2 Sheets—Sheet 1.

J. G. HALLAS.

MACHINE FOR THREADING LAMP-COLLARS.

No. 187,007 Patented Feb. 6, 1877.

fig. 1

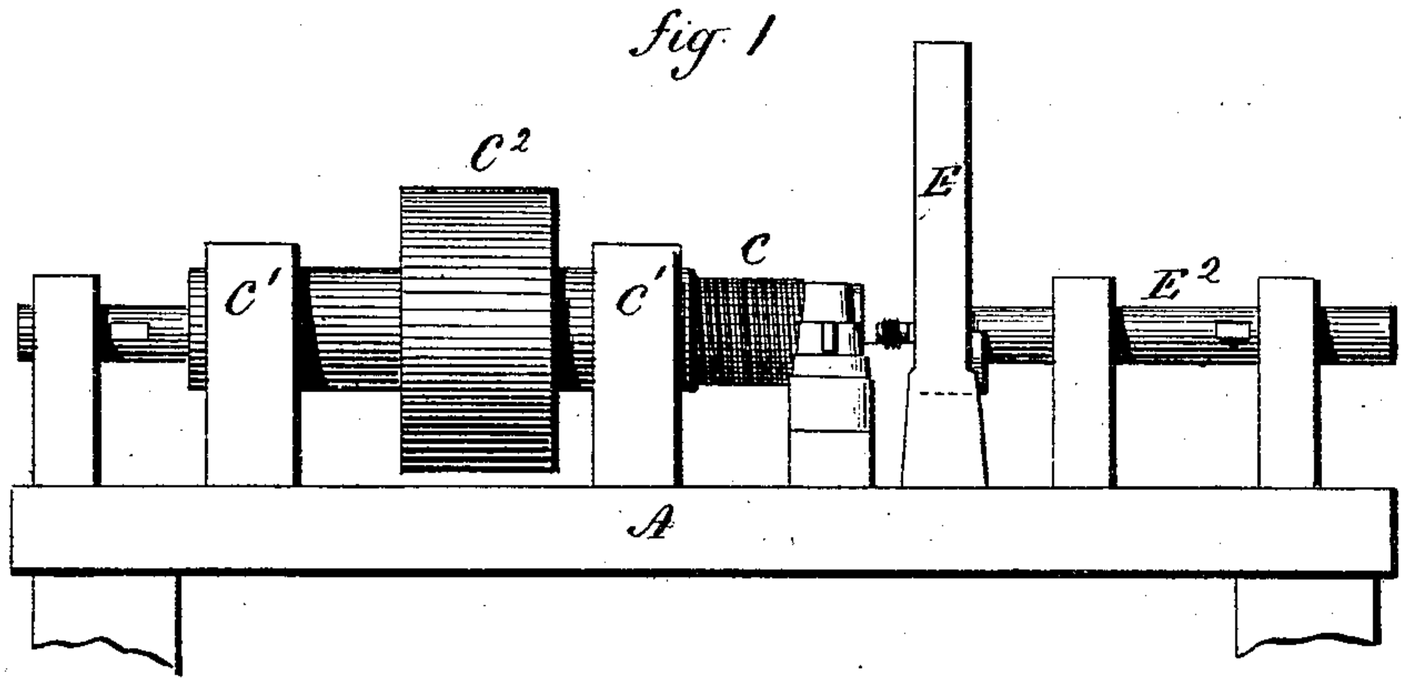
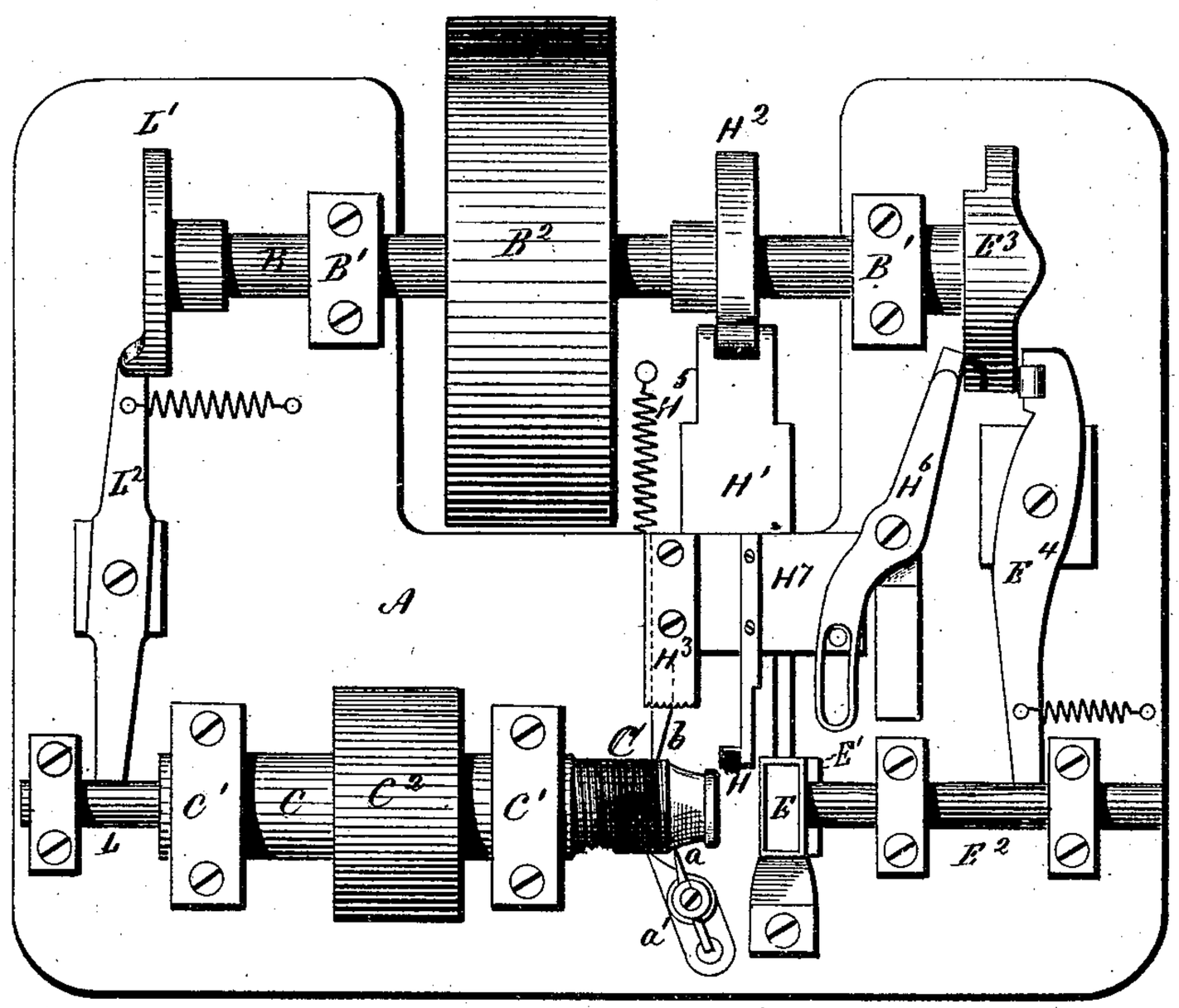


fig. 2



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2 Sheets—Sheet 2.

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fig. 3

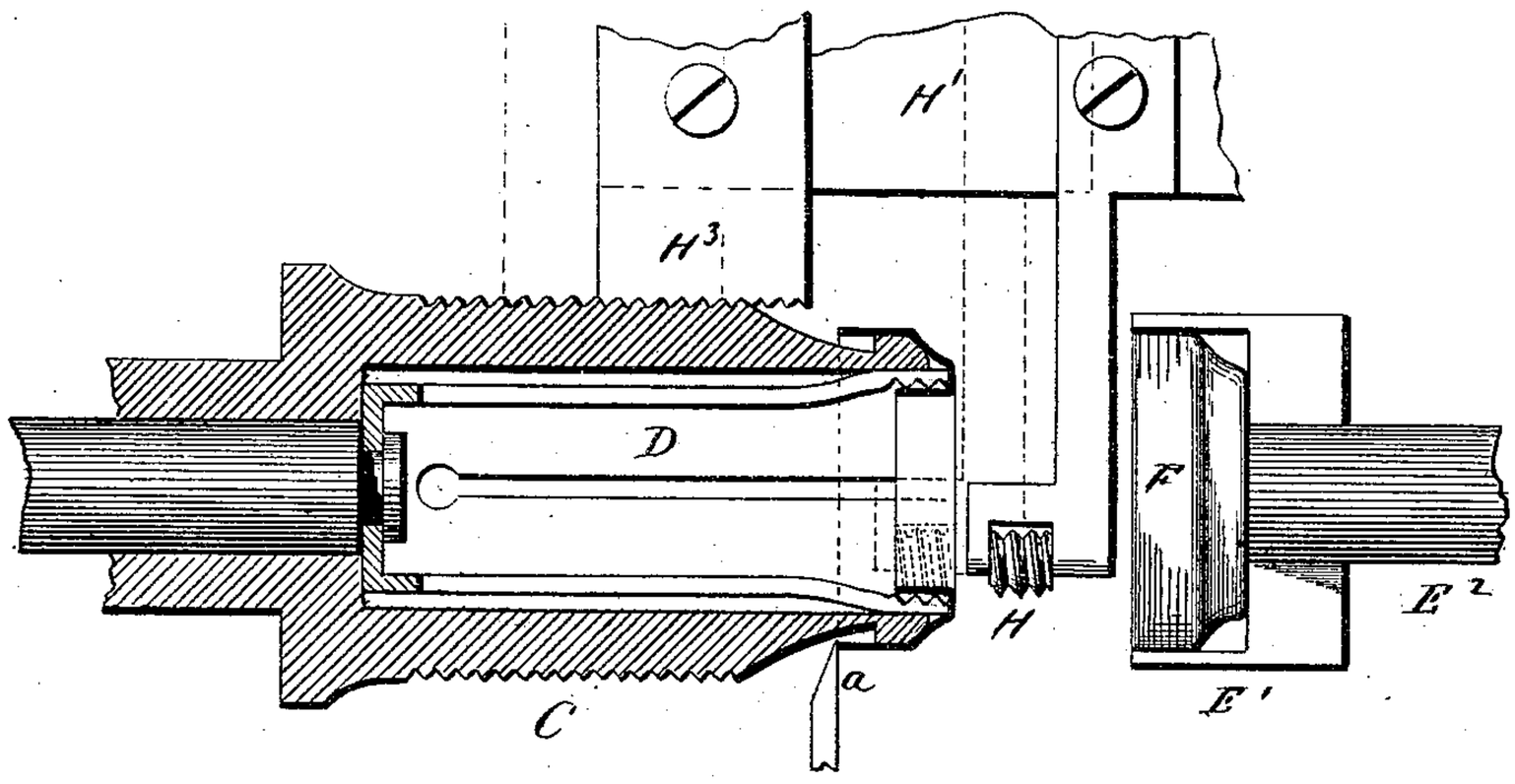
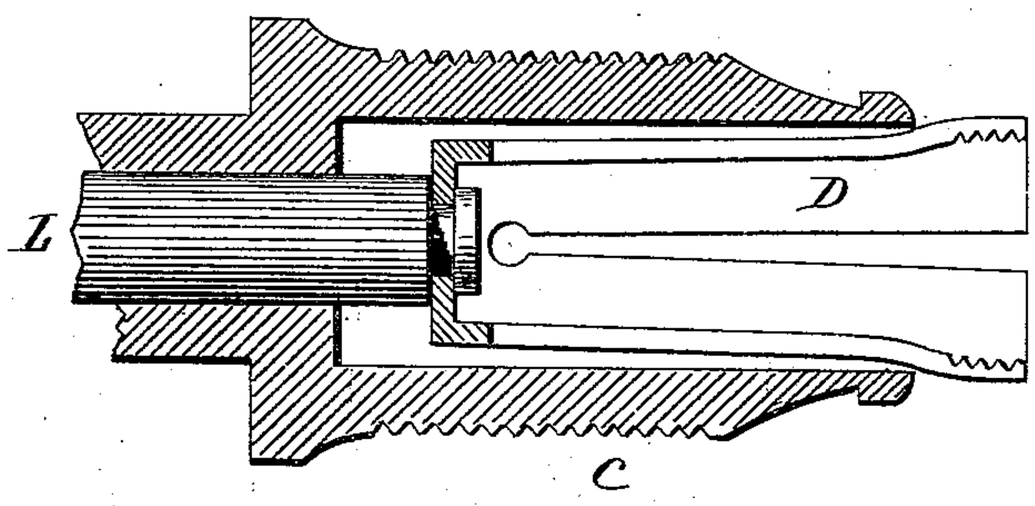


fig. 4



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UNITED STATES PATENT OFFICE.

JAMES G. HALLAS, OF WATERBURY, CONN., ASSIGNOR TO THE BENEDICT & BURNHAM MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR THREADING LAMP-COLLARS.

Specification forming part of Letters Patent No. **187,007**, dated February 6, 1877; application filed July 24, 1876.

To all whom it may concern:

Be it known that I, JAMES G. HALLAS, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new Improvement in Machines for Threading Lamp-Collars; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view; Fig. 2, a top or plan view; and in Figs. 3 and 4, sections enlarged.

This invention relates to an improvement in machines for threading and finishing that part of lamp-trimmings commonly called "lamp-collars"—that is to say, the neck which is attached to the lamp-fount, and which is fitted to receive the burner by means of a corresponding screw-thread on the collar and on the base; and it consists in the mechanism as hereinafter described, and as recited in the claim.

A is the bed which supports the operative mechanism; B, the driving-shaft, arranged in suitable bearings B^1, and caused to revolve by the application of power thereto through the pulley B^2. C is a hollow mandrel, supported in bearings C^1, and caused to revolve by the application of power thereto through the pulley C^2. This mandrel is shown in section, Figs. 3 and 4, and threaded upon its outer surface to correspond to the thread of the collar. The end of the mandrel is formed to receive the collar, as seen in Fig. 3. Within the mandrel there is arranged a cylinder, D, slit or divided into several parts longitudinally, as seen in Figs. 3 and 4, and its outer end, in its normal condition, is of larger external diameter than the internal diameter of the end of the mandrel, but yielding, so that when the cylinder is drawn into the mandrel, as seen in Fig. 1, it will contract it to correspond to the internal diameter of the mandrel, as from the position in Fig. 4, to that in Fig. 3; and that it may be thus contracted, the outer surface of the cylinder is made conical at the end.

On the inner surface, at the end, this cylinder D is threaded, corresponding to the thread to be formed on the collar, its internal diameter, when in its contracted position, as in Fig. 3, corresponding to the external diameter of the internal flange of the collar, so that when the collar is set onto the end of the mandrel, as in Fig. 3, the inner flange will pass within the threaded end of the cylinder, as shown in Fig. 3.

The collar-blanks are shaped previous to introduction into the machine, and they are placed successively into the hopper E, and fall by their own gravity into a carrier, E^1, as seen in Fig. 3, F representing the blank. This carrier is arranged upon a slide, E^2, in axial line with the mandrel C, and a reciprocating movement is imparted to this slide E^2 by means of a cam, E^3, through a lever, E^4, so that at the proper time the carrier is moved forward to force the blank, which it holds, onto the end of the mandrel, and there leave it, the collar remaining, as indicated in solid black, Fig. 3, the carrier returning to receive a second blank which falls into it.

The blank being now properly arranged on the revolving mandrel, the threader H, attached to a slide, H^1, is brought forward, by means of a cam, H^2, on the driving-shaft, into the position indicated in Fig. 3. At the same time a threaded follower, H^3, on the slide engages the external thread of the mandrel, as also seen in Fig. 3. The slide H^1 is constructed with a portion, H^7, sliding transversely, and to this portion H^7 the threader and threaded follower are attached; but they move forward and back with the slide H^1. The mandrel, revolving, then moves the threader transversely, and causes it to work upon the inner surface of the flange of the collar, and compress the metal into the threads within the cylinder D, as indicated in broken lines, Fig. 3. So soon as the threading has been properly formed, the cam H^2 releases the threader, allowing it to be drawn back by means of the spring H^5, and at the same time the cam E^3 acts through a lever, H^6, on the transverse slide H^7, and imparts a retreating transverse movement to the threader-carriage.

The blanks are usually rough or uneven upon the outer edge, and in order to dress this edge smooth a cutter, *a*, is arranged on a swing-

ing stock, *a'*, and as the threading-carriage advances, an inclined finger, *b*, on that strikes the cutter-stock, swinging it toward the collar, and causing the cutter to bear upon and dress the edge of the collar to the desired extent, as seen in Fig. 3. This completes the collar.

To discharge the completed collar, the cylinder D is attached to a sliding bar, L, within the mandrel, and to this sliding bar a reciprocating or forward and back movement is imparted by a cam, L^1, through a lever, L^2, and is timed in its action so that so soon as a collar is completed the slide L will be forced forward, as indicated in Fig. 4, carrying the collar from the mandrel, and the cylinder, opening, will release the collar, and allow it to fall completed from the machine.

It will be evident that the threading may be performed without the trimming, or the trimming without the threading, if desirable; and it will be also evident that, if desirable, the collars may be placed by hand directly onto the mandrel, instead of through the instrumentality of the carrier; and it will be also evident that other threading device may be employed than the one described, and also that the necessary reciprocating movement to the threader may be imparted by other device than the external thread on the mandrel; hence these several parts are not essential, one to the other.

I claim—

1. The combination of the collar-supporting mandrel C, the internally-threaded divided cylinder D, arranged axially within the said mandrel, and with mechanism to impart a reciprocating movement to the said cylinder, substantially as described.

2. The combination of the collar-supporting mandrel C, the internally-threaded divided cylinder D, and the reciprocating carrier E^1, substantially as described.

3. The combination of the collar-supporting mandrel C, threaded externally, the internally-threaded divided cylinder D, the threader H, and threaded follower H^3, substantially as described.

4. The combination of the collar-supporting mandrel C, the internally-threaded divided cylinder D, and the reciprocating threader H, substantially as described.

5. The combination of the collar-supporting mandrel C, the internally-threaded divided cylinder D, and the cutter *a*, substantially as and for the purpose described.

6. The combination of the collar-supporting mandrel C, the internally-threaded divided cylinder D, the reciprocating carrier E^1, and the reciprocating threader H, substantially as described.

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Witnesses:
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