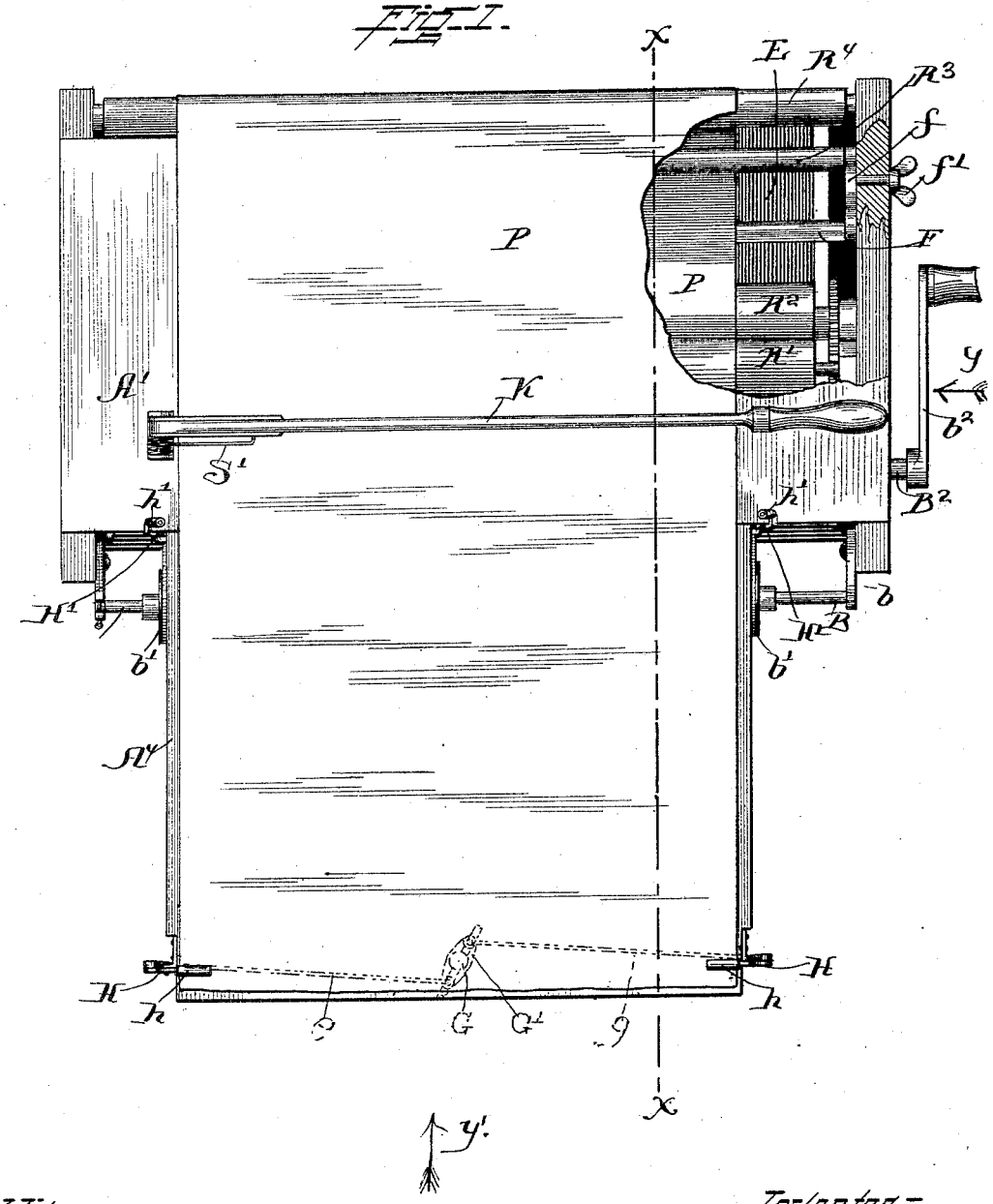
(No Model.) 4 Sheets—Sheet 1.

O. PETERSON.

PAPER TRIMMING AND PASTING MACHINE.

No. 491,586. Patented Feb. 14, 1893.

Fig. 1.



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4 Sheets—Sheet 2.

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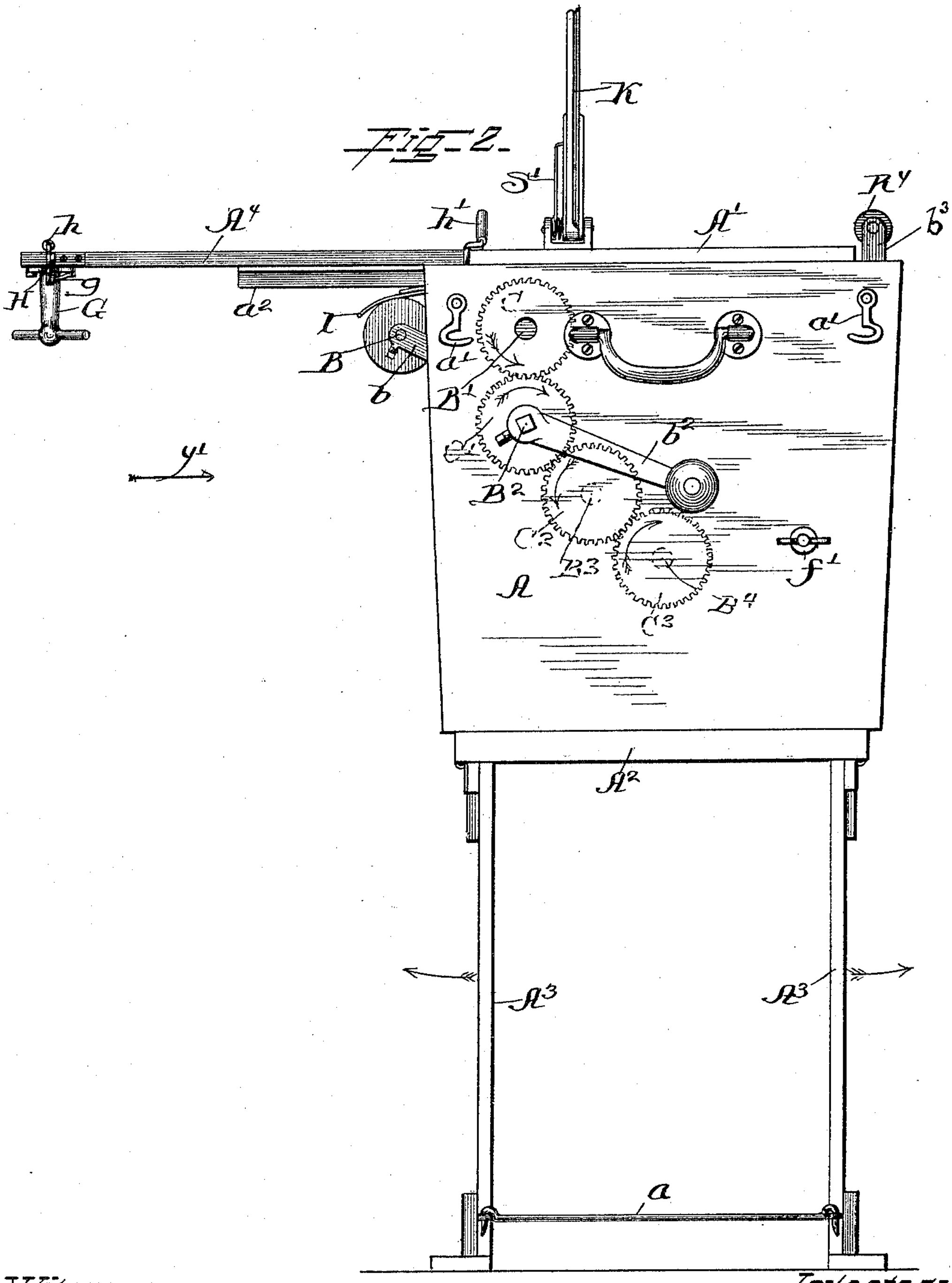

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(No Model.) 4 Sheets—Sheet 3.

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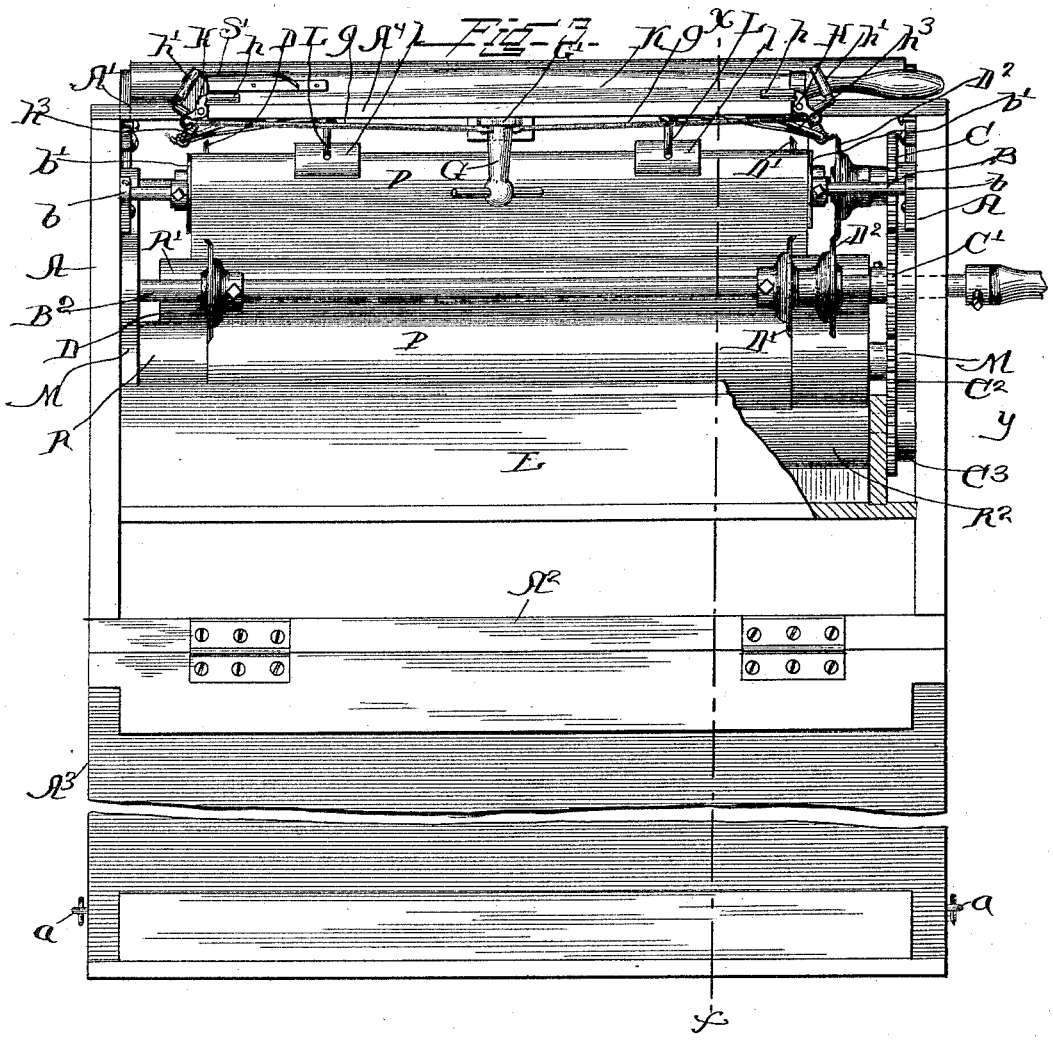
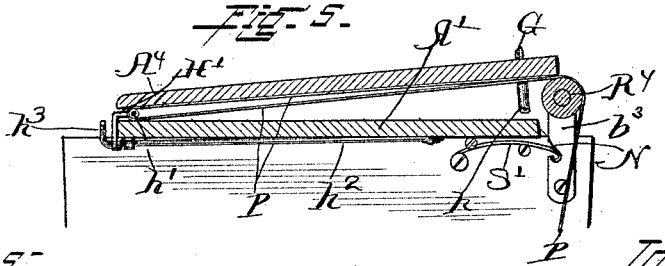


Fig. 5.



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(No Model.) 4 Sheets—Sheet 4.

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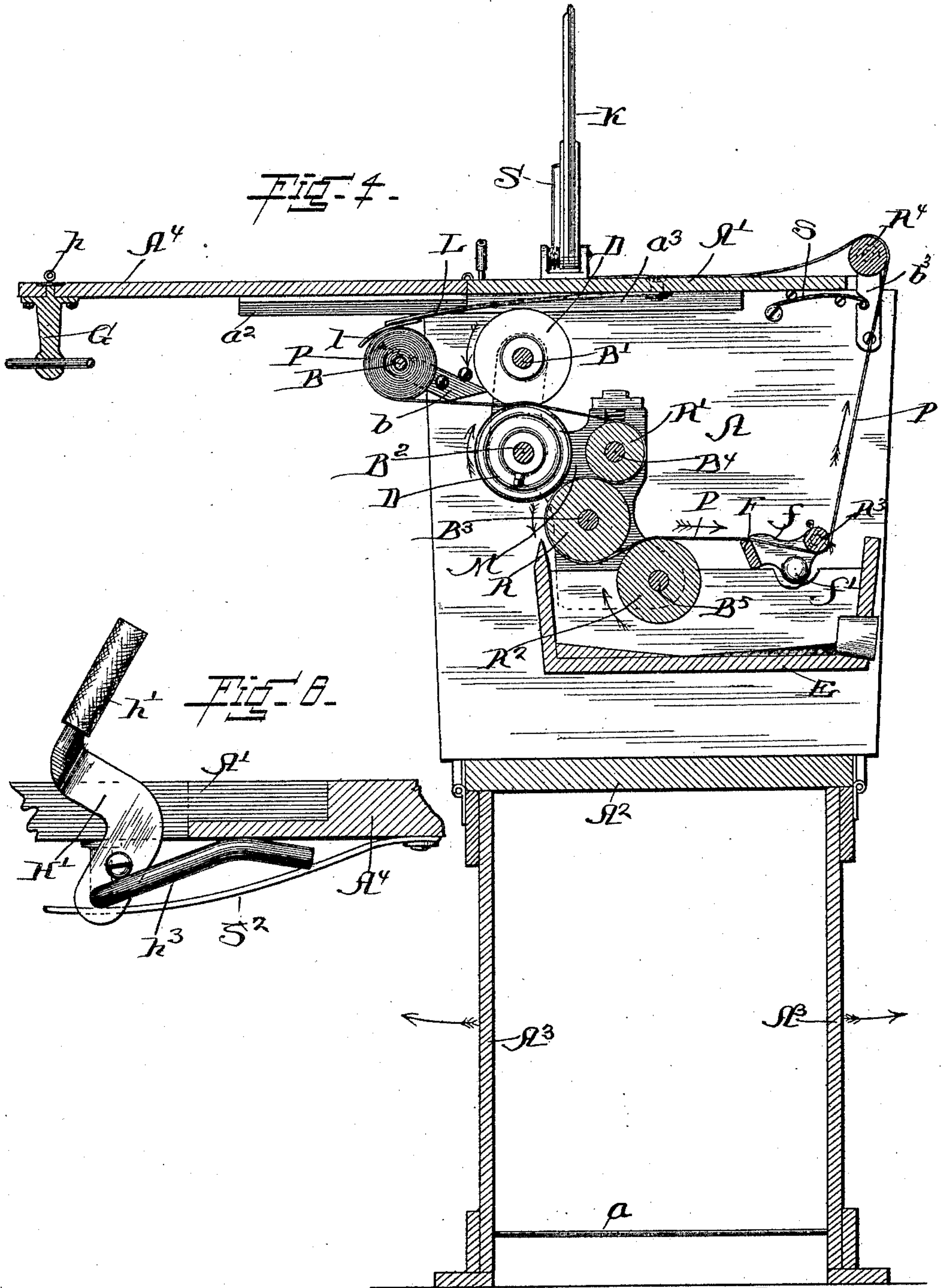

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UNITED STATES PATENT OFFICE.

OLE PETERSON, OF HINSDALE, ILLINOIS.

PAPER TRIMMING AND PASTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 491,586, dated February 14, 1893.

Application filed May 18, 1892. Serial No. 433,487. (No model.)

To all whom it may concern:

Be it known that I, OLE PETERSON, a citizen of the United States of America, residing at Hinsdale, in the county of Du Page and State of Illinois, have invented certain new and useful Improvements in Paper Trimming and Pasting Machines, of which the following is a specification.

My invention relates to improvements in paper trimming and pasting machines, its object being to provide a simple and practical machine adapted to trim the edges of wall paper and at the same time to apply a suitable coat of paste to the blank face thereof.

The invention is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a top plan of a machine embodying my invention, parts of the machine being broken away to show construction; Fig. 2 is an end elevation of the machine, the view being in the direction indicated by the arrow *y*, Fig. 1; Fig. 3 is a front elevation of the machine, the view being in the direction indicated by the arrow *y'*, Figs. 1, 2; Fig. 4 is a vertical section of the machine, the plane of section being through the line *x*—*x*, Figs. 1, 3; Fig. 5 is a vertical section through the line *x*—*x*, Figs. 1 and 3, the supplemental table A^4, being folded up over the top A', of the main table; Fig. 6 is an enlarged elevation of one of the clasps H', with its finger *h'*, the view being in the direction indicated by the arrow *y'*, Fig. 1.

In these views, A, A are the ends, A' is the top and A^2 is the bottom of a box containing or supporting all the working parts of my machine, and A^3, A^3 are folding side pieces hinged to the bottom A^2, and adapted to form sides for the box, or to be dropped down to the position shown in Figs. 2, 3, 4, and form the supports thereof, thus bringing the top A', of the box to a suitable working height. The two pieces A^3, are provided with eyes fastened to their ends and when they are dropped down, these eyes receive hooks at the ends of a rod *a*, and are thereby suitably connected. When the side pieces are raised to form part of the box, they receive hooks *a'*, Fig. 2, fastened to the end pieces A, and are thus held in their raised position. A supplemental top A^4, is hinged to the edge of the top A', and may be raised to the position shown in Fig. 5, or dropped to the position shown in Figs. 1, 2, 3, 4, to increase the top surface of the table. When thus dropped down it is supported by a sliding bracket a^2, moving in guides a^3, Fig. 4, and adapted when not in use to lie wholly beneath the top A', of the box.

To the end pieces A, A, and near their rear edges are pivoted two brackets *b*, *b*, adapted to receive and support a horizontal rod B, and this rod is provided with cutters in the form of disks *b'*, so constructed as to be readily detachable from the rod or adjustable upon it. The rod is adapted and intended to receive a roll of wall-paper P, and the disks serve to hold the roll in place and to fix its longitudinal position upon the rod. The brackets *b*, *b*, are adapted to lie in the position illustrated in Figs. 2 and 4, or to be swung upward, thereby bringing the shaft, B, wholly within the box. Spring levers L, L, are pivoted to the top A', of the box and provided with friction plates, *l*, *l*, Fig. 3, adapted to press upon the roll P, and prevent accidental unrolling of the paper. When in use, the levers project beyond the edges of the box, but when the machine is not in use they may be swung about their pivots until they lie wholly in the box, so that the side pieces may be swung upward and secured in place in the manner hereinbefore described.

To the inner faces of the end pieces A, A, are rigidly fastened two cast frames, M, M, and in these frames at a suitable distance in front of the rod B, are journaled two shafts B', B^2, connected by gear-wheels C, C', the shaft B^2, being provided with a crank b^2, by which it may be turned, and the gear-wheels being intended to insure equal and reverse rotation of the two shafts. On the shafts B', B^2, are adjustably mounted three sets of coacting cutting disks, D, D, D', D', D^2, D^2, intended to be used two sets at a time for trimming the edges of a roll of paper, or three sets at a time for trimming the edges of the roll and slitting it longitudinally on any desired line at the same time. In front of the shafts B, B', are two other shafts B^3, B^4, supporting feed-rolls R, R', the shaft B^3, being mounted in stationary bearings in the frames M, M, and the shaft B^4, being mounted in sliding bearings in the frames as shown in Fig. 4. The

shaft B^3, is provided with a gear-wheel C^2, engaging the gear-wheel C', so that the rotation of the crank b^2, rotates the feed-rolls which are intended to draw the paper forward from the roll P, the paper being carried from the roll P, between the cutting disks D', D^2, then over the roll R', then between the rolls R, R', and then about the rear face of the roll R, and toward the front of the machine.

Below the roll R, and slightly in front of it is a pasting roll R^2, mounted on a shaft B^5, which is journaled in the frames M, M, the pasting roll being within a suitably supported paste-box E, intended to be filled with paste to a level above the lower margin of the roll. The shaft B^5, of the paste roll is provided with a gear-wheel C^3, engaging the gear-wheel C^2, of the feed-roll and thus imparting rotation to the paste roll, and the paper being carried forward from the feed-roll R, over the paste roll R^2, receives on its lower face the paste brought up by the paste roll in its rotation. In front of the paste roll and near the front edge of the box lie a scraper F, and a small guide roll R^3, supported by brackets *f*, *f*, pivoted to the end pieces of the box by means of thumb screws, *f'*, Figs. 1, 2, and adapted to be adjustable by rocking them upon their pivots. The paper is carried forward from the paste roll over the scraper F, and under the guide roll R^3, and thence upward to another guide roll R^4, mounted in brackets b^3, b^3, near the upper front corners of the end pieces A, A. The adjustment of the brackets *f*, *f*, raises or lowers the scraper F, with reference to the guide roll R^3, the effect of the raising of the scraper being to press it more closely against the surface of the paper and thus to remove the paste more thoroughly and leave a thinner coat upon the paper, and, on the other hand, if the scraper be dropped down the thicker coat of paste adheres to the paper. The brackets b^3, which support the guide roll R^4, are pivoted to the end pieces of the box and may be raised to the position shown in Fig. 4, or swung downward to bring the roll wholly within the box. When raised they are held in place by means of springs S, S, fastened to the end pieces of the box and engaging notches in the edges of the brackets as shown in Figs. 4 and 5. The paper carried from the guide roll R^3, to the guide roll R^4, passes in front of the latter and then over it and is carried thence back over the top A', of the machine and the supplemental top A^4, the pasted side of the paper being upward. A knife K, is pivoted to the top A', at one side of the path of the paper and is held normally in a vertical position by means of a spring S', but may be pressed down across the paper in the manner illustrated in Figs. 1 and 3 when it serves as means for tearing the paper at right angles to its length.

The machine as thus far described is adapted to trim the paper, paste its blank side and cut it into suitable lengths, and for these purposes is practically operated and very convenient and useful. I have found it very advantageous, however, to provide the machine with means for folding the paper upon itself in order that it may be more conveniently handled and carried from the machine to the wall upon which it is to be spread. For this purpose I have attached to the machine two sets of gripping devices, one set being placed at the rear edge of the supplemental table A^4, and the other at the rear edge of the top A'. The set at the rear edge of the supplemental table comprises two plates H, H, swinging on pivots parallel to the edges of the paper, each of the plates being provided at its upper end with a finger *h*, adapted to drop down over the side edges of the supplemental table A^4, and over the edges of the trimmed and pasted paper, as shown in Figs. 1, 2, 3, 4. The lower ends of the plates H, H, are connected by rods *g*, *g*, with a horizontally oscillating plate G', pivoted to the lower surface of the top A^4, and provided with a handle G, by means of which it may be turned. The partial rotation of the handle G, and plate G' swings the plates H, H, upon their pivots and raises and lowers the fingers *h*, *h*. The set of gripping devices at the edge of the top A', is made up of two plates H', swinging on pivots parallel to the edges of the paper, each of the plates being provided at its upper end with a finger *h'*, adapted to swing down over the edge of the paper. The lower ends of the plates H', are pivoted upon rods h^2, Fig. 5, parallel to the edges of the paper, these rods being beneath the top A', and their front ends being fastened thereto, while their rear ends engage the plates H', H', and are provided with upturned ends h^3, Figs. 3, 5, 6, lying beneath the supplemental top A^4. When the supplemental top A^4, is down as shown in Figs. 3, 6, it depresses the ends h^3, of the rods h^2, thereby depressing the lower ends of the plates H', H', and raising the fingers *h'*, *h'*. As the top A^4, is raised, however, its pressure is removed from the ends h^3, of the rods h^2, and springs S^2, Fig. 6, press the lower ends of plates H', upward and bring the fingers *h'*, down across the edges of the paper as shown in Fig. 5.

When it is desired to fold the paper the fingers *h*, *h*, at the rear edge of the table A^4, are pressed down upon the paper in the manner shown in Figs. 1, 2, 3, thereby holding the end of the strip of paper firmly in position. The table A^4, is then raised and permits the fingers *h'*, *h'*, to drop down over the edges of the paper at points on the line of the rear edge of the top A'. The top A^4, is then thrown to the position shown in Fig. 5, doubling the paper over the two fingers *h'*, *h'*, and bringing the fingers *h*, *h*, between the two folds of the paper. These fingers are then withdrawn from the paper by turning the handle G, and are then thrown under the lower fold of the paper by reverse rotation of the handle. The

supplemental table is then swung back to the position shown in Fig. 4, drawing a new layer of paper the entire length of the table, and the operation of folding is repeated again and again until a strip of sufficient length has been drawn through the machine and folded upon itself. The strip may then be severed by means of a knife K, and taken from the machine.

I am aware that various details of construction of this machine may be varied without departing from its principle of construction and operation, and I desire therefore not to limit my invention to the exact forms shown and described herein, or in any way, except as the invention is defined in the following claims.

Having now described and explained my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a machine of the class described, the combination with suitable trimming cutters and feed-rolls, of a box inclosing and supporting said parts and made up of ends, top and bottom and swinging side pieces hinged to the bottom and adapted to be dropped down to form supports for the machine; substantially as shown and described.

2. In a machine of the class described, the combination with suitable trimming and feeding devices, of a frame supporting said devices and having a table-like top, and a supplemental table hinged to said top and adapted to be swung from the position immediately over it to a position in the same plane with it; substantially as shown and described.

3. The combination with a supporting frame, the paper-supporting, feeding and cutting devices, the paste-box supported by the frame and the pasting roll mounted within the box and adapted to apply a coat of paste to one of the faces of the paper, of the scraper F, and guide roll R^3, supported by oscillating brackets *f*, adapted to vary the position of the scraper with reference to the guide roll and thereby to regulate the coat of paste upon the paper; substantially as shown and described.

4. In a machine of the class described, the combination with the supporting frame having a table-like top and a supplemental table hinged to said top, of paper-supporting, feeding, cutting and pasting mechanism supported by the frame and adapted to deliver pasted paper over the top of the frame and the supplemental table, gripping devices on the line of the hinge joint of the tables and gripping devices on the free edge of the supplemental table whereby the paper may be held at the free edge of the supplemental table and folded on the hinge line between the two tables; substantially as shown and described.

5. The combination with the supporting frame having the top A′, of the suitably supported supplemental table A^4, hinged thereto, the plates H, H, pivoted to the free edge of the supplemental table and provided with fingers *h*, *h*, means for regulating said plates and bringing their fingers to bear upon the surface of the supplemental table, the plates H′, H′, pivoted to the top A′, and provided with fingers *h′*, *h′*, and means substantially as shown and described, whereby the raising and lowering of the supplemental table shall operate the plates H′, H′, and their fingers *h′*, *h′*; substantially as shown and described.

6. The combination with the top A′, and the top A^4 hinged thereto, of the plates H, H, pivoted to the free edge of the top A^4, and provided with fingers *h*, *h*, the plates H′, H′, hinged to the top A′, and provided with fingers *h′*, *h′*, the rods h^2, h^2, engaging the ends of the plates H′, H′, and provided with ends h^3, h^3, impinging upon the supplemental table A^4, and adapted to be operated thereby, whereby the raising and lowering of the table A^4, may actuate the fingers *h′*, *h′*; substantially as shown and described.

7. The combination with the box having end pieces A, A, top A′, bottom A^2, and swinging side pieces A^3, A^3, of the brackets *b*, *b*, pivoted to the end pieces of the box and the paper-supporting rod B, mounted in the ends of the brackets, whereby said rod may be swung down to a working position outside the limits of the box, or swung up to a position wholly within the box; substantially as shown and described.

8. The combination with the box constructed substantially as shown and described, and having swinging side pieces A^3, A^3, of the paper-supporting, feeding, cutting and pasting mechanism mounted therein, the brackets b^3, b^3, pivoted to the end pieces of the box, and the guide roll R^4 mounted between said brackets and adapted to be swung into a working position above the top of the box, or to be swung downward to a position wholly within the box; substantially as shown and described.

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