

*J. J. Currier,
Collar Machine.*

No. 55005.

Patented May 22 1866.

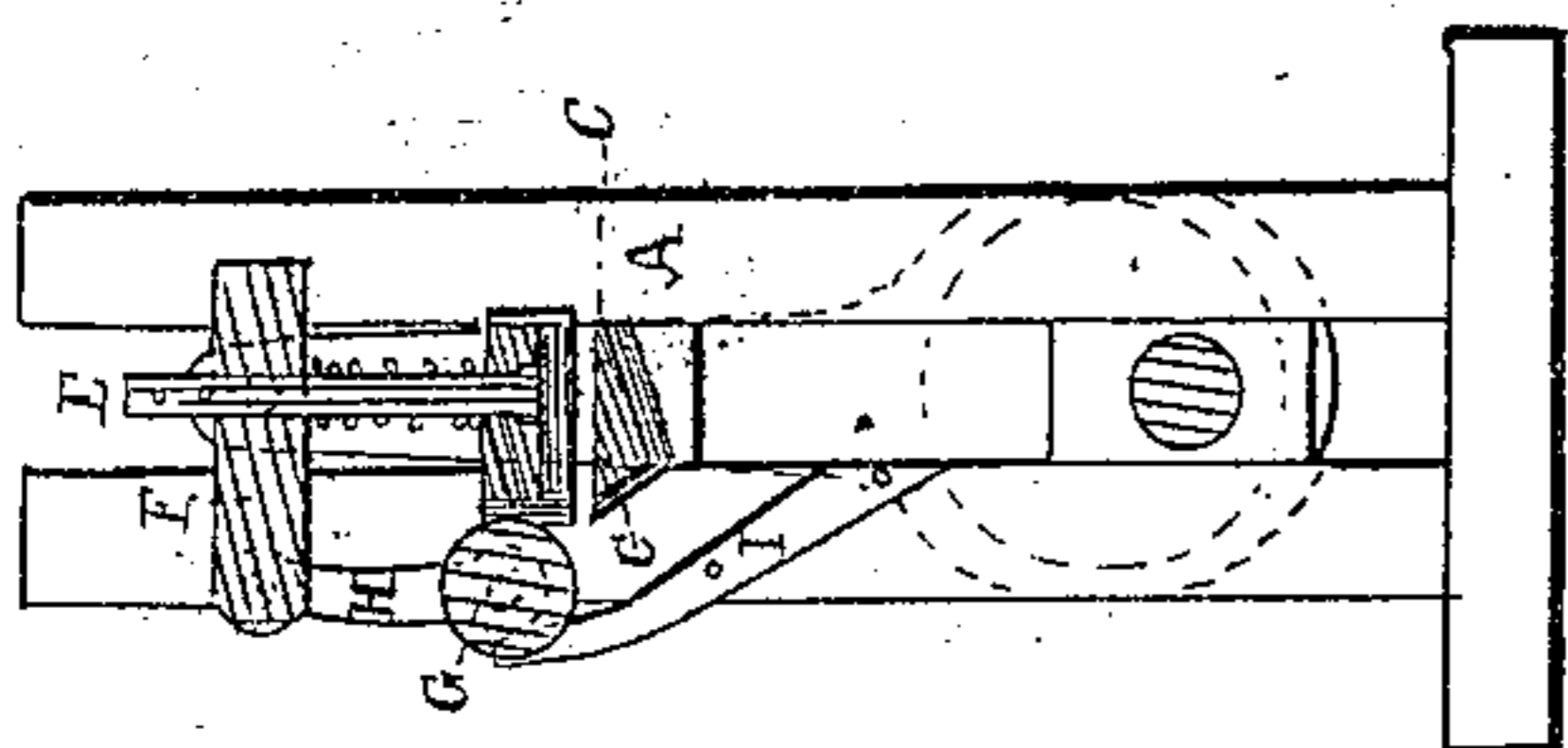
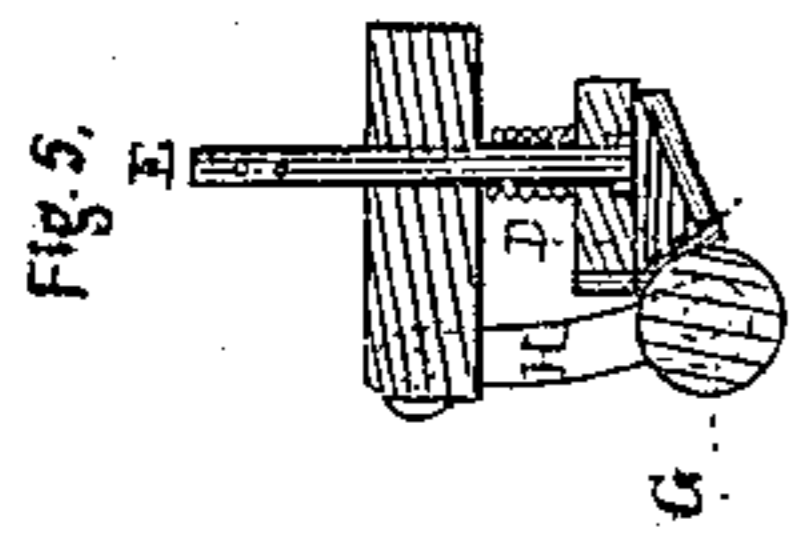
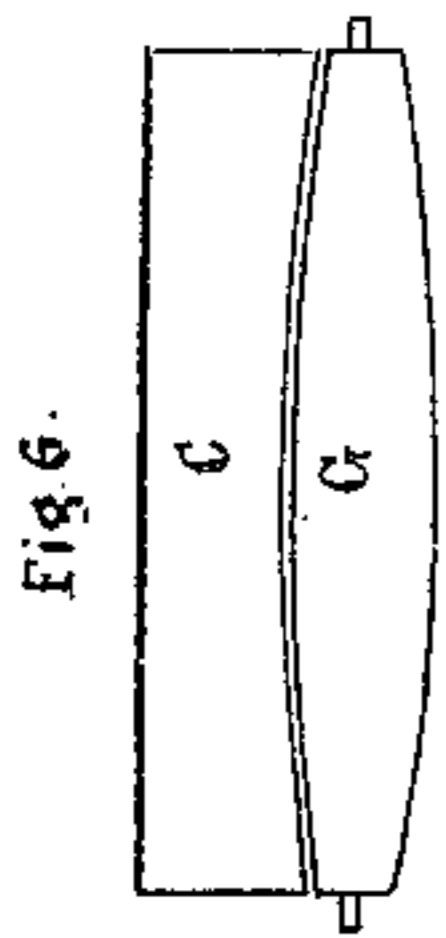


Fig. 1

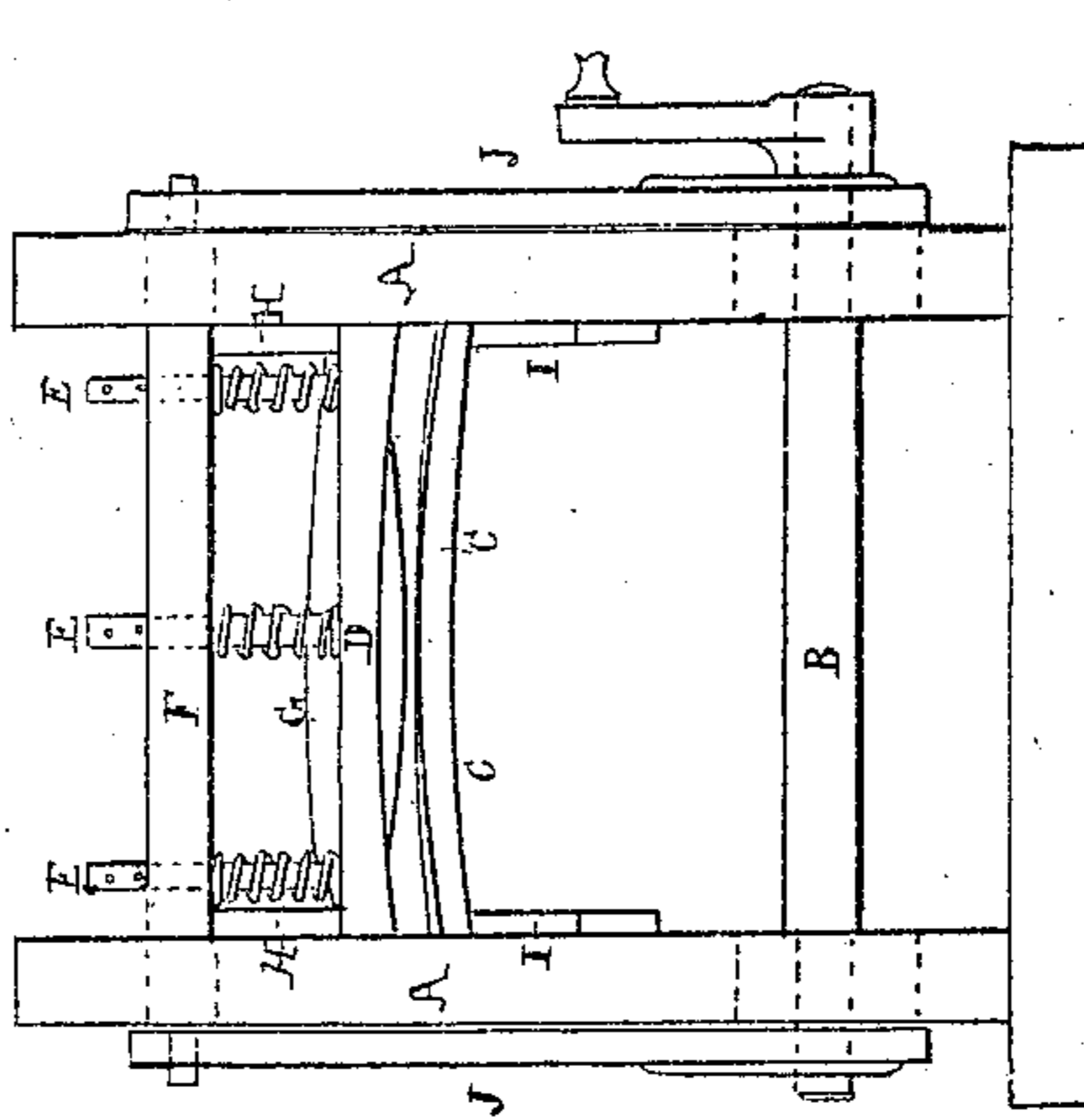


Fig. 2

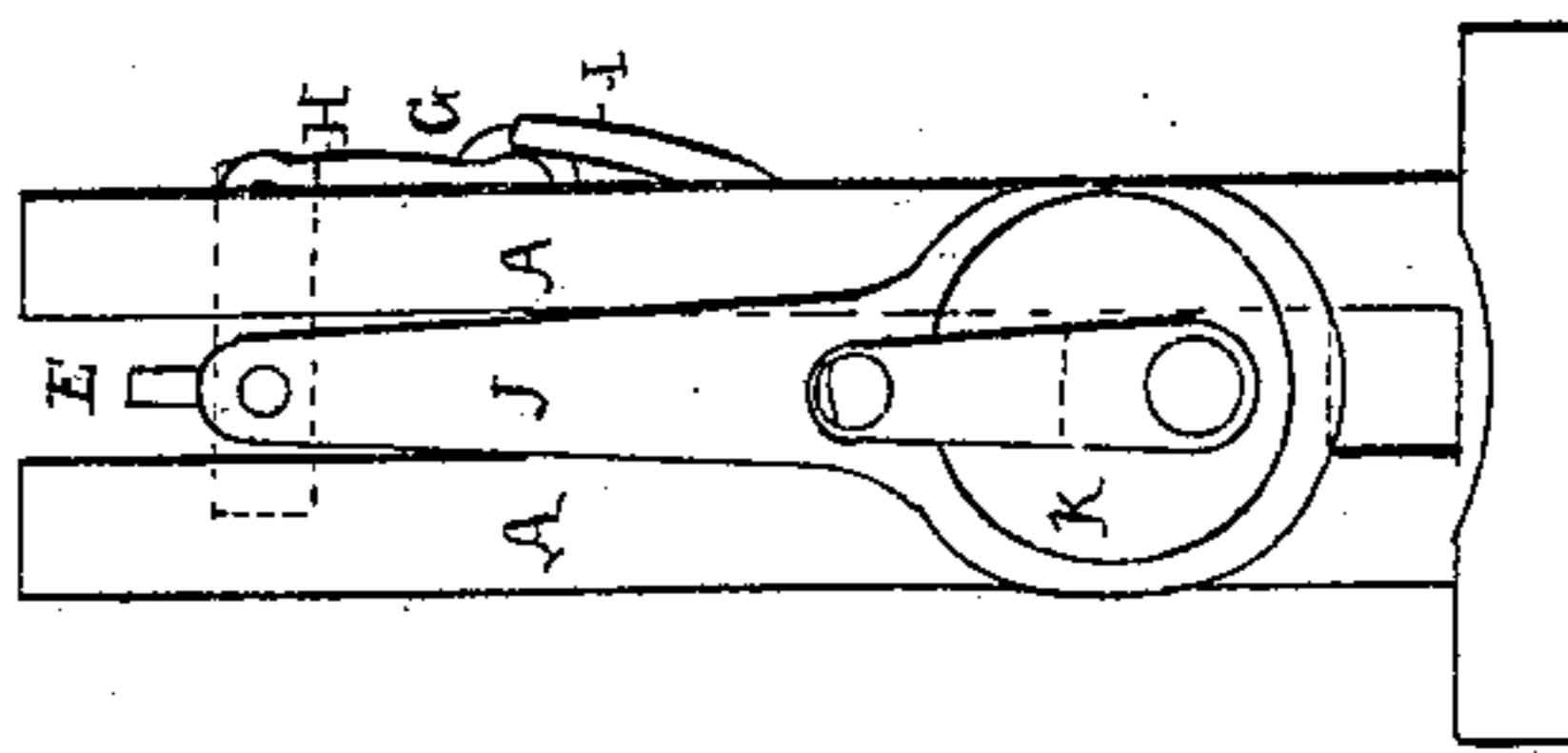
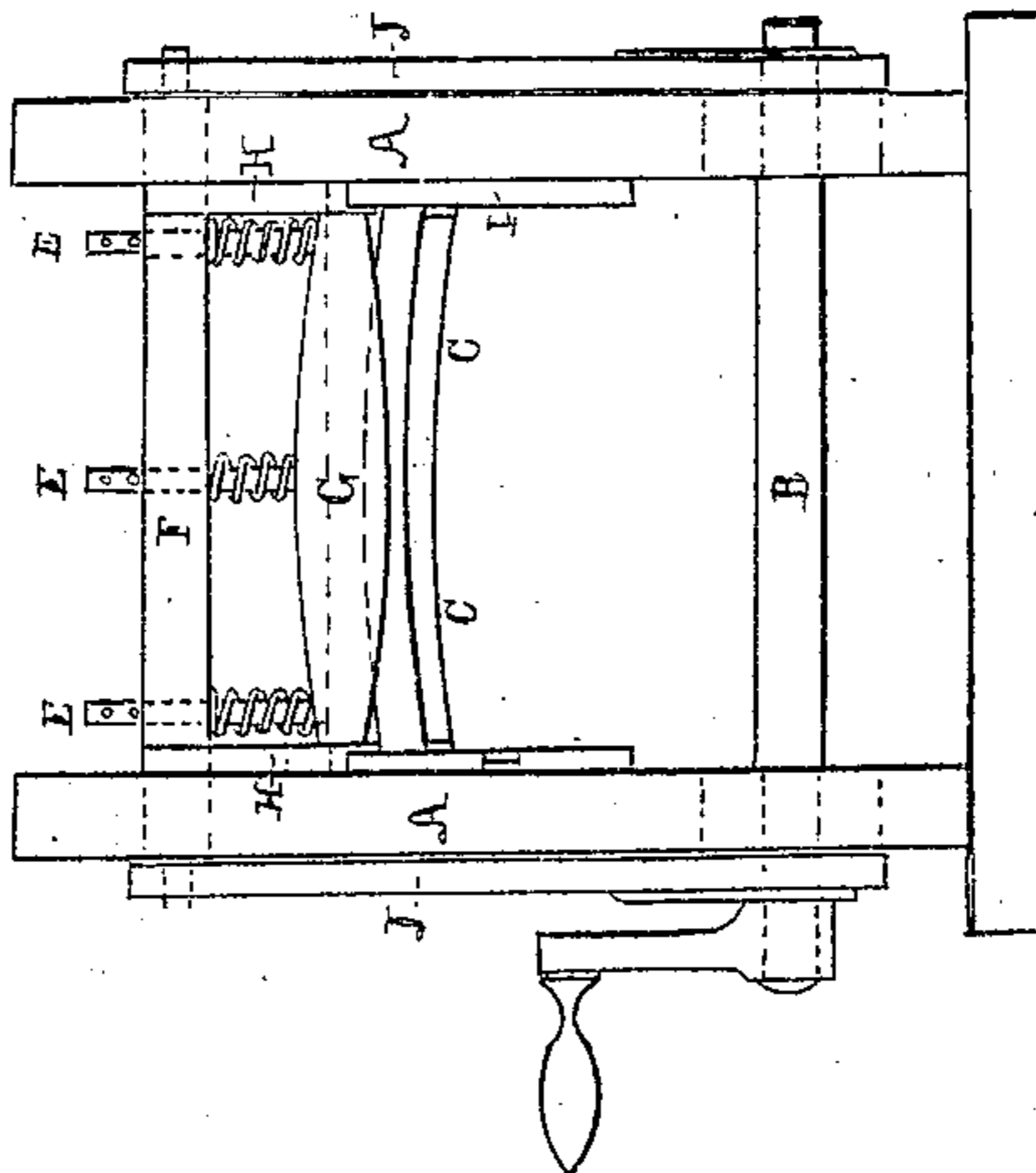


Fig. 3



WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN J. CURRIER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF
AND JAMES H. PLAISTED, OF THE SAME PLACE.

IMPROVEMENT IN MACHINES FOR FOLDING PAPER COLLARS.

Specification forming part of Letters Patent No. 55,005, dated May 22, 1866.

To all whom it may concern.

Be it known that I, JOHN J. CURRIER, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented a new and useful Machine for Folding Shirt-Collars made of paper or other material, or composition of materials; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, of which—

Figure 1 is a front elevation. Fig. 2 is an end elevation. Fig. 3 is a rear elevation. Fig. 4 is a vertical and transverse section. Fig. 5 is a section of the holding-plates and roller, in which the red line shows the position of the collar while being folded, and Fig. 6 is a horizontal plan of the roller and the lower plate.

The same letters denote the same parts in all the figures.

The machine hereinafter described is intended to bend and fold shirt-collars made of paper or other material, or composition of materials, in a line having the desired curve. It will accomplish this result in a more perfect manner and with less injury to the surface than any machine now in use, giving a smooth and even fold without wrinkling the collar.

In the drawings, A A denote the frame of the machine, a driving-shaft, B, being in the lower part of said frame. C is a plate fastened by its ends permanently to the frame A, having its upper surface curved upward from end to end, and its undersurface, C', also curved in a corresponding curve. The rest of its undersurface may or may not be also curved.

D is a movable plate having its undersurface curved upward from end to end in a curve equal to the curve of the upper surface of the fixed plate C, so that when the plate D is moved downward to the plate C the undersurface of D and the upper surface of C shall be in contact from end to end.

E E E are pins fastened to D, and sliding through holes in the movable beam F. The helical springs around the lower part of these pins serve to press D and C together with increasing firmness as the movable beam F descends.

G is a roller tapering from the middle toward each end, so that its curve from end to

end is equal to that in the edge of the plate C, as appears in Fig. 6. A more even fold, however, can be produced by making this roller a little larger in the center than it would be if made on the same curve with the edge of the plate C. This roller turns in bearings in the ends of the two arms H H, which swing from the movable frame F.

I I are guides attached to the frame A, for guiding the roller G under the curved surface C' when said roller descends.

J J are arms for communicating a vertical reciprocating motion to the beam F, and hence to the plate D and the roller G.

The eccentric K, attached to the driving-shaft, moves the arm J.

The operation of these several parts may be thus described: The beam F being up, so that the plate D is raised from the plate C, one of the collar-blanks which have been cut out and prepared for folding may be placed between the plates C and D, either by machinery or by hand. If the latter, it will be necessary to have stops set in the inside of the frame A to mark the distance to which each collar should be pushed in to be folded. These stops should be adjustable for different sizes. Motion being communicated to the driving-shaft, the beam F will be moved downward, and, as the pins E E E slide through the openings made for them in F, said beam F will press on the helical springs around said pins and cause them to act upon the upper plate, D, and press said plate with increasing firmness onto the plate C, on which rests the collar-blank. While these two plates D and C hold the collar-blank firmly, the beam F continues to descend, carrying before it the roller G. The center of said roller impinges on the corresponding center of the curved edge of the plate C, over which projects the portion of the collar which is to be bent. As this roller G continues to descend it bends the collar-blank gradually from the center toward each end, thus preventing it from wrinkling. The roller G is pressed against the edge of the plate C by the guides I I, and as the arms H H, which hold the bearings of said roller, swing on pivots in the beam F, they allow said roller to be directed under the plate C on the curved surface thereof marked C', by means of the guides I I, thus perfecting the fold or bend of

the collar. The arm J now raises the beam F upward, which raises the roller G, and also lifts the plate D by the cross-pegs set in the pins E E, and the machine is now ready for a second collar-blank.

It is obvious that a similar fold can be produced by reversing the shape of the plates and the roller—that is, by making those surfaces concave that are now convex, and those convex that are now concave, or even by making the plates C and D level on their contiguous surfaces; but if either of these changes were made the fold would not be so even, and the collar more likely to wrinkle.

A cam may be substituted for the guides I I, and motion may be given to the beam F by other means than those described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A machine consisting of plates C and D, a roller, G, a beam, F, and guides I I, constructed and operating substantially as described, and for the purpose specified.
2. The two plates C and D, in combination with the roller G.
3. The plate C, in combination with the roller G, substantially as and for the purpose specified.
4. The mode of perfecting the fold by guiding the roller G under the plate C.

JOHN J. CURRIER.

Witnesses:

J. M. KEITH,
SAMUEL WELLS, Jr.