3 Sheets—Sheet 1.

C. A. BROWN.

MACHINES FOR CUTTING PAPER COLLARS.

No. 169,408. Patented Nov. 2, 1875.

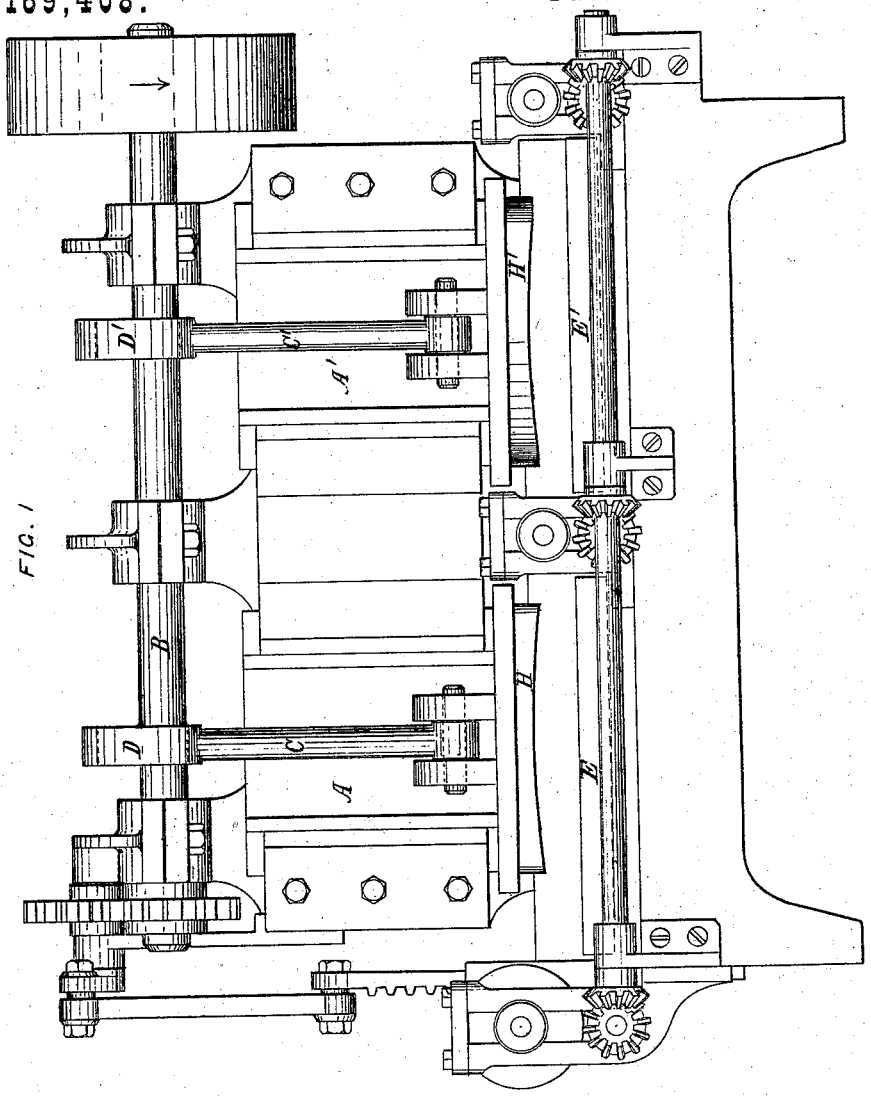

FIG. 1

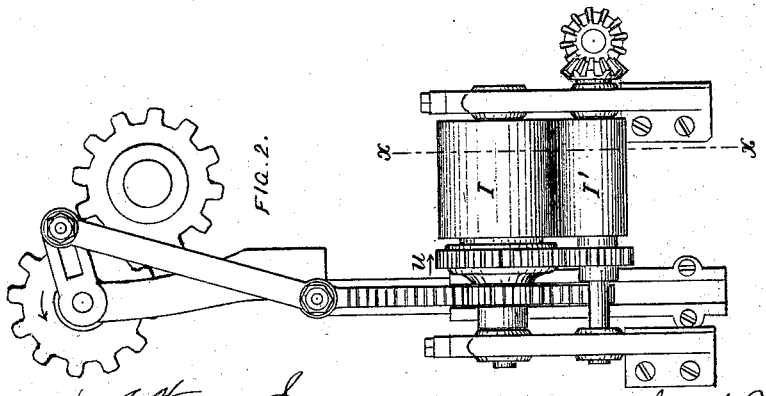

FIG. 2.

WITNESSES { J. Warren Seymour
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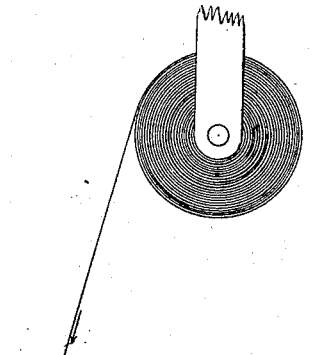


FIG. 3.

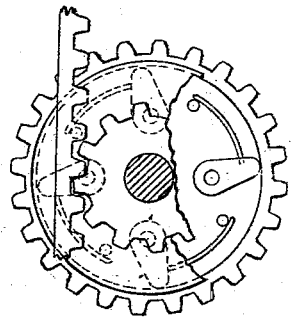


FIG. 4.

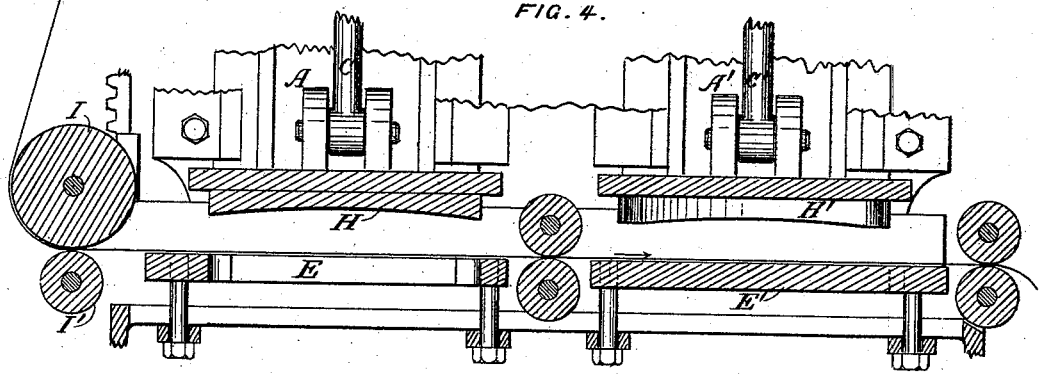
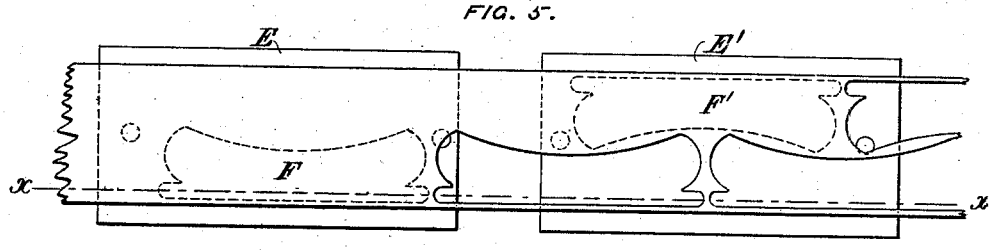


FIG. 5.



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Chas. A. Brown

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C. A. BROWN.

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FIG. 6.

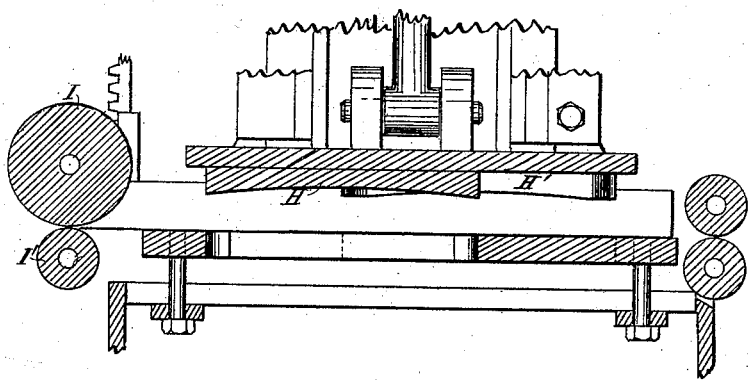


FIG. 7.

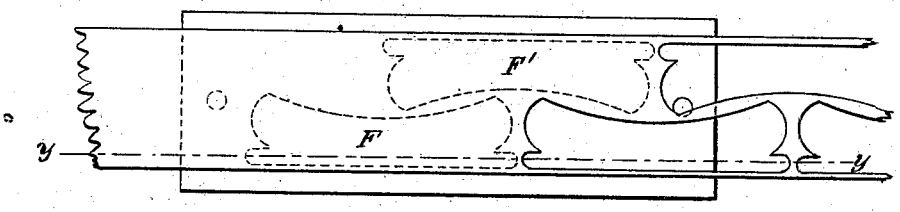
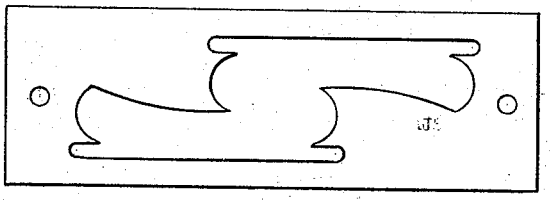


FIG. 8.



WITNESSES.

J. Warren Seymour
James T. Goodfellow

INVENTOR.

Chas. A. Brown

UNITED STATES PATENT OFFICE.

CHARLES A. BROWN, OF TROY, NEW YORK.

IMPROVEMENT IN MACHINES FOR CUTTING PAPER COLLARS.

Specification forming part of Letters Patent No. **169,408**, dated November 2, 1875; application filed May 6, 1874.

To all whom it may concern:

Be it known that I, CHARLES A. BROWN, of the city of Troy, Rensselaer county, New York, have invented certain Improvements in Machines for Cutting Paper-and-Cloth and Paper Collars and Cuffs, or other irregular blanks; and I do hereby declare the following to be a full, clear, and exact description of my invention, reference being had to the accompanying drawings, which form and make a part of this specification.

Figure I, Sheet I, is a front elevation of a stamping-machine, provided with punches and dies and an automatic feed, all arranged so as to cut collars and cuffs, as fully hereinafter described. Fig. II, Sheet I, is an elevation of the automatic feed attached to one end of the machine, by means of which the stock is fed to the punches and dies, as required, as more fully hereinafter described. Fig. III, Sheet II, is a sectional view of the friction-feed in the direction of arrow *u*, Fig. II. Fig. IV, Sheet II, is a longitudinal section of the machine on the line *x x*, Fig. II, more clearly showing the arrangement of the punches and dies. Fig. V, Sheet II, shows a strip of paper in process of being cut into collars. Fig. VI, sheet III, shows the punches and dies arranged under one cross-head, with the dies overlapping. Fig. VII shows a strip of material in process of being cut by the punches and dies shown in Fig. VI. Fig. VIII is a plan of the bed-plate, showing the outline of a female die, by means of which, in connection with a corresponding male die, two collars may be cut together at one stroke of the cross-head, and afterward separated.

In the accompanying drawings, A and A′ represent the sliding cross-heads of the punching or stamping machine, which are hung upon the shaft B by means of the rods C and C′ and eccentrics D and D′. E and E′, at all the figures, represent the bed-plates of the machine, containing the female dies F and F′, corresponding with the male dies or punches H and H′. (Shown at Figs. I, IV, and VI.) These male dies may be made solid or not, as desired, but in all cases must be of the same size and shape as the blank desired to be cut, as it is my design to cut the blanks with dies, and not cut with irregular-shaped dies the stock necessary to form the shape of the blanks, as has heretofore been done to some extent.

It is obvious that to effect a saving of stock by the use of punches and dies arranged in the manner shown in the drawings, and more fully hereinafter described, it is necessary such stock should be furnished to the dies from a continuous strip, the width of which would of course be determined by the distance between the outer edges of the outer dies, as they may be arranged under the cross-heads of the machine. It is also desirable that the stock should be supplied to the punches and dies by means of some suitable automatic feed that will be intermittent in its motion—that is, feeding the stock to the dies at the same time said dies are above the bed-plates in the operation of the machine, but ceasing in its operation, and allowing the stock to remain stationary on the bed-plates of the machine, during the process of cutting the blanks therefrom. Such an intermittent feed I have shown in the accompanying drawings at Figs. I, II, and III, in which I I′ represent solid rollers, through which the stock is introduced and fed to the dies in the manner above described. At Fig. III is shown a section of the mechanism at the ends of the rollers I I′, in the direction of arrow *u*, Fig. II, by which the intermittent motion is imparted thereto; but other mechanisms may be used with equal advantage. Attached to this intermittent feed are as many supplemental rollers as may be deemed necessary for the purpose of feeding the stock properly and carrying the waste away from the punches and dies. This automatic intermittent feed should be so adjusted as to present the stock to the punches and dies as nearly as may be to the previous cutting, and there will be no difficulty found in accomplishing this by the use of the mechanism shown in detail in the accompanying drawings.

In order to secure the advantages claimed for the arrangement of punches and dies above set forth—viz., the saving of stock—it is apparent that stock must be supplied to the machine from a continuous roll of a width but

little in excess of the distance between the outer edges of the outer dies as they may be arranged.

Dies of different widths and patterns, but of uniform length, may be used with equal facility.

By the arrangement of punches and dies herein described I am enabled to cut, from a continuous roll of stock, the widest part of one blank against the narrowest part of another, thereby cutting two blanks from a piece of paper or cloth and paper, the width of which but little exceeds the width of the narrowest part of one blank added to the widest part of the other.

I do not claim the use of punches and dies for the purpose of cutting collars or like irregular blanks, nor the stamping-machine shown in the accompanying drawings for operating such punches and dies; but

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

A series of simultaneously-operating male dies of the shape of the blanks to be cut, having a reciprocating movement transmitted to them through the medium of a common revolving shaft, a series of female dies conforming to said male dies, to receive the same, the several male and female dies of said series occupying a reversed position with reference to the blanks to be cut, and an intermittent feed suited to the distances apart of the said cutting devices, and designed to feed the stock to and remove the same from the dies, all combined, arranged, and operating substantially as hereinbefore described, and for the purposes specified.

Witness my hand at Troy, New York, this 29th day of April, 1874.

CHAS. A. BROWN.

Witnesses:
C. D. KELLUM,
JNO. W. ALGER.