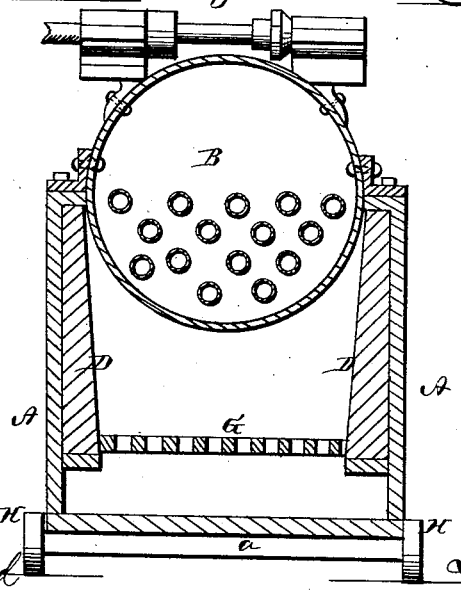


Fig 4



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UNITED STATES PATENT OFFICE.

LEBBEUS SWEET, OF WELLSVILLE, NEW YORK.

IMPROVEMENT IN PORTABLE STEAM-ENGINES.

Specification forming part of Letters Patent No. **163,823**, dated May 25, 1875; application filed April 23, 1875.

To all whom it may concern:

Be it known that I, LEBBEUS SWEET, of Wellsville, in the county of Allegany and in the State of New York, have invented certain new and useful Improvements in Engines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a cast-iron stove on rollers, with a fire-brick lining, in combination with a tubular boiler and engine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains, to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation of my invention; Fig. 2 is a plan view of the same, Fig. 3 is a longitudinal vertical section, and Fig. 4 is a transeverse vertical section, of my invention.

A represents a cast-iron stove, forming the furnace for the boiler. B is a tubular boiler, and C is an engine, bolted on top of the boiler. The stove A is open at top and made so as to receive the boiler B, which is cylindrical in shape, and allow it to set down in the stove for a certain distance. The front end of the boiler projects outside of the stove, while the back end does not reach to the end of the stove, so as to leave room for the fire, which is immediately under the boiler, to pass around the end and return through the tubes of the boiler to the front end and up through the stove-pipe E. The stove A is lined with fire-brick D. Between the fire and bottom of stove a surface of grates, G, is placed to supply air for draft and prevent the bottom from being overheated. Wrought-iron axles *a a* are bolted firmly to the bottom, and wheels H H put on so as to make it portable. The boiler B is what is known as a tubular boiler and is bolted to the stove, the lower side coming in contact with the fire. The engine is bolted to the sides of the boiler, the cylinder C and box I for the crank-shaft J being both bolted to one solid casting, K, running lengthwise and screwed firmly to the boiler, thus preventing expansion and contraction by the heat of the boiler. The other end of the shaft is secured in a similar manner on the other side of the boiler.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The cast-iron stove A having fire-brick lining D its entire length and mounted upon wheels, in combination with the boiler and engine supported thereon, all substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of March, 1875.

LEBBEUS SWEET.

Witnesses:
C. L. EVERT,
H. N. LEWIS.