

E. F. COOPER.

Improvement in Portable Steam-Engines.

No. 129,005.

Patented July 16, 1872.

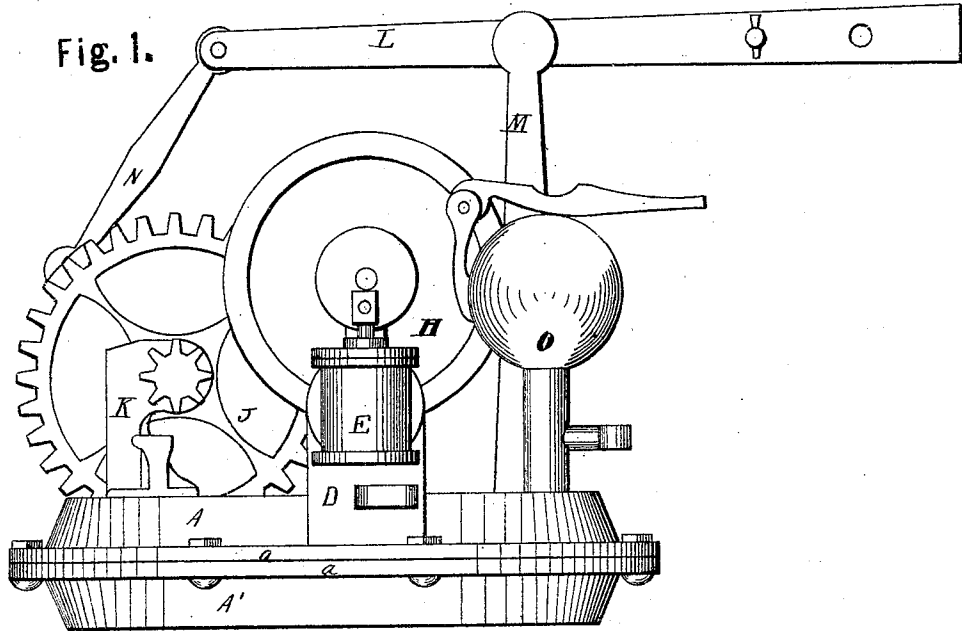


Fig. 1.

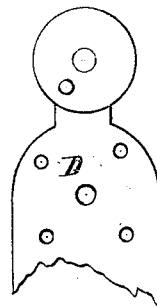


Fig. 3.

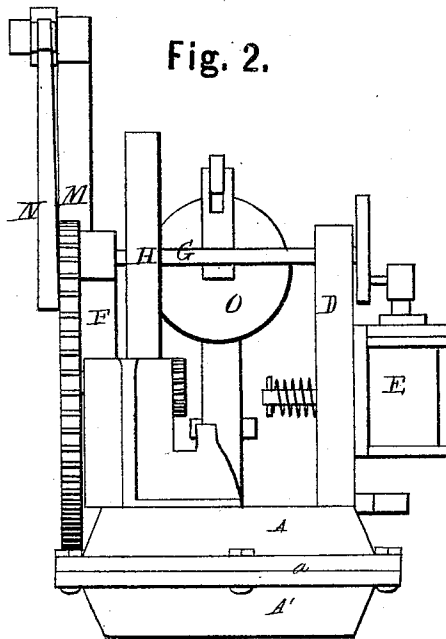


Fig. 2.

WITNESSES.
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ELIAS FRANCES COOPER, OF MOUNT GILEAD, OHIO.

IMPROVEMENT IN PORTABLE STEAM-ENGINES.

Specification forming part of Letters Patent No. 129,005, dated July 16, 1872.

To all whom it may concern:

Be it known that I, E. F. COOPER, of Mount Gilead, in the county of Morrow and State of Ohio, have invented a new and valuable Improvement in Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a side elevation of my invention. Fig. 2 is an end view of the same. Fig. 3 is a detail view.

This invention has relation to portable steam-engines for driving light machinery, such as churns, sewing-machines, &c.; and consists in the novel construction of the boiler, whereby it is adapted to fit the openings of an ordinary kitchen stove after the lids and center-piece thereof are removed. The novelty also consists in the hereinafter-described arrangement of the various parts of the engine machinery.

The boiler is of an oval form, and is composed of the two sections, A A', flanged in a corresponding manner at *a*, and secured together by bolts, rivets, or their equivalents. The top and bottom of said boiler are flat. The lower section A' is designed to fit the oval opening of a kitchen-stove, when two adjacent lids and the intervening cross-piece are removed, and hence is shaped similarly to the bottom part of an ordinary wash-boiler. The flanges *a* rest on the top of the stove.

By the use of such a boiler I am enabled to dispense with a furnace for my steam-engine, and to thereby materially lessen the cost of manufacture, and also to lessen the weight and bulk.

The engine is designed to be of a very simple character.

D designates an upright steam-chest, connected to which is an oscillating cylinder, E. Both are located at one side of the boiler. At the opposite side is arranged a standard, F, at the top of which the driving-shaft G has one of its bearings, the other being in the combined standard and steam-chest D. H designates a belt-wheel on said driving-shaft, to enable the engine to be connected to a sewing-machine or other machinery. I is a toothed pinion on the end of the driving-shaft. J is a gear-wheel engaging with said pinion, and supported by a standard, K. L represents a rock-shaft, pivoted to the post M and connected to the wheel J by means of a pitman, N. This shaft is designed for the purpose of connecting the engine to a churn-dasher. O represents an ordinary safety-valve, the tube of which may be also used as a feeder, through which the boiler may be supplied with water.

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

The combination, with the portable boiler A A' having a flat top, of the steam-chest and shaft-gearing D, oscillating cylinder E, gear-wheels I J, pitman N, rock-shaft L, and safety-valve O, arranged substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ELIAS FRANCES COOPER.

Witnesses:

M. G. WEBSTER,
F. L. LAMBERT.