W. J. DUNN & H. B. TAYLOR.

WALL PAPER PASTING AND TRIMMING APPARATUS.

APPLICATION FILED JAN. 28, 1913.

1,131,685. Patented Mar. 16, 1915.

3 SHEETS—SHEET 1.

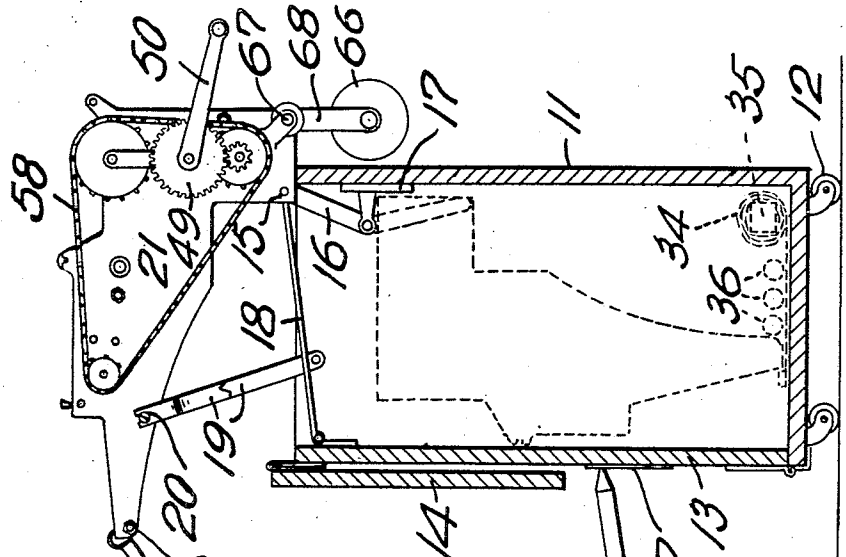


FIG. 1.

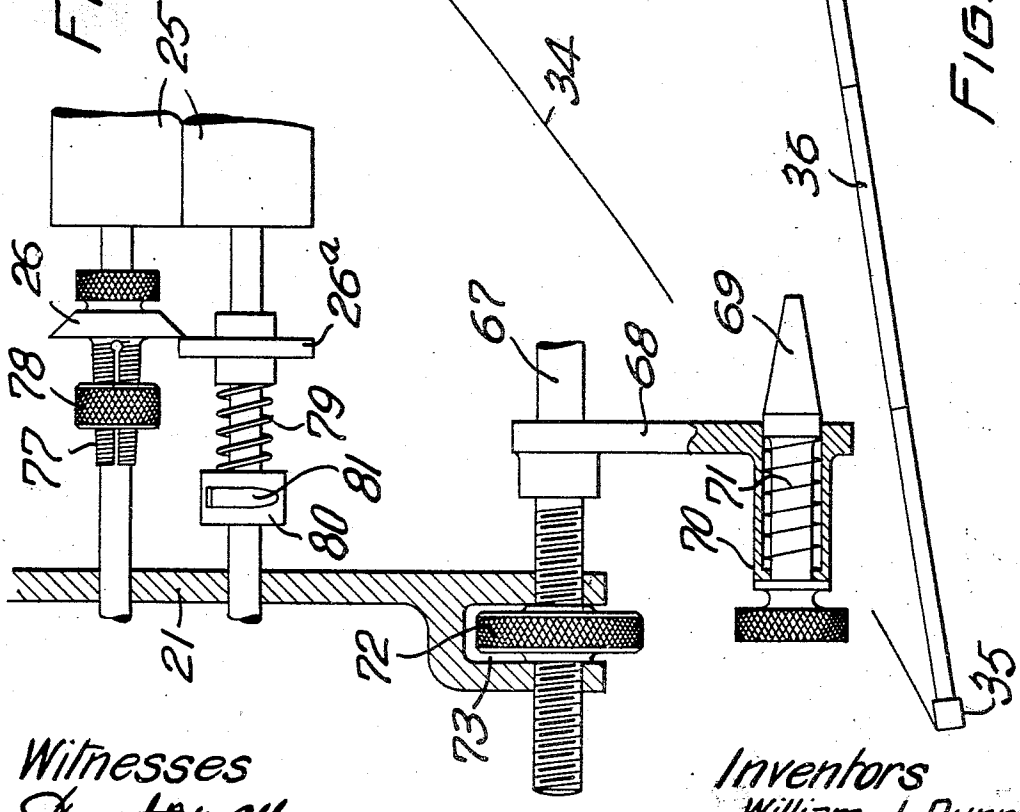


FIG. 6.

Witnesses

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3 SHEETS—SHEET 2.

FIG. 2.

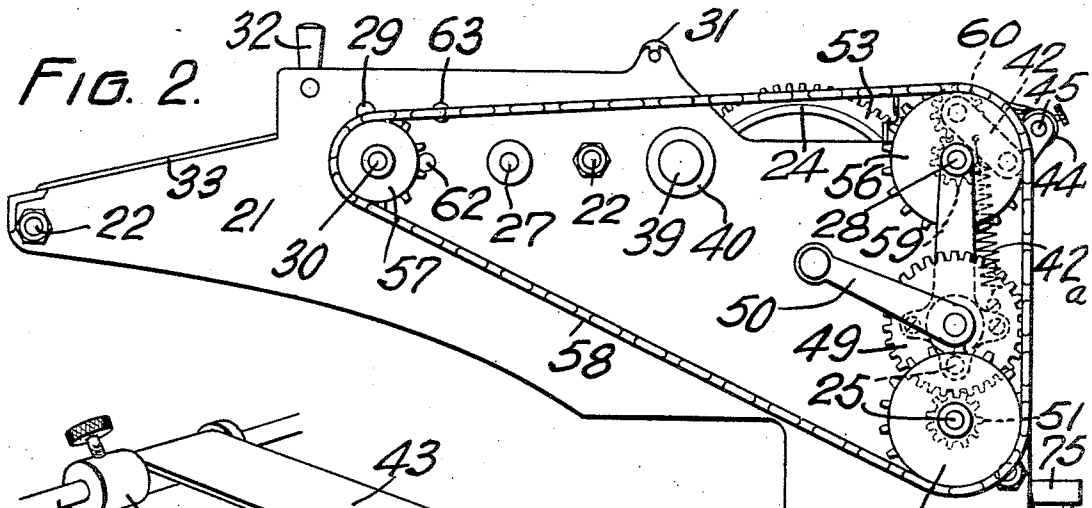
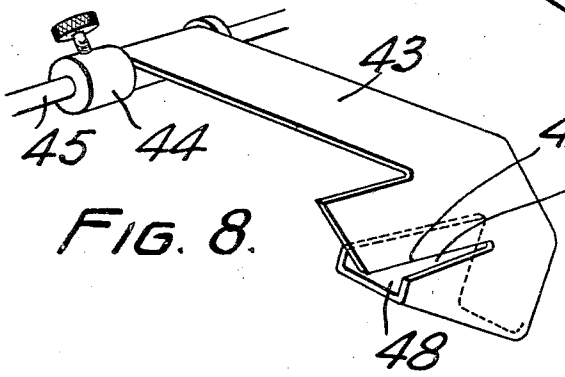
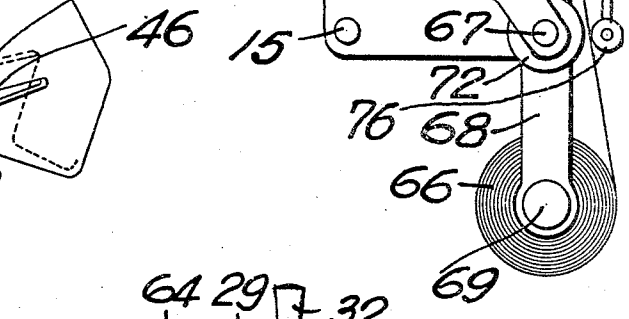


FIG. 8.





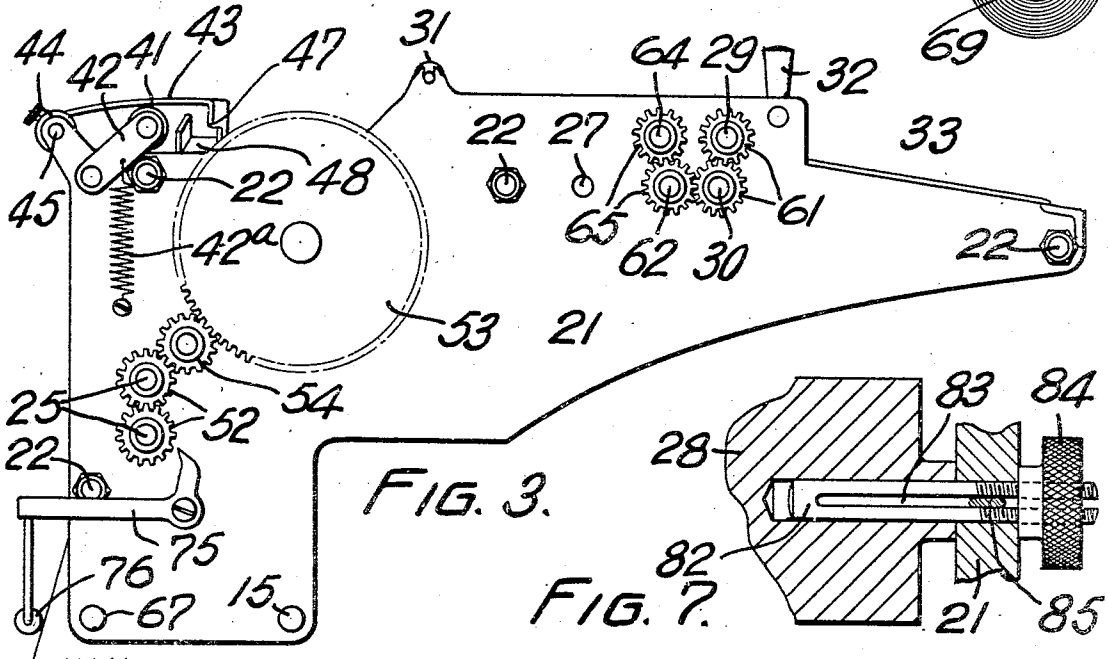


FIG. 3.

FIG. 7.

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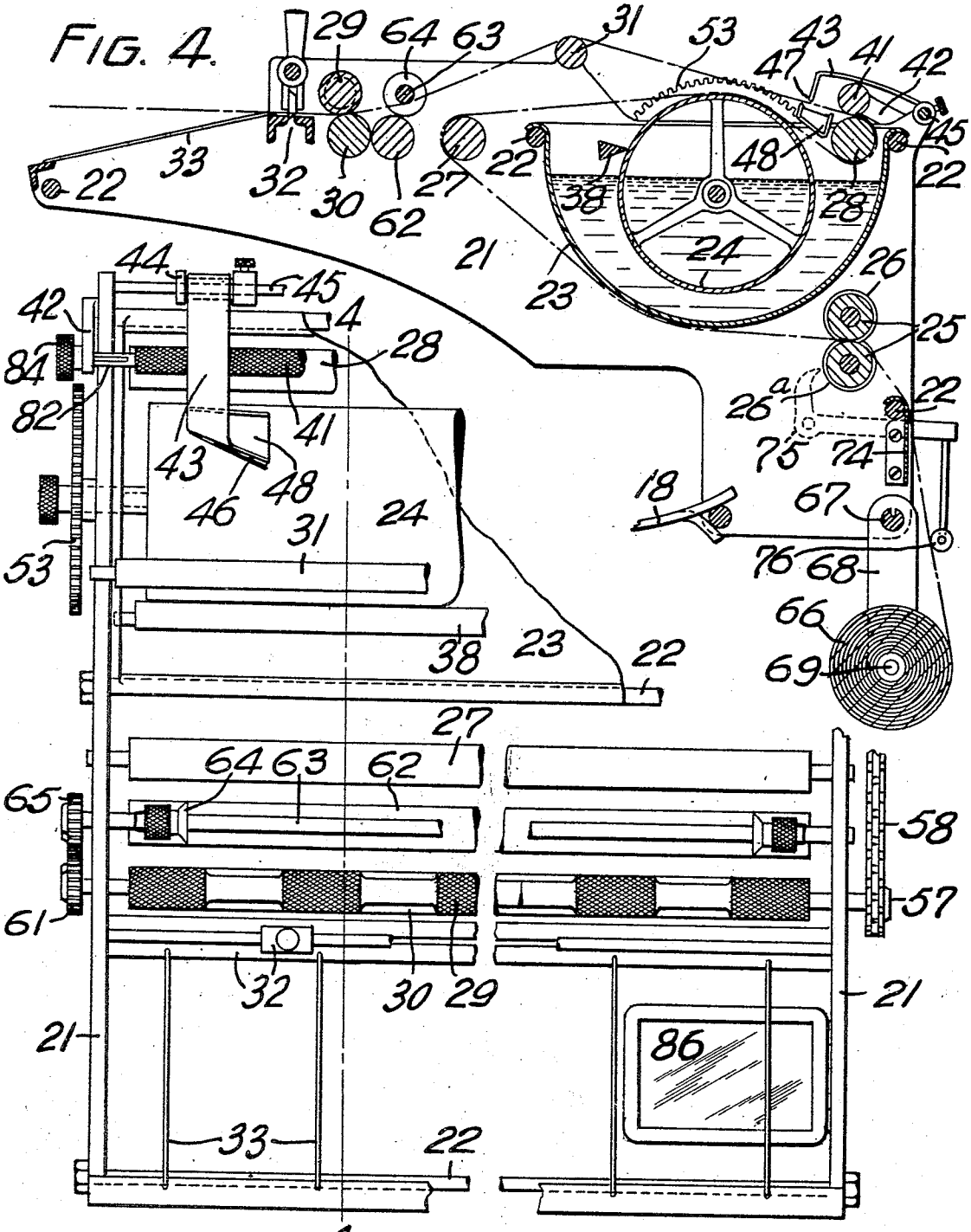
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3 SHEETS—SHEET 3.

FIG. 4.



4 FIG. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

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WALL-PAPER PASTING AND TRIMMING APPARATUS.

1,131,685. Specification of Letters Patent. Patented Mar. 16, 1915.

Application filed January 28, 1913. Serial No. 744,670.

To all whom it may concern:

Be it known that we, WILLIAM J. DUNN and HENRY B. TAYLOR, both subjects of the King of Great Britain, and residents of the city of Montreal, in the Province of Quebec and Dominion of Canada, have invented certain new and useful Improvements in Wall-Paper Pasting and Trimming Apparatus, of which the following is a full, clear, and exact description.

This invention relates to improvements in apparatus for trimming and pasting wall paper and the like, and the object is to provide a machine which will quickly and accurately trim and apply paste to the paper in a thin even layer, and deliver the same in convenient position for application to the surface to be covered.

A further object is to provide a device of this character which will be simple and compact and may be readily transported from point to point without any danger of breakage.

A still further object is to provide an apparatus which may be erected from its knock-down transportation condition into an operable machine in a minimum of time.

Another object is to provide improved means for matching the pasted paper with a fixed sample thereof in order to determine the proper cutting off point.

Further objects and advantages of subsidiary importance will be readily understood from the following description by those skilled in the art to which the invention relates.

The device consists essentially of a paper pasting and trimming device substantially as disclosed in our former Patents, Nos. 1,046,452; 1,046,744; and 1,045,826, mounted upon a hollow base which is provided with casters or rollers, so that it may be easily shifted around a room. The pasting and trimming device is connected to this base by means of a suitable link motion, so that for transportation, the device may be lowered into the base which is then closed by a suitable cover. Improved means are provided for regulating the supply and distribution of paste and also for trimming and adjusting the paper. Furthermore, improved and simplified means are provided for matching the pattern of the pasted paper with the pattern of a sample rigidly fixed in the machine, in order that all strips of paper may match at one end with the sample and therefore with one another.

In the drawings which illustrate the invention, and throughout all the figures of which similar numerals refer to corresponding parts:—Figure 1 is a general side elevation of the device in operative position, and showing in dotted lines the arrangement for transportation. Fig. 2 is a side elevation of the pasting and trimming device. Fig. 3 is a similar view showing the opposite side of the pasting and trimming device. Fig. 4 is a vertical sectional view on the line 4—4, through the center of the pasting and trimming device. Fig. 5 is a plan view of the pasting and trimming device. Fig. 6 is an enlarged detail view of the paper holding and trimming mechanism. Fig. 7 is an enlarged detail view of one of several removable roll pivots. Fig. 8 is a perspective view of one of the edge scrapers.

Referring more particularly to the drawings, 11 designates a rectangular box or base mounted upon casters 12 so as to be readily movable from room to room, and having one side 13 thereof hinged adjacent the bottom. The top 14 is hinged to the movable side so that the top and one side of the base may be opened to facilitate the insertion and removal of the pasting and trimming device. At a suitable point on the pasting and trimming device a transverse rod 15 is provided, on which a pair of links 16 are pivotally mounted one at each side of the machine. These links are also pivoted to brackets 17 secured within the base 11. As will be readily seen from Fig. 1 of the drawings, this link motion allows the pasting and trimming device to be raised out of the base and then moved horizontally to a position of rest on the base, where it is held by a brace 18 hinged at one end to the base and engaging at the other end with the rod 15. The front of the pasting and trimming device is supported by arms 19 pivoted within the base and engageable with suitable studs 20 on the pasting and trimming device.

The pasting and trimming device consists of a pair of similar side plates 21 rigidly spaced apart by a plurality of stay bolts 22, certain of which are so located as to support a paste reservoir 23, within which is

mounted a revoluble roller 24. The paper passes into the machine between a pair of feed rolls 25 which are provided at their ends with paper edge trimmers 26, shown in detail in Fig. 6. The trimmed paper then passes under the paste reservoir over an idler roll 27 and rearwardly over the paste roll 24 around an idler roll 28, and then forwardly and out of the machine between the discharge rolls 29 and 30. A suitable idler roll 31 is inserted to prevent the forwardly moving pasted paper from dragging over the rearwardly moving unpasted paper, and thus unnecessarily increasing the load on the machine. The upper discharge roll 29 is provided with a plurality of knurled paper engaging collars, while the lower roll 30 is plain, the object of thus reducing the surface of the upper roll being to disturb the paste on the paper as little as possible. After leaving the discharge rolls, the paper passes through a manually operated transverse cutting device 32 and on to a grid or rack 33.

A strip 34 of smooth dressed canvas or other suitable material is releasably attached at one end to the front of the rack 33 and at the opposite end to a cross bar 35 which is held extended in front of the machine by a jointed rod 36, one end of which is secured to the cross bar 35 and the other end of which rests in a suitable socket 37 on the front 13 of the base 11. The pasted paper passes easily over this smooth apron 34 and is in convenient position for lifting to the wall or ceiling.

As the paste required is in many instances very thick and heavy, it is obvious that the roll 24 will usually bring up much more paste than is required for application to the paper. In order to limit the supply of paste, a scraper is provided consisting of a triangular bar 38 pivoted about its longitudinal axis and provided with adjusting and lock nuts 39 and 40 respectively. Owing to the tenacity of the paste, it is obvious that the distribution from the roll to the paper will not be absolutely uniform so that some portions of the paper will receive more paste than others. This condition is overcome by providing a knurled roller 41 revolubly mounted in links 42, which are pivoted to the side frames 21. Suitable springs 42ª are provided to depress the roller 42 and hold it in close engagement with the paper, as it passes over the idler 28. This rolling out of the paste as the paper passes under the roller 41 produces a substantially equal distribution, any superfluity of paste naturally moving to the edges of the paper. As this superfluous paste would squeeze out when the paper was applied to the wall and soil the pattern side, a pair of scrapers 43 are provided. These scrapers each consist of a flat sheet of metal bent to the form shown in Fig. 8 and pivotally mounted at one end upon a sleeve 44 adjustable on a shaft 45. The opposite end of the scraper is provided with a slot 46 through which the paper slides, the edge 47 which is at an obtuse angle to the edge of the paper scraping superfluous paste away toward the edge of the paper. The paste thus removed drops into the scraper trough 48 and runs back into the paste reservoir.

In order to keep the paper tight in the machine, it is necessary to have each succeeding pair of rolls handling the paper travel at a slightly greater surface speed than the rolls immediately preceding. To accomplish this, a positive gear connection between the rolls is necessary. Rotary motion is imparted to a driving gear 49 by means of a manually operated crank 50. The gear 49 meshes with a pinion 51 on the lower feed roll 25, and therefore rotates this roll. At the opposite ends, the rolls 25 are connected by gears 52, which in turn drive the large gear 53 on the paste roll 24 through an idler 54. Fixed to the pinion 51 is a chain wheel 55 which drives similar chain wheels 56 and 57, secured respectively to the rolls 28 and 30, by means of a chain 58. The roller 28 is provided with a small pinion 59 which meshes with a similar pinion 60 secured to the roll 41, when the roll is held in operative position. The opposite end of the roll 30 is connected by gears 61 with the roll 29. Immediately in the rear of the rolls 29 and 30 is a roll 62 and shaft 63 carrying cutters 64 coöperating with the rolls 62. This roll and shaft are connected by gears 65, the lower of which meshes with the lower of the gears 61.

The paper roll 66 is supported from a rod 67 by means of links 68, the lower ends of which are provided with revoluble tapered trunnions 69. One of these trunnions is also slidably mounted in a housing 70 carried by the link, so that it may be withdrawn to permit the insertion of a fresh roll of paper. When released, a spring 71 forces the trunnion into the roll so that it is securely held. Unless great care is taken it is not always possible to insert the roll exactly in line with the edge trimming cutters 26, so that lateral adjustment is usually necessary in order to have the cutters remove only the blank margin of the paper. This is accomplished by leaving the rod 67 slidable in the frames 21 and threading one end of it so as to coöperate with the nut 72 mounted in a slot 73 in one of the frames 21. By rotating the nut 73, the entire paper carrier may be moved laterally to aline the paper roll with the cutters. In order to save time, which would be lost in manually feeding the beginning of each roll through the machine, it is desirable to paste the beginning of one roll to the end of the next roll, so that a practically

endless ribbon of paper is produced, the joint being cut out by the transverse cutter 32 as the paper leaves the machine. In order to facilitate this joining of the paper, a plate 74 is provided between the rod 67 and the feed rolls 25, against which the end of one strip of paper may be held and smeared with paste and the beginning of the next strip pressed against it. To prevent a strip of paper being carelessly run entirely through the machine so that its end cannot be readily attached to the beginning of the next strip, an automatic lock is provided which consists of a gravity pawl 75 pivoted so as to engage the lower gear 52 of the feed rolls 25. This pawl is normally held up and out of engagement with the gear by a small roller 76 which rests on the paper. Thus, it will be obvious that when the end of the strip is reached or if the paper tears, the support of the pawl is withdrawn and it immediately drops and locks the gears so that the machine is stopped before the end of the paper strip passes the plate 74. This device also maintains the proper tension of the paper in the machine as the end of the strip is never released.

The trimming cutters each consist of a pair of coöperating disks 26 and 26ª slidably mounted at the ends of the feed roll spindles. The disk 26 is frusto-conical and is the real cutting member, the disk 26ª being merely a counter to hold the paper up to the edge of the disk 26. The disk 26 is provided with a tapered split shank 77 very finely screw threaded to coöperate with a tapered threaded finger nut 78. Obviously, when the nut is screwed up, it compresses the shank 77 and holds the cutter rigid. The counter 26ª is loose on the lower roll spindle and pressed against the cutter 26 by the spring 79, which is slightly compressed between the counter 26ª and a collar 80 clamped at any suitable point on the spindle by a cam 81.

In order to quickly and easily remove such parts of the device as the rolls 24, 28 and 41, sliding pivots are provided for one end of each of these rolls, the opposite end of each roll being provided with a fixed pivot or socket engaging the supporting member. The sliding pivots each consist of a pin 82 having a split 83 extending a suitable distance from one end of the pin, which end is threaded for the reception of a paper threaded nut 84. A small pin 85 is mounted in the bearing member and passes through the slot 83, thus holding the pin 82 against revolution. When the nut 84 is loosened, the pin may be moved longitudinally to disengage the roll, but when the pin is in engagement with the roll and the nut is tightened up, it compresses the split pivot so that it grips the pin 85 and is held against longitudinal movement.

In order to easily and accurately determine the proper cutting off point for each strip of pasted paper, a sample of paper is secured pattern side down on the rack 33, and the pattern of the first strip cut out brought into register with this sample. In order to conveniently match the patterns which show only from beneath the machine a mirror 86 is hingably secured to one of the frames 21, so that it may be tilted to any convenient angle and will enable the operator to see the pattern on the underside of the paper without stooping. It is axiomatic that after the necessary length of all succeeding strips is run through the machine, the strip is moved on until its pattern registers with the pattern of the sample, the pattern of these succeeding strips will match exactly with the pattern on the first strip cut.

Having thus described our invention, what we claim is:—

1. In a device of the character described, a casing, a paper pasting and trimming device within said casing flexibly connected thereto, means for supporting the pasting and trimming device above the casing, a paper supporting apron, and tensioning means for said apron extending between the free end thereof and the casing.

2. In a device of the character described, a casing having three sides and the bottom thereof rigid, a fourth side hinged to the bottom and a cover hinged to the fourth side, a paper pasting and trimming device within the casing, links supporting the casing with the pasting and trimming device whereby the pasting and trimming device may be withdrawn from the casing, supports pivotally connected to the casing arranged to hold the pasting and trimming device in its withdrawn position, a paper supporting apron securable at one end to the pasting and trimming device, and a support for the opposite end of said apron connected to the casing and arranged to tension the apron by the force of gravity.

3. In a device of the character described, a casing, a framework flexibly connected to the casing, a paper pasting means, means for feeding the paper through said pasting means, a scraper having an inclined edge engaging the pasted surface of the paper adjacent its edges, and a trough carried by the scraper under said scraping edge arranged to receive paste removed from the paper edges and return it to the pasting device.

4. In a device of the character described, a casing, a paper pasting and trimming device flexibly connected to said casing, a plurality of paper feeding rolls mounted in said pasting and trimming device, each of said rolls having a pivot at one end and a recess at the opposite end, a split pin slidably

mounted in the pasting and trimming device insertible in said recess, a pin carried by the pasting and trimming device traversing the split of said first pin in transverse direction, and means for clamping the split pin around said second pin to hold the split pin rigidly.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

WILLIAM J. DUNN.
HENRY B. TAYLOR.

Witnesses:
STUART R. W. ALLEN,
G. M. MORELAND.