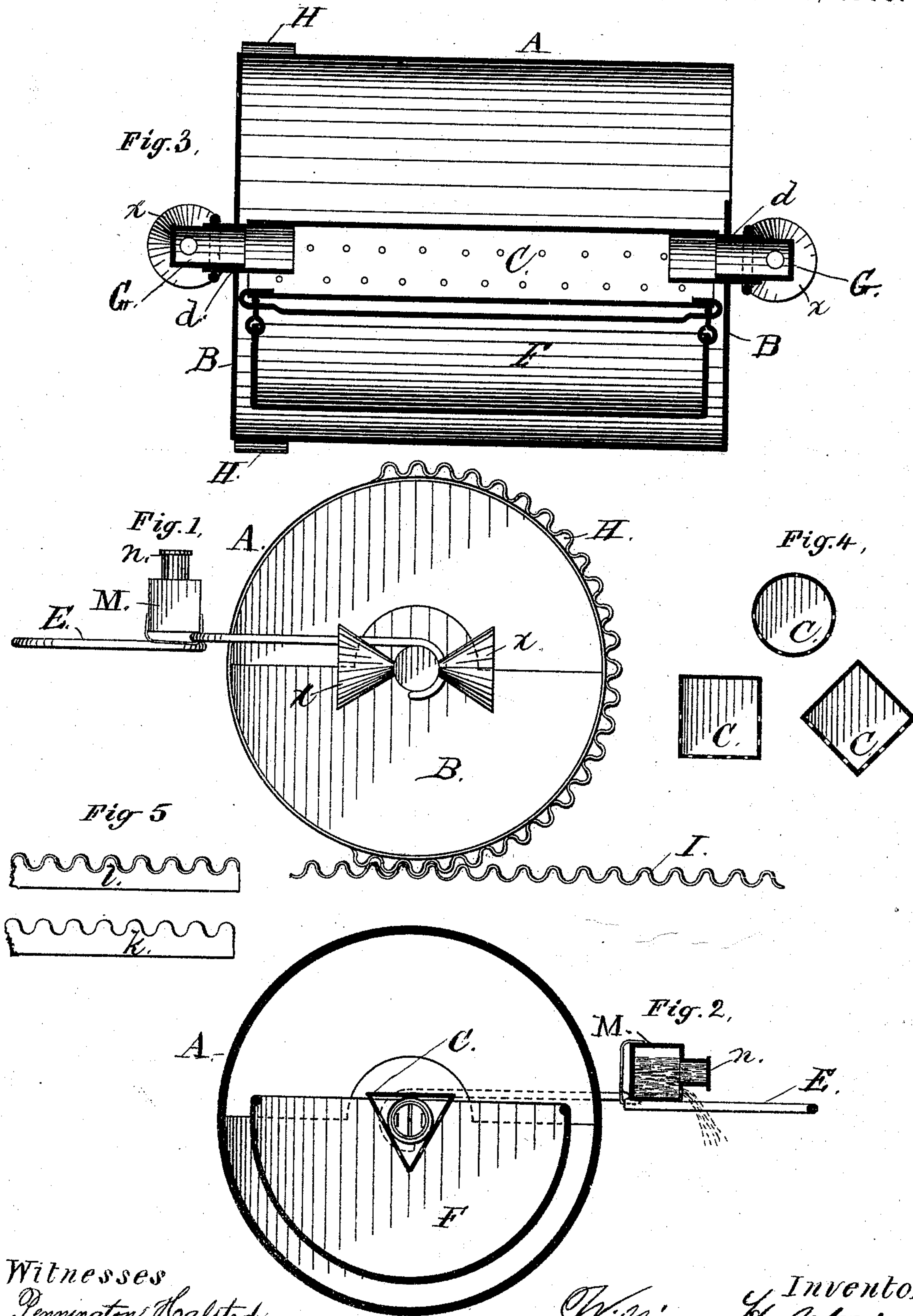


W. HALSTED.  
IRONING-APPARATUS.

No. 182,753.

Patented Oct. 3, 1876.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM HALSTED, OF TRENTON, NEW JERSEY.

## IMPROVEMENT IN IRONING APPARATUS.

Specification forming part of Letters Patent No. 182,753, dated October 3, 1876; application filed August 5, 1876.

*To all whom it may concern:*

Be it known that I, WILLIAM HALSTED, of Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Drying, Sprinkling, Ironing, and Fluting Machines; 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 which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention consists in a special construction of an apparatus adapted for drying, sprinkling, ironing, and fluting fabrics or garments, the construction being such that the drier and ironer may be rolled over the material to be sprinkled and smoothed, and the fluting portion over the material to be fluted, the apparatus containing a self-heating device and a blower, and carrying a supply of water for sprinkling, all as more particularly herein-after described.

In the drawings, Figure 1 is an end view of an apparatus embodying my invention; Fig. 2, a central cross-section with the sprinkler turned down for use; Fig. 3, a longitudinal vertical section; Fig. 4, details showing cross-sections of different forms of blower-tubes; and Fig. 5, different varieties of the loose fluting piece or plate.

A is a hollow cylinder, of any appropriate size and material—say of sheet-iron, cast-iron, Russia iron, or copper, the end or ends of which should be not entirely closed, and, preferably, such that they may be easily removed and replaced at pleasure; and, if desired, a pivoted or sliding piece may be adapted to cover the opening or openings in the end, so as to adjust and vary, as may be desired, the extent of such opening. To these ends B, or on or through them, is affixed a hollow axle, C, made of any appropriate metal, the ends *d d* of which project beyond the ends of the cylinder, to serve as journals, by means of which the cylinder, through the instrumentality of a hook, rope, chain, or of a handle, E, may be drawn forward and compelled to roll along like an ordinary

roller. That part of the hollow axle which is within the cylinder may be made either triangular in cross-section, as shown in Figs. 2 and 3, or square, or circular, as shown in Fig. 4; and in either case its under side or sides must be perforated. When made triangular the base of the triangle should be uppermost and non-perforated, while the two under sides should be perforated. When square, the under side and two adjacent sides should be perforated, if the bottom be placed in a horizontal position, the object of these perforations being to admit forced currents of air from without to the ignited fuel within.

Within the cylinder, and suspended from its axle in such manner that it will always hang below this axle, is a pan or fire-pot, F, made of sheet-iron or copper, or other metal, preferably extending nearly the whole length of the cylinder, and nearly filling or occupying the space below the top of the axle, there being space enough left between its ends and sides and those of the interior of the cylinder to permit the free rolling of the cylinder backward or forward without interfering with the suspended position of the pan. By supplying this pan with charcoal, coke, or other proper combustible, and igniting it, the cylinder may be heated to any required degree for drying, smoothing, ironing, or fluting, and then by means of its handle drawn backward and forward with great facility over the garment or material to be treated, and with the use of a very little fuel.

In order to blow the fire by the motion of the cylinder over the table, I apply to each end of the hollow axle a cap-piece, G, provided with two opposite funnels, *x*, adapted, as the cylinder is rolled, to carry a volume of air through the advancing funnel into the hollow journal, and thence through its perforations before named directly over and to the ignited fuel. If desired, a short axial strip of metal may be placed within the cap-piece, the better to divert the entering current of air toward the interior of the cylinder, and to prevent the escape of a portion of such entering current through the opposite mouth or funnel, or any simple flap or valve opening inward may, for the same purpose, be applied to the smaller



end of each funnel, and the current entering through one funnel would thus tend to close the valve of the opposite one.

For the purpose of fluting I affix to the periphery of the cylinder, at one of its ends, a corrugated piece of metal, H, and also provide a loose piece, I, of about equal length, and having similar corrugations, and which is to be heated before using it; and upon laying this piece I horizontally upon the ironing table and the article to be fluted upon it, the rolling of the piece H over them imparts the fluting to the fabric or dress. The piece I may be of corrugated metal strong enough to preserve its shape during the process of heating and fluting, or it may be cast solid, as shown at *k* in Fig. 5, or of corrugated metal, affixed to a solid or cast bed, as shown at *l* in Fig. 5.

For the purpose of sprinkling the goods or garments to be ironed, smoothed, or fluted, I employ the following device, which may be made attachable and detachable, relatively to the apparatus above described.

I provide a metallic or other box, M, of a length about equal to that of the cylinder, and attach it in front of the roller in such manner that when filled or supplied with water its top shall be uppermost. This top I perforate with small holes, through which the water may be sprinkled, the water being first supplied to the box through its mouth *n*, which, of course, should then be corked or plugged. The box is so hung that it may be turned over with its top toward the person using the apparatus, and it then sprinkles as may be required, and, when again turned back, ceases to sprinkle. Thus it is always under control when attached, and, when not needed, may be removed for the time being, and the ironing roller used without it.

The fire-pan may be perforated and be made double, with an open air space between the

perforated part and its exterior non-perforated part. This will allow air-currents to pass under the fuel, and rise up through such perforations and through the fuel, thus facilitating combustion. In an apparatus of large size, this would be desirable; but in smaller ones, where the quantity of fuel in the pan is quite small, it would not be needed.

It will be understood that when the implement is used for ordinary ironing, and not for fluting or crimping, the corrugated part H of the cylinder or roller does not rest upon the table or fabric, but only the smooth portion, the corrugation in such case lying outside the edge of the table.

I claim—

1. The combination of a hollow ironing-roller, A, adapted to be propelled over the material to be smoothed or ironed, an axle provided with the journals *d d*, on which the ends of the cylinder revolve, and a suspended fire-pot or pan within such roller for heating the same, substantially as shown and described.

2. The combination of the hollow roller A, fire-pan F, and the hollow perforated blower-tube O within the roller, and communicating with inlets through which air from without may enter, substantially as and for the purpose set forth.

3. The combination, with the hollow roller and its inclosed fire-pan, of a sprinkling-vessel, substantially as shown and described.

4. The combination, with the hollow roller and its inclosed fire-pan, of the fluting device H affixed thereon, and adapted for joint use with the separate fluting-piece I, substantially as shown and described.

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Witnesses:

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