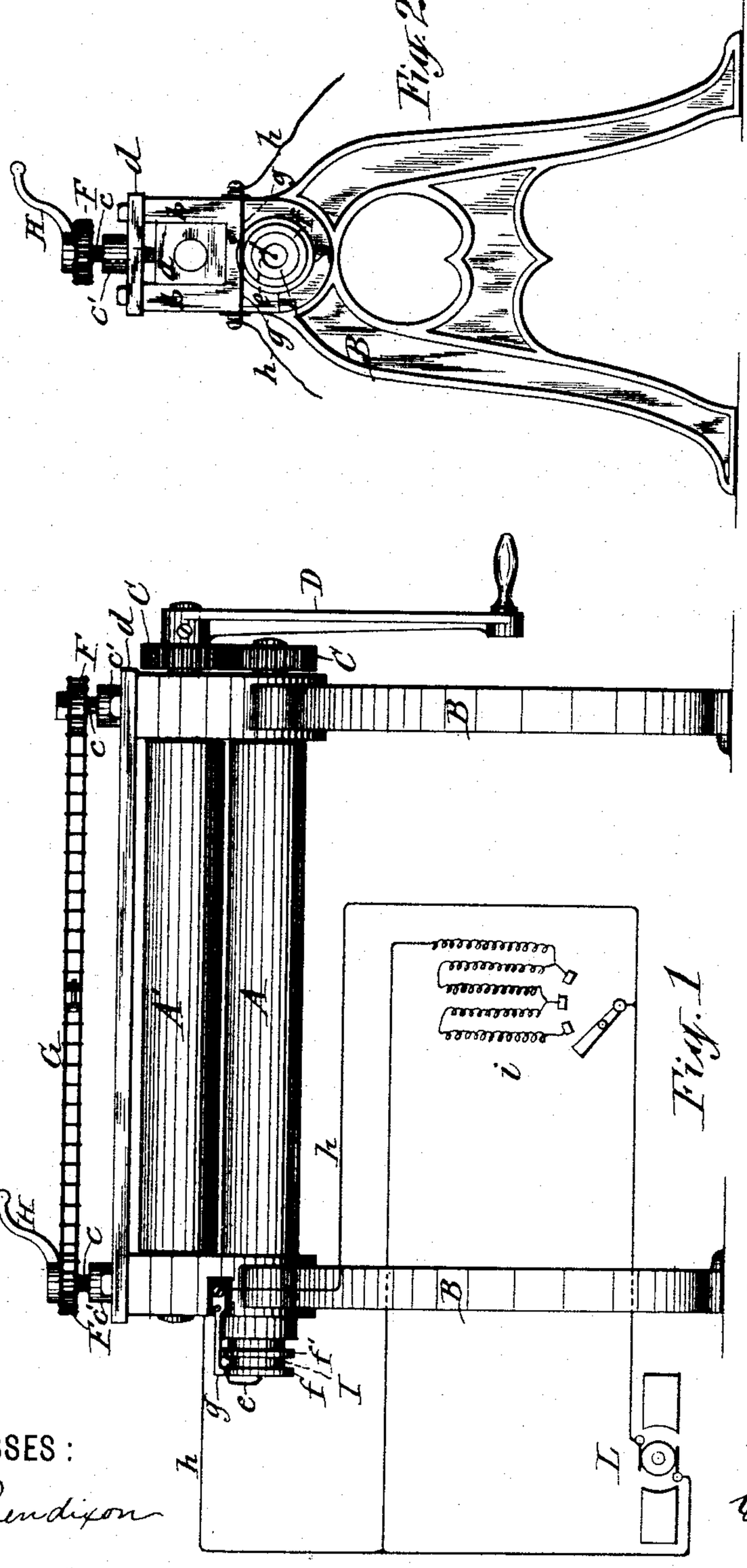
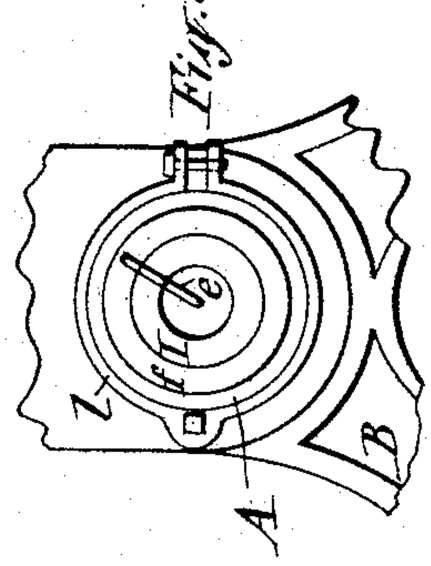
(No Model.)

C. R. CARLEY.

PHOTOGRAPH BURNISHER.

No. 412,462. Patented Oct. 8, 1889.





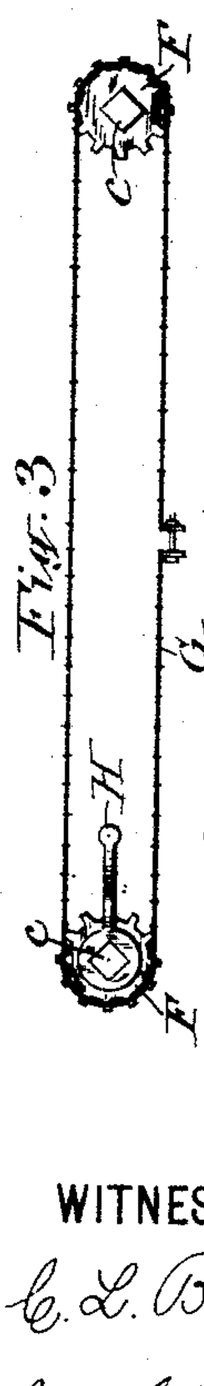


Fig. 1.

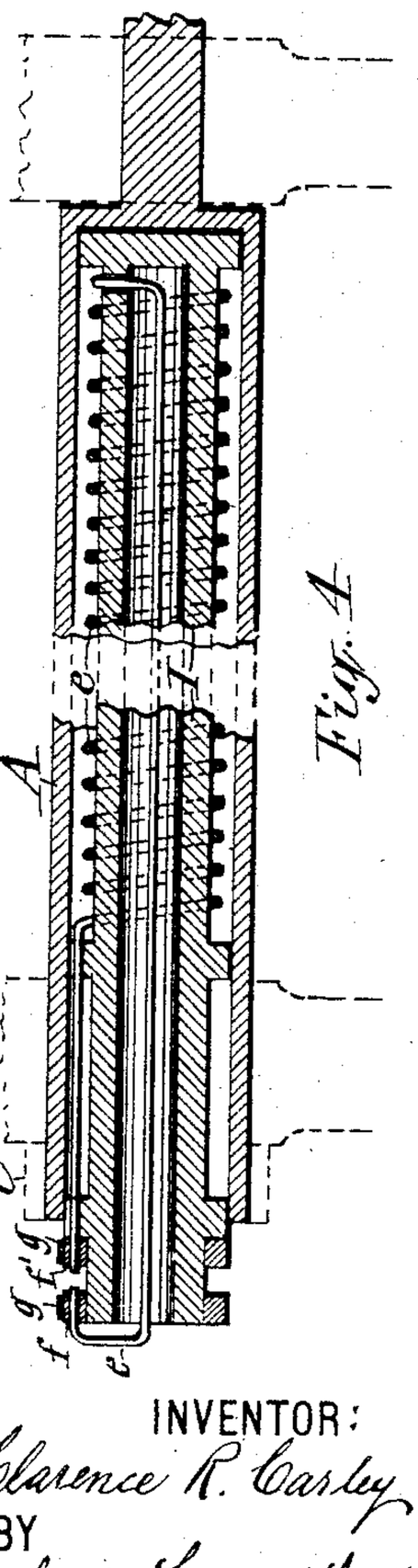


Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CLARENCE R. CARLEY, OF SYRACUSE, NEW YORK.

PHOTOGRAPH-BURNISHER.

SPECIFICATION forming part of Letters Patent No. 412,462, dated October 8, 1889.

Application filed June 21, 1889. Serial No. 315,068. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE R. CARLEY, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Photograph-Burnishers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of burnishing-machines which have rotary burnishing-rollers arranged parallel side by side or one above the other to impinge and burnish the article passed between them; and the invention consists, essentially, in the combination, with the burnishing-roller, of an electric heater connected with said roller, as hereinafter more fully described, and specifically set forth in the claims.

In the annexed drawings, Figures 1 and 2 are respectively front and end elevations of a burnishing-machine equipped with my improved heating apparatus. Fig. 3 is a top plan view of the device for simultaneously adjusting both ends of the upper burnishing-roller in relation to its distance from the lower roller. Fig. 4 is an enlarged longitudinal section of the roller, which is provided with my improved heater; and Fig. 5 is an end view of said roller provided with means for retaining it stationary during the operation of the machine.

Similar letters of reference indicate corresponding parts.

A and A′ represent the two burnishing-rollers, journaled at their ends in boxes secured to the supporting-frame B, and having attached to one and the same end gear-wheels C C, which mesh with each other, so as to cause the rollers to turn in unison, rotation being imparted to them by a crank D, attached to the end of one of the rollers, preferably the upper roller A′. The boxes *a a* of the upper roller are sustained in vertical guides *b b* and by means of set-screws *c c*, passing through screw-threaded eyes *c′ c′*, formed on the caps *d d*, which are attached to the frame, as shown in Fig. 2 of the drawings. The upper roller is held the requisite distance from the lower roller to exert the necessary pressure on the article passing between the rollers. In order to adjust simultaneously the two set-screws *c c* at opposite ends of the roller A′, I attach to the upper ends of the set-screws sprocket-wheels F F, of equal diameters and pitch, and connect said wheels by an endless sprocket-chain G, as best seen in Fig. 3 of the drawings. The protruding end of one or both set-screws I form square or hexagon for the application of a suitable wrench H, by which to turn the set-screws.

The lower burnishing-roller A, I form hollow, as shown in Fig. 4 of the drawings, one end of said roller being open, and through this end I insert into the roller a non-metallic core I, which I also preferably form hollow and open at one end. The main portion of the exterior of this core is considerably smaller in diameter than the interior of the roller A, so as to avoid contact with the latter of the electric conductor *e*, coiled around the exterior of the said main portion of the core I. The open end of the core projects through the open end of the roller A, and to the protruding end of the core are attached two metallic collars *f f′*, which are separated or insulated from each other. To the collar *f* is attached one end of the conductor *e*, which is extended through the interior of the core, and the opposite end of the said conductor is connected to the collar *f′*.

g g represent two brushes or arms, which are secured to, but electrically insulated from, the frame B, and bear with their free ends, respectively, on the two collars *f f′*.

By means of wires or suitable conductors *h h* the two brushes *g g* are connected with a dynamo or other suitable electric generator L, from which the electric current passes through the coil of the conductor *e*, surrounding the core I, which latter conductor is of a heat-developing character of any suitable and well-known form, and the heat so developed is absorbed by the burnishing-roller A.

In order to permit of regulating the heat, I place in the circuit a suitable rheostat *i*, as shown in Fig. 1 of the drawings.

l represents a collar, which may be clamped onto the open end of the roller A, with one side of the collar in frictional contact with the frame B, to prevent the said roller from turning when desired. In this case the pinion or gear wheel C is to be detached from the opposite end of the roller.

Having described my invention, what I claim

as new, and desire to secure by Letters Patent, is—

1. In a burnishing-machine, the combination, with the burnishing-roller, of an electric heater connected with said roller to heat the same, as set forth.

2. In a burnishing-machine, the combination of a hollow burnishing-roller and an electric heater inclosed by said roller, as set forth and shown.

3. In a burnishing-machine, the combination of a hollow burnishing-roller, a non-metallic core in said roller, metallic collars attached to said core, an electric coil surrounding said core and out of contact with the roller and connected to the collars, and conductors connecting the collars with the electric generator, substantially as set forth and shown.

4. In combination with the hollow burnishing-roller, a hollow non-metallic core seated in said roller, metallic collars on the ends of said core, and an electric heat-developing conductor surrounding the core and extending longitudinally through the interior thereof and connected to the aforesaid collars, brushes bearing on the collars, and conductors connecting the brushes with the electric generator, substantially as described and shown.

In testimony whereof I have hereunto signed my name this 19th day of June, 1889.

CLARENCE R. CARLEY. [L. s.]

Witnesses:

C. H. DUELL,

H. M. SEAMANS.