

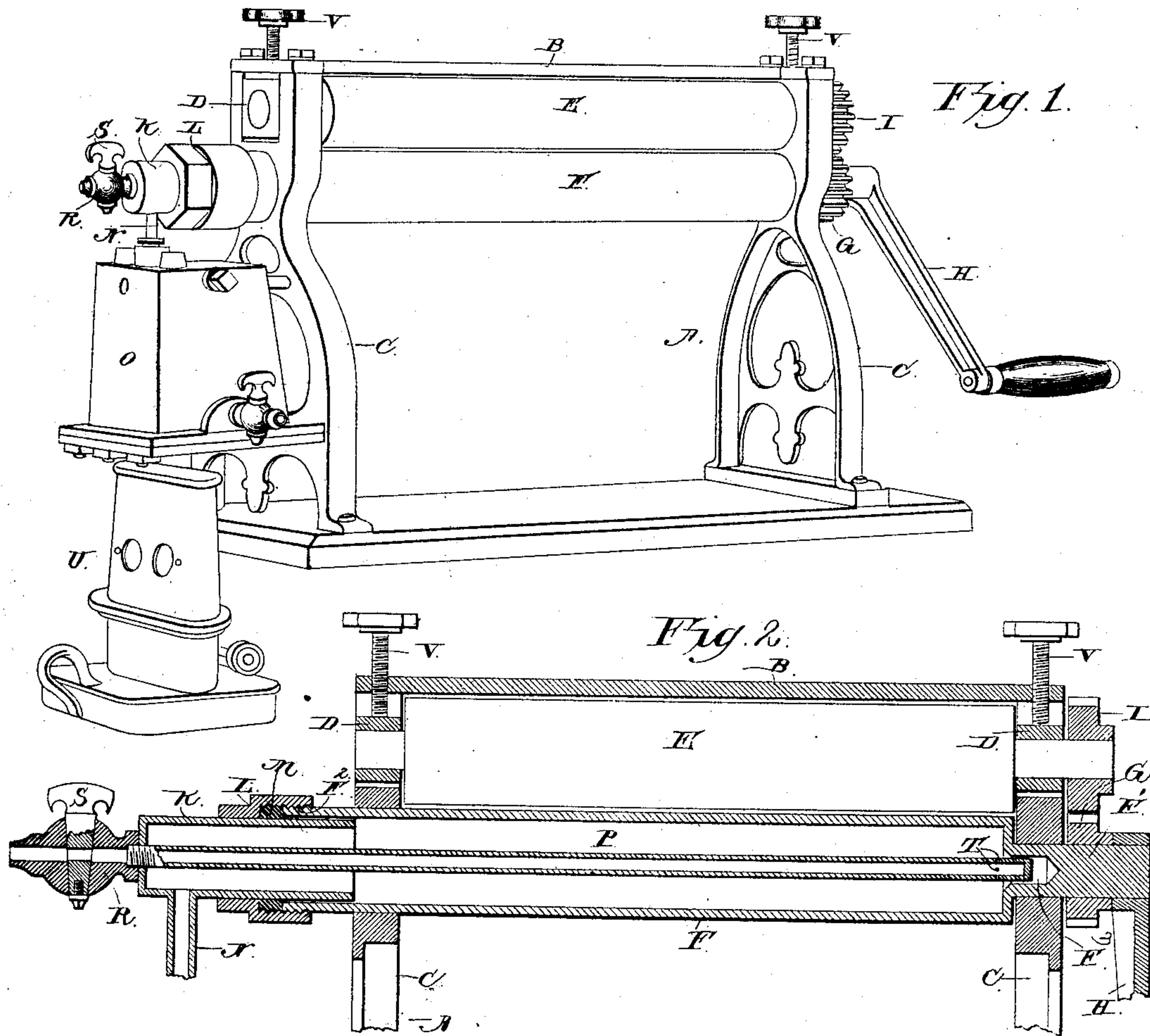
(No Model.)

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MACHINE FOR BURNISHING PHOTOGRAPHS.

No. 371,223.

Patented Oct. 11, 1887.



Witnesses

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MACHINE FOR BURNISHING PHOTOGRAPHS.

SPECIFICATION forming part of Letters Patent No. 371,223, dated October 11, 1887.

Application filed February 28, 1887. Serial No. 229,213. (No model.)

To all whom it may concern:

Be it known that I, FRANK ARTHUR SIMONDS, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Improvement in Machines for Burnishing Photographs, of which the following is a specification.

My invention relates to an improvement in machines for burnishing photographs; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

The object of my invention is to provide a means for heating the roller or burnishing-plate of a photograph-burnishing machine to an even uniform temperature which will not be sufficient to burn or blister the photograph, and which shall be cheap and simple and easily and rapidly operated.

In the drawings, Figure 1 is a perspective view of a photograph-burnishing machine embodying my improvements. Fig. 2 is a vertical longitudinal central sectional view of the operating parts of the machine.

A represents a frame comprising the horizontal cross-bar B and the vertical standards C, which rise from the ends of a base. In the upper ends of the said standards are secured vertically-movable bearing-blocks D in which is journaled a pair of rollers, E and F, which are arranged horizontally and one above the other. The feed-roller E is solid and the burnishing-roller F is hollow. One end of the lower roller, F, is reduced to form a solid spindle, F', which projects beyond the outer side of the block in which it is journaled, and the other end of the said roller F is open and is provided on its outer sides with a series of screw-threads, F².

On the spindle F' is keyed a gear-wheel, G, and to the reduced end of the spindle, which projects beyond the outer side of the said gear-wheel, is keyed a crank-handle, H.

I represents a gear-wheel which is keyed to one of the spindles of the upper roller, E, and meshes with the wheel G, the said wheel I being of slightly larger diameter than the wheel G, and thereby causing the upper roller, E, to rotate somewhat slower than the lower roller, F, when the latter is turned.

K represents a cylindrical sleeve which is open at one end and closed at the other end, the inner open end of the said sleeve entering the open end of the roller F. An annular packing box or collar, L, is slipped over the sleeve K and screwed onto the threaded end F² of the roller F, the said packing-collar being provided with a suitable quantity of packing material, M, which is compressed between the said collar, the end of the roller F, and the outer side of the sleeve, so as to make an airtight joint. The collar L is free to rotate with the roller F upon the sleeve K, and the latter is stationary and is provided with a depending steam-inlet pipe, N, the lower end of which communicates with a small steam-boiler, O, which is secured to one end of the frame.

P represents an air-tube which has its outer end threaded and screwed into and through an opening arranged in the center of the closed outer end of the sleeve K. On the said threaded end of the air-tube P is secured a valve, R, having a turning plug, S, by means of which communication of the air-tube with the outer air may be established or cut off. The inner end of the air-tube enters a cylindrical cavity, F³, made in the inner end of the solid spindle F, the sides of the said air-tube being out of contact with the side of the said cavity. The inner end of this air-tube is closed, as shown, and near the said closed end is an opening, T, which communicates with the interior of the hollow roller.

U represents a lamp for heating the boiler and raising steam therein; but a gas-jet or any suitable source of heat may be substituted for the lamp, if preferred. Screws V work in threaded openings in the cross-bar which connects the upper ends of the standards C, and the lower ends of the said screws bear upon the upper bearing-blocks in which the rollers are journaled, so as to regulate the pressure of the said rollers against each other. The lower roller is made of polished steel and the upper roller has its surface slightly roughened.

The operation of my invention is as follows: In order to heat the roller F steam is raised in the boiler and passes through the pipe N and the sleeve K into the roller, and thereby heats the same by radiation, as will be very readily understood. The plug in the valve R is open to admit air from the roller to the interior of the

air-pipe and cause the air in the roller to be expelled by the pressure of the steam. The water which accumulates in the roller from condensation finds its way back through the
 5 pipe N into the boiler. In a very short time the roller F is heated sufficiently, and it cannot become so hot as to burn or blister the photograph.

In order to burnish the photograph it is
 10 passed through between the rollers by turning the crank. The upper roller, being slightly roughened, holds the photograph firmly, and the lower roller slips on the printed surface of the photograph and polishes the same in the
 15 manner well known to persons skilled in this art.

Having thus described my invention, I claim—

1. In a machine for burnishing photographs,
 20 the combination of the hollow roller F, having one end open and the other end closed and provided with the central recess, F³, the sleeve K, fitting loosely in the open end of the roller, the steam-pipe N, communicating with the
 25 sleeve, the air-pipe P, extending centrally through the roller F and having one end resting in the recess F³ and having the under end secured in the outer end of the sleeve and provided with the cocks R, and the packing col-
 30 lar slipped over the sleeve and adapted to turn thereon, said packing-collar being screwed on the open end of roller F, substantially as described.

2. In a machine for burnishing photographs, the combination of the hollow roller F, hav- 35 ing one end open and the other end closed, the sleeve K, fitting loosely in the open end of the roller, the steam-pipe N, communicating with the sleeve, and the air-pipe P, extending centrally through the roller F and having the un- 40 der end secured in the outer end of the sleeve, substantially as described.

3. In a machine for burnishing photographs, the combination of the hollow roller F, hav- 45 ing one end open, the sleeve K, fitting in the open end of the roller, the packing-collar secured to the roller and adapted to turn freely on the sleeve, and the pipe N, communicating with the latter to admit steam to the interior of the roller, for the purpose set forth, substan- 50 tially as described.

4. In a machine for burnishing photographs, the combination of the hollow roller, the pipe N, to admit steam to the interior thereof, and the air-pipe P, arranged within the roller and 55 out of contact therewith, for the purpose set forth, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

FRANK ARTHUR SIMONDS.

Witnesses:

ELMER M. WILLEY,
 FRANK HALL.