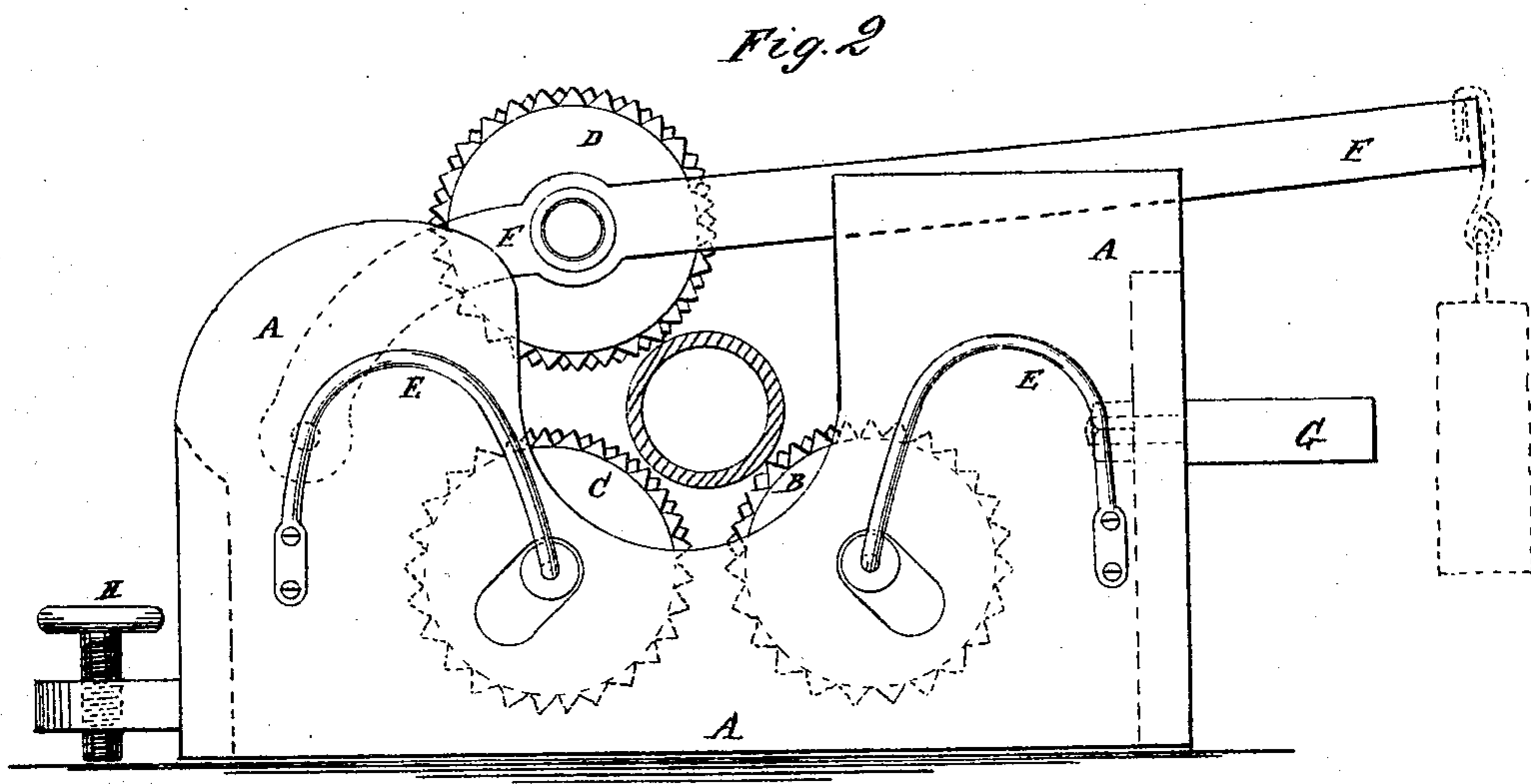
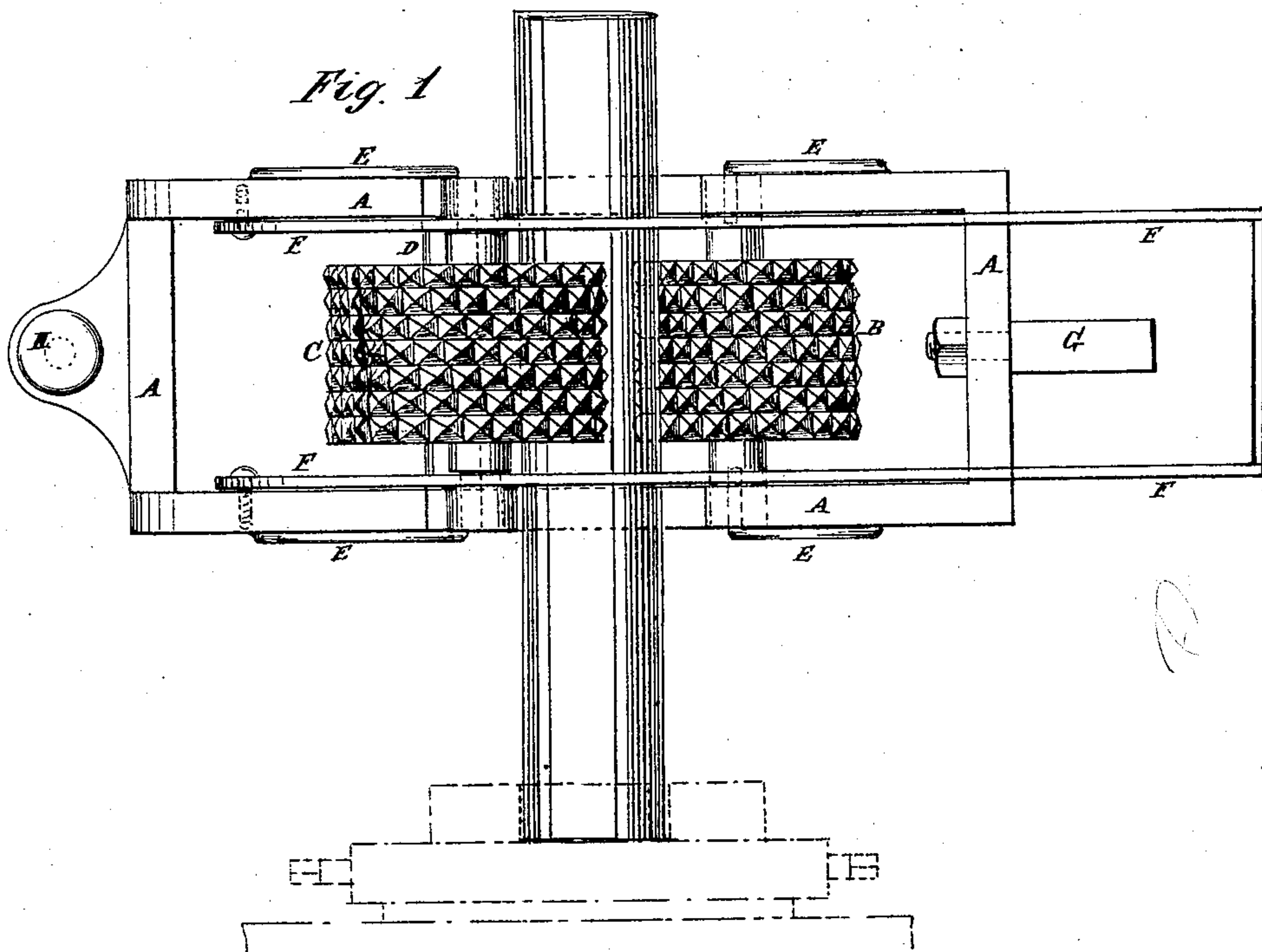


**J. DYKEMAN.**  
**Boiler-Flue Cleaners.**

No. 149,107.

Patented March 31, 1874.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

JOHN DYKEMAN, OF GREEN ISLAND, NEW YORK.

## IMPROVEMENT IN BOILER-FLUE CLEANERS.

Specification forming part of Letters Patent No. **149,107**, dated March 31, 1874; application filed February 21, 1874.

*To all whom it may concern:*

Be it known that I, JOHN DYKEMAN, of Green Island, in the county of Albany and State of New York, have invented a new and useful Improvement in Flue-Cleaners, of which the following is a specification:

Figure 1 is a top view of my improved machine. Fig. 2 is a side view of the same.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish a simple, convenient, and effective machine for cleaning the outer surface of boiler-flues, to avoid the slow, tedious, and expensive labor of cleaning them by hand, as has heretofore been the practice. The invention consists in the combination of the three toothed rollers, whether made solid or of toothed disks, the springs, and the levers with each other, and the box or frame, for cleaning the outer surface of flues; and in the combination of the loose arm and the set-screw with the box that supports the toothed rollers, the springs, and the levers, to adapt the machine to be attached to the tool-rest of a lathe, as hereinafter fully described.

A represents a small box, made with close bottom, sides, and ends, which forms the frame of the machine, and the sides of which are deeply notched from their upper edge for the passage of the flue to be cleaned. B C D are three toothed rollers, eight inches, more or less, in length. The rollers B C D may each be a solid cylinder, or they may be formed of a number of toothed disks placed side by side upon a mandrel, and securely clamped together. The teeth of the rollers B C D should be arranged in inclined or spiral rows, or irregularly, so that the adjacent teeth may not all strike the flue to be cleaned in a straight line. The journals of the two rollers B C revolve in short slots in the sides of the box A, which slots incline upward and toward each other, as shown in Fig. 2. The ends of the journals of the two rollers B C rest upon springs E, which form their bearings, and which are secured to the box A in such positions as to press the said rollers B C upward in the direction of the slots in which their journals work. The journals of the other roller, D, revolve in bearings in the levers F, the forward ends of which are pivoted to the

sides of the box A, near its forward end. The levers F are long, and their rear or free ends may be connected by a cross-bar, from which or from the levers is suspended a weight, or with it is connected a coiled spring, to hold the roller D down upon the flue with the necessary pressure. To the rear end of the box A is secured an arm, G, by means of which the machine is secured to the tool-rest of a lathe. The arm G should pass loosely through the end of the box A, and should be secured by a nut screwed upon its inner end, so that the machine may have play upon the said arm to accommodate itself to the shape of the flue. To the projecting forward end of the bottom of the box A, or to a lug or arm formed upon or attached to the forward end of the box, is attached a set-screw, H, the end of which rests upon the tool-rest of the lathe, and enables the forward end of the box to be raised or lowered, as required.

In using the machine, the levers and roller D are turned back, and the flue to be cleaned is placed upon the rollers B C, and its end is secured to the chuck of the lathe. In the case of wrought-iron flues, their other ends may be left free; but in the case of copper tubes, their other ends should be secured to the tail-block of the lathe. The roller D and levers F are then turned down upon the flue, the necessary pressure is applied by the weight or spring, the lathe is set in motion, and the machine is fed forward with the feed-screw, cleaning the flue thoroughly, and very quickly.

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

1. The combination of the three toothed rollers B C D, the springs E, and levers F with the box or frame A, for cleaning the outer surface of flues, substantially as herein shown and described.

2. The combination of the loose arm G and set-screw H with the box A, that supports the toothed rollers B C D, the springs E, and the levers F, to adapt the machine to be attached to the tool-rest of a lathe, substantially as herein shown and described.

JOHN DYKEMAN.

Witnesses:

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