W. J. BEACH.

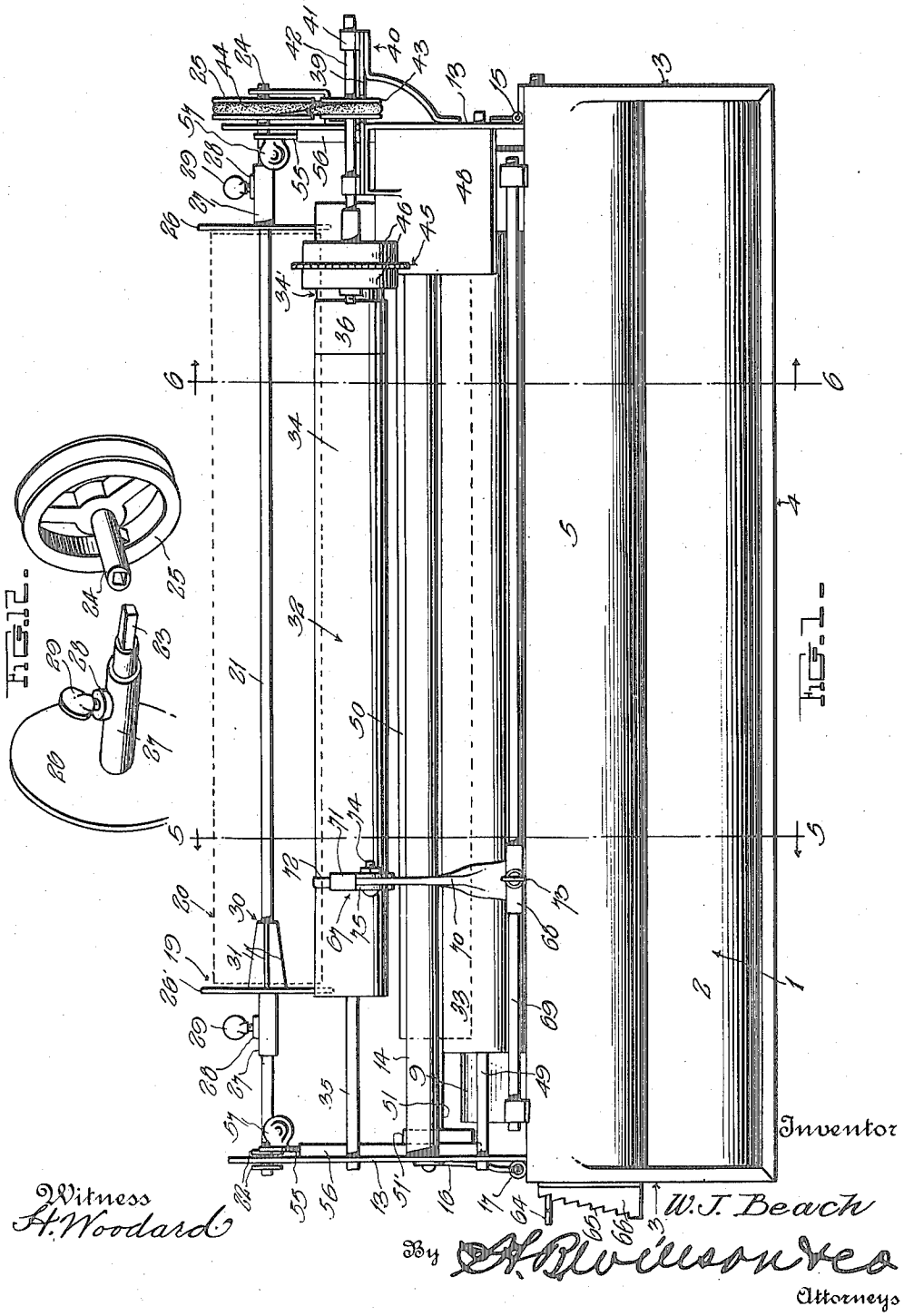
WALL PAPER PASTING AND TRIMMING MACHINE.

APPLICATION FILED JULY 3, 1916.

1,213,728.

Patented Jan. 23, 1917.

4 SHEETS—SHEET 1.



Witness
H. Woodard

Inventor
W. J. Beach
By D. B. Williamson
Attorneys

W. J. BEACH.

WALL PAPER PASTING AND TRIMMING MACHINE.

APPLICATION FILED JULY 3, 1916.

1,213,728.

Patented Jan. 23, 1917.

4 SHEETS—SHEET 2.

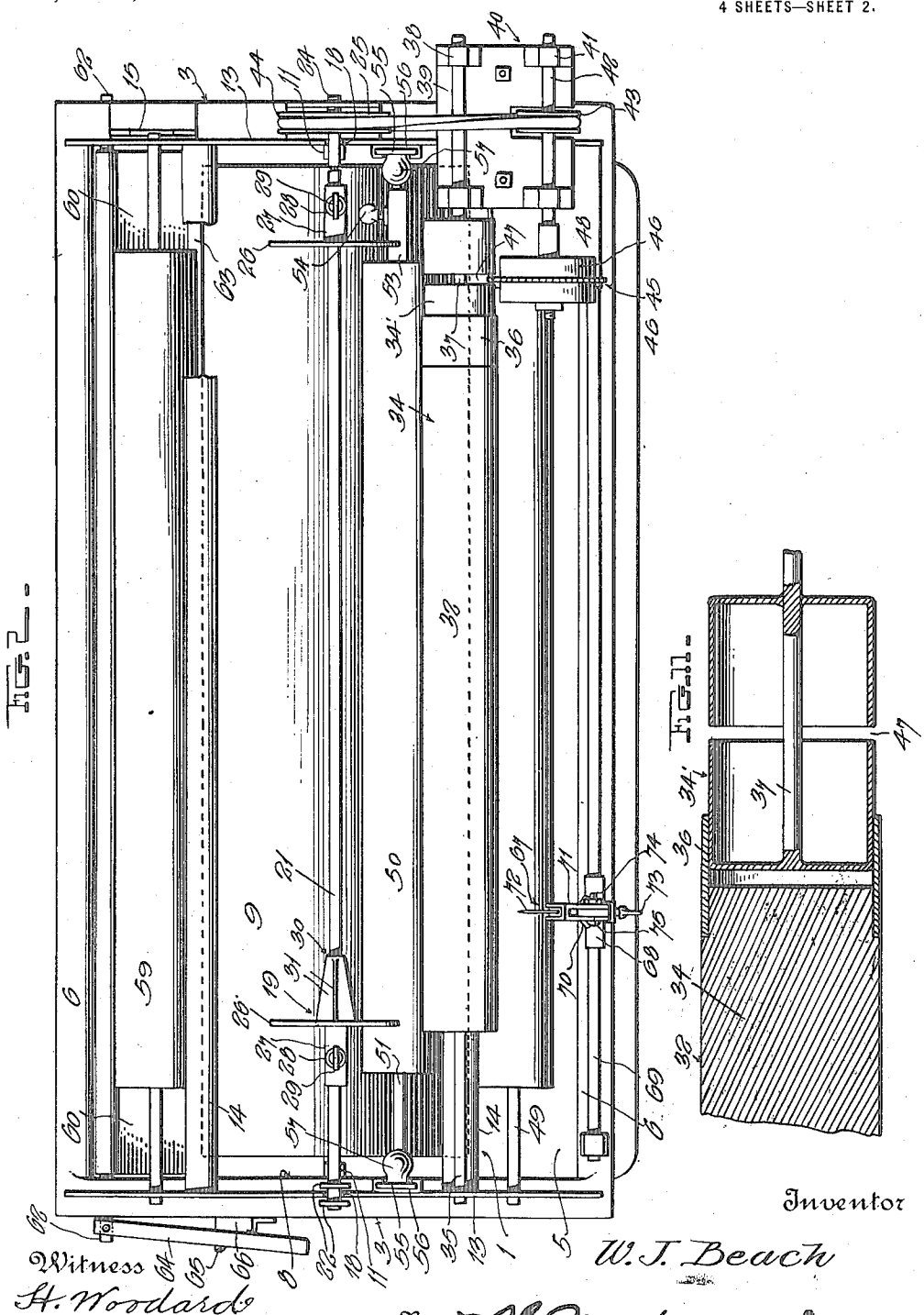


FIG. 2.

FIG. 11.

Witness
H. Woodard

Inventor
W. J. Beach

By Williamson & Co
Attorneys

W. J. BEACH.

WALL PAPER PASTING AND TRIMMING MACHINE.

APPLICATION FILED JULY 3, 1916.

1,213,728.

Patented Jan. 23, 1917.

4 SHEETS—SHEET 3.

FIG. 3.

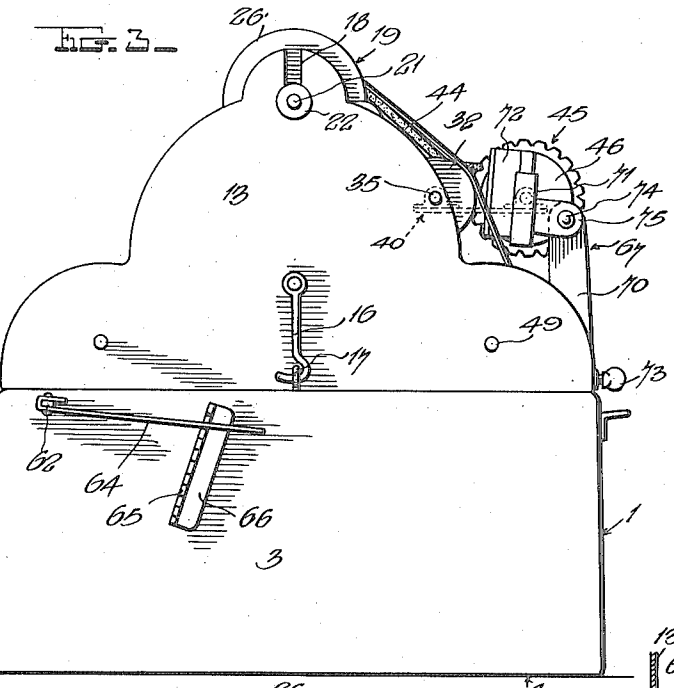


FIG. 9.

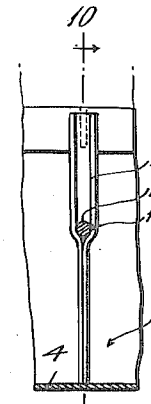


FIG. 10.

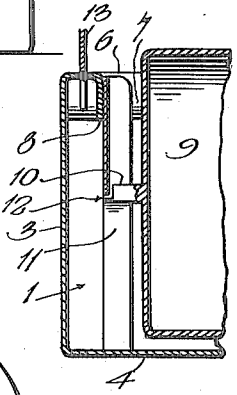
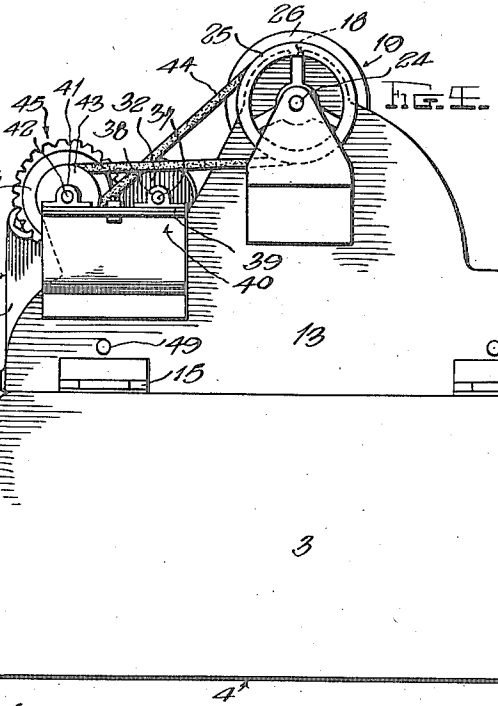


FIG. 4.



Witness
A. Woodard

Inventor
W. J. Beach
By H. B. Williamson & Co
Attorneys

W. J. BEACH.

WALL PAPER PASTING AND TRIMMING MACHINE.

APPLICATION FILED JULY 3, 1916.

1,213,728.

Patented Jan. 23, 1917.

4 SHEETS—SHEET 4.

FIG. 5.

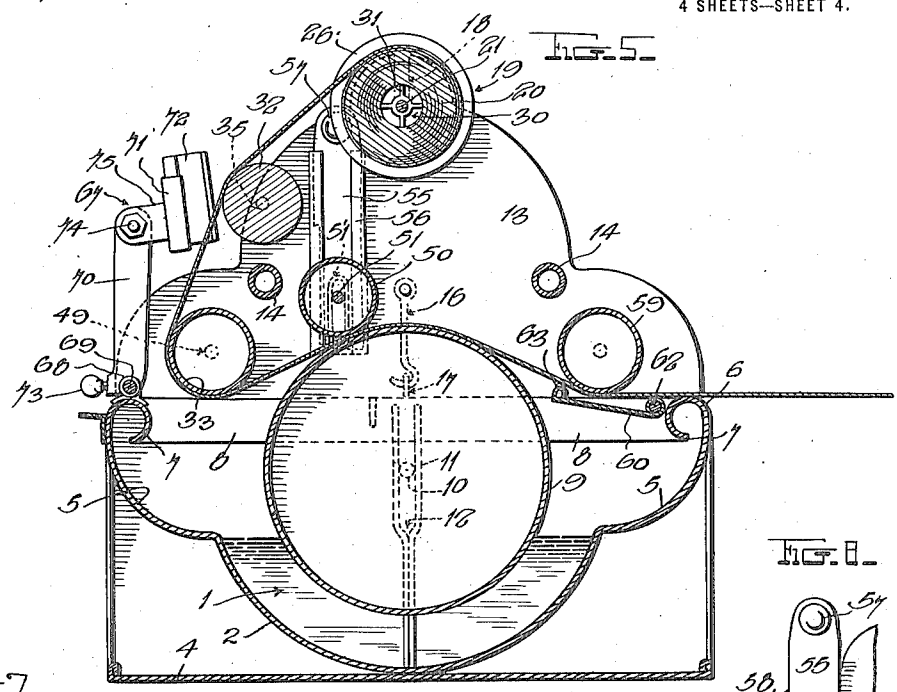


FIG. 8.

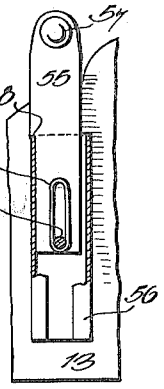


FIG. 7.

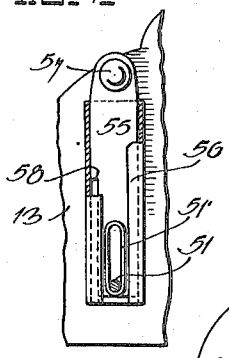


FIG. 6.

Witness
H. Woodard

Inventor
W. J. Beach
By H. B. Williamson & Co
Attorneys

UNITED STATES PATENT OFFICE.

WALTER J. BEACH, OF MINNEAPOLIS, KANSAS, ASSIGNOR OF ONE-HALF TO JAMES H. GLENN, OF MINNEAPOLIS, KANSAS.

WALL-PAPER PASTING AND TRIMMING MACHINE.

1,213,728. Specification of Letters Patent. Patented Jan. 23, 1917.

Application filed July 3, 1916. Serial No. 107,398.

To all whom it may concern:

Be it known that I, WALTER J. BEACH, a citizen of the United States, residing at Minneapolis, in the county of Ottawa and State of Kansas, have invented certain new and useful Improvements in Wall-Paper Pasting and Trimming Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in wall paper pasting and trimming machines of that character in which the trimming and pasting is accomplished simultaneously as the paper is drawn through the device.

The principal object of the invention is to provide a device of this character having a paste receptacle in which a buoyant paste applying member is disposed, the shape of the parts being such that the machine may be operated until all of the paste has been used out of the receptacle.

An additional object is to provide a pressure roller in connection with the buoyant paste applying member which holds the paper in contact with the member, said roller being loosely mounted in suitable bearings so that it may be moved vertically by the buoyancy of the paste applying member.

A further object is to provide an improved cutter for trimming the wall paper, which may be moved into various positions so as to remove more or less of the selvage from the paper.

A still further object is to provide a simply constructed device for evenly distributing the paste upon the paper, said device being adjustable so as to allow a greater or lesser amount of paste to be retained on the paper, depending upon the place where the latter is to be used.

With these and many other objects in view, my invention consists of the novel features of construction and the combination and arrangement of parts which will be hereinafter more particularly described and claimed.

In the accompanying drawings: Figure 1 is a front elevation of a combined pasting and trimming machine constructed in accordance with my invention; Fig. 2 is a plan view of the parts shown in Fig. 1; Fig. 3 is an end view of the device; Fig. 4 is a view of the opposite end; Figs. 5 and 6 are vertical transverse sections taken respectively on the planes of the lines 5—5 and 6—6 of Fig. 1; Fig. 7 is a fragmentary view showing one of the slides for supporting one end of the pressure roller, said slides being in lowered position; Fig. 8 is a view similar to Fig. 7 but showing said slides in elevated position; Fig. 9 is a detail transverse section showing one of the guides for receiving one of the trunnions of the paste applying roll; Fig. 10 is a detail vertical section on the plane of the line 10—10 of Fig. 9; Fig. 11 is a longitudinal section through one end of the cutter roll; Fig. 12 is a detail perspective view of one end of the paper roll carrier arranged adjacent its operating point.

Referring more particularly to the drawings, wherein similar reference characters designate like parts throughout the several views, 1 denotes a paste receptacle in the form of a substantially semi-circular trough 2 whose ends are closed by the vertical walls 3. A base 4 connects these end walls 3 and overlies the bottom of the trough, thus providing an efficient support for the machine. The longitudinal edge portions of the trough are flared outwardly as shown at 5, and the free edges of these portions are bent inwardly toward each other as at 6, and then downwardly as at 7. The upper edges of the end walls 3 are also bent inwardly and downwardly as shown at 8, in order to prevent the paste which is disposed in the trough from spilling therefrom.

Within the trough 2 a floatable paste applying roll 9 is disposed. Trunnions 10 are formed on the opposite closed ends of this roll and are disposed in vertical guides 11, the latter being formed from channel-shaped strips whose lower ends are soldered or otherwise secured to the bottom of the trough while their upper ends are similarly connected to the inwardly and downwardly extending portions 8. These channeled strips have their lower portions pressed together to form seats 12 in which the trunnions 10 rest when the trough is empty, the periphery of the roll 9 being slightly spaced from the surface of the trough 2 when said trunnions are in this position. As the wall paper is drawn through the machine it will be forced to engage the roll 9 in a manner to be later set forth, thus causing it to rotate and apply the paste which it gathers from the supply

in the trough. It is obvious that when the trough is filled with paste the roll 9 will be spaced a considerable distance above the bottom of the former, but as the paste recedes the roll will gradually lower, the trunnions thereof moving in the vertical guides 11.

The part of the machine which is used to feed the wall paper to the paste applying roll is mounted in a frame which consists of a pair of end members 13 which are formed approximately inverted U-shape, connected by a pair of longitudinally extending connecting bars 14 which are fixed to the end members 13 at their opposite edges. This frame, as will be seen from the foregoing, is substantially rectangular in plan view and is of a size similar to the dimensions of the top of the paste container. One end of the frame is hinged by one of the end members 13 to the top of one of the end walls 3 by means of the hinges 15. The other end member 13 carries a hook 16 for engagement with an eye 17 on the adjacent end wall 3 so that the frame and the paste container may be locked together. By hinging the frame to the paste container, the former may be raised so as to readily fill the trough with paste, or to thread the paper between the various feeding rolls.

The top or apex of each of the end members 13 is vertically slotted as shown at 18 to form bearings for the opposite ends of a paper roll carrier 19 on which the roll or wall paper as it comes from the factory is disposed, this paper roll being designated by the numeral 20. As is well known, there is a small opening through the center of the paper roll, and in this I insert a shaft 21, one end of said shaft having a pair of collars 22 affixed thereon, the distance between these collars being substantially equal to the thickness of one of the end members. When the shaft is placed in the bearings formed by the slots 18, these collars rest one on each side of one of the said end members. The opposite end is reduced and squared as shown at 23 and is adapted to be disposed in a socket formed in the end of a stub shaft 24, the latter projecting from the hub between the pulley wheel 25. Slidably mounted on the shaft 21 is a pair of disks 26 and 26′, said disks having sleeves 27 extending from the outer sides thereof as clearly shown in Figs. 1 and 2. The sleeves carry nuts 28 in which thumb screws 29 are disposed, said thumb screws extending through openings in the sleeves 27 so as to engage the shaft 21, thereby allowing the disks 26 and 26′ to be held in adjusted position thereon. The disk 26′ carries on its inner face an additional sleeve 30, from the periphery of which a plurality, preferably four, wings 31 extend, these wings tapering upwardly from the free end of the sleeve 30 to the disk 26′. This last mentioned construction is designed to be forced into engagement with the adjacent portions of the paper roll 20 when the shaft 21 has been inserted through the opening therein, thus the paper roll is held against rotation on said shaft and caused to move therewith. The disks 26 and 26′ are designed to engage the opposite ends of the paper roll 20, the disk 26 bolding the latter into engagement with the wings 31. Since each of the disks is movable, various lengths of paper rolls may be operated upon in this machine, and various widths of paper may be removed from the edges of the roll by the rotary cutter which will later be described.

After the roll of wall paper has been properly positioned upon its carrier 19, the end of the paper is passed over what will be termed for the sake of convenience, a cutter roll 32, and then threaded under a guide roller 33. The cutter roll consists of two separable parts, a main portion 34 and a short section 34′, the former having a long trunnion 35 extending from one end which is disposed in a bearing formed in one of the end members 13. The other end of the main portion 34 has a sleeve 36 extending therefrom and is designed to receive one end of the section 34′, the opposite end of this last mentioned portion having a shaft 37 which is rotatably mounted in suitable bearings 38 disposed on the horizontal portion 39 of a suitable bracket 40. This bracket is supported by one of the end members 13. The section 34′ is formed of a pair of short cylinders fixed to said shaft 37, the same extending therethrough as shown in Fig. 11. The cylinders are spaced apart as at 47 and their adjacent ends are open. The horizontal part 39 of this bracket 40 also has an additional set of bearings 41 disposed thereon in which a shaft 42 is rotatably mounted. This shaft carries intermediate the bearings 41 a small pulley 43 which is disposed in the same plane as the large pulley 25 hereinbefore mentioned. A suitable belt 44 is trained over these pulleys 25 and 43 so that when the paper roll is rotated its motion will be transmitted to the small pulley 43 which, being fixed to the shaft 42, causes the latter to revolve and operate a rotary disk cutter 45. This cutter is preferably toothed and is held between a pair of clamping members 46, the latter being circular and adapted to engage the section 34′ of the cutter roll 34. Since these clamping members 46 engage the portion 34′, the periphery of the disk cutter 45 is disposed within the space 47 between the ends of the cylinders forming the section 34′. The paper from the roll 20 is designed to be threaded between the cutter roll 32 and the rotary cutter so that the usual selvage may be removed, and as the roll of paper is adjusted laterally upon its carrier, various amounts

may be removed from the edge of the paper as it is moved into engagement with the cutter. A suitable deflecting guard 48 guides the severed strips of paper and prevents them from entering the trough containing the paste.

The guide roller 33 hereinbefore mentioned has trunnions 49 extending from its opposite ends which are rotatably mounted in said end members 13 adjacent one outer edge thereof. After the wall paper has been carried beneath this guide roller 33 its back comes into engagement with the paste applying roll 9 in order that a quantity of paste from the trough 2 may be applied. A weighted pressure roll 50 holds the paper into engagement with the paste applying roll so that the entire surface of the paper will be thoroughly coated with paste. This pressure roll consists of a cylinder closed at its ends and having a shaft 51 extending transversely therethrough, the opposite ends of this shaft being extended beyond the ends of the cylinder and disposed in vertically alined bearings 51′. One end of the cylinder of the pressure roll has a sleeve 53 fixed thereto, said sleeve carrying a set screw 54 in order that the cylinder may be adjusted and held in various positions upon the shaft 51. This adjustability is necessary in order to shift the roll relative to the paper roll.

The elongated bearings 51′ in which the ends of the pressure roller are mounted, are carried by the lower ends of vertically movable slides 55, two of which are provided, one for each of the end members 13. These slides are movable vertically in channeled guides 56 which are soldered or otherwise secured to said end members 13. A handle 57 is formed on the upper end of each of the slides so as to readily permit the same to be raised, these handles also forming stops to limit the downward movement. By this arrangement the pressure roller may be raised out of engagement with the paste applying roll so that the wall paper may be more readily passed through the machine, particularly when a new supply of paper is being inserted. In order to hold the slides in their raised positions so as to retain the pressure roller spaced above the paste applying roll, stops 58 are formed on the slides. Any number of these stops may be provided, although only one is shown in the present instance. The stops are formed by reducing the lower portions of the slides in order to provide shoulders. As hereinbefore mentioned, the paste applying roll 9 is buoyant and rises and falls with the varying amounts of paste within the trough. This movement is permitted by the vertical guides 11, and it is obvious that when the roll rises in the trough it will also carry with it the pressure roller if the latter is in engagement therewith. The vertically elongated bearings 51′ are provided to allow the pressure roller to rise and fall with the paste applying roll. An additional guide roller 59 is provided at the opposite side of the frame and is designed to have the wall paper moved thereunder after it has passed over the paste applying roll. This last mentioned guide roller has its trunnions rotatably mounted in suitable bearings formed in the end members 13.

From the foregoing description it will be seen that when the roll of paper has been adjusted upon the carrier 19, the end of the former is passed over the cutter roll beneath the first guide roller 33, and then between the pressure roll and paste applying roll, after which it goes under the second guide roller 59, whereupon it is ready to be applied to the wall or ceiling of the room to be papered. In starting the paper through the machine beneath the various rolls or rollers, the frame is preferably tilted back as hereinbefore described.

In certain instances, particularly when the wall paper is to be applied to the ceiling, a thicker coat of paste is necessary to cause the paper to adhere than when it is to be applied to the side walls. Therefore, in order to regulate the amount of paste to be left on the back of the paper when the same is passed over the paste applying roll, I provide what will be termed a paste distributer, this consisting of a substantially L-shaped plate 60 pivoted to move toward or away from the second guide roller 59. The plate is fixed by its long arm to a shaft 62 which is journaled in bearings formed in the end walls 3 of the paste container, the short arm being bent upon itself to provide a contact member 63 which engages the paper and removes more or less of the paste which has been applied thereto. This distributer is regulated by means of a handle or lever 64 pivoted to one end of the shaft 62 so as to move laterally, the handle being adapted to engage any one of a number of ratchet teeth 65 formed on a ratchet plate 66, the latter being fixed to the outer side of one of the end walls 3. Thus it will be seen that when the handle 64 is moved upwardly or downwardly the distributer is moved in a corresponding direction to dispose the contact edge 63 toward or away from the second guide roller 59.

In addition to the rotary cutter hereinbefore mentioned which is fixed relative to the frame upon which it is mounted, a slidable cutter 67 is provided. This last mentioned cutter consists of a sleeve 68 which is slidably and rotatably mounted upon a longitudinally extending shaft 69 secured by its opposite ends to the top of the paste container, an arm 70 fixed to said sleeve, and a head 71 in which the cutting

blade 72 is removably secured. The sleeve 68 is held in the various positions on the shaft 69 by means of a set screw 73, thus the cutter may be shifted either longitudinally with respect to the paste container or rotated transversely thereto. The head 71 which is pivoted to the arm 70 by the pivot pin 74 has a pair of arms 75 disposed on each side of the other arm, and the portion of the head which grips the cutting blade is substantially U-shaped in cross section. This last mentioned adjustable cutter 67 may be used similarly to the rotary cutter or trimmer 45 for cutting the selvages of the edges of the wall paper, but it is primarily used for splitting a width of paper from the main portion of the roll for use in corners of rooms or other places where only a portion of a width of the strip is needed. Inasmuch as the rotary cutter or trimmer 45 is not adjustable it is necessary to adjust the various rolls of paper to be trimmed upon their carrier 19. After this adjustment has been made so as to remove the selvage from the edge of the paper adjacent the rotary cutter, the slidable cutter 67 may be moved on its shaft 69 until it is brought to the proper position.

From the foregoing description, taken in connection with the accompanying drawings, it is obvious that I have produced a very simple and compact wall paper paster and trimmer in which the several operations of pasting and trimming may be simultaneously accomplished. The idea of providing a floatable or buoyant paste applying roll will be found to be extremely important, inasmuch as the paste trough will not be required to be filled so frequently because of the fact that all of the paste therein is used up before the machine becomes inoperative.

I claim:

1. In a device of the class described, a paste container, a paste applying roll in said container, a frame disposed above said container, a paper carrier mounted in said frame, vertical channeled guides secured to each opposite end of said frame, a vertically movable slide disposed in each of said guides, and a pressure roll journaled in said slides and normally engaging said paste applying roll, each of said slides having a stop adapted to engage the top of said guides when the former are raised, whereby said pressure roll may be spaced from the paste applying roll.

2. In a device of the class described, a paste container, a floatable roll therein, vertical guides at the opposite ends of said paste container to receive said roll, a frame disposed above said paste container, a paper carrier mounted in said frame, a vertical channeled guide secured to each opposite end of said frame, a vertically movable slide disposed in each of said guides, a vertically elongated bearing carried by each slide, a pressure roll journaled in said elongated bearings and normally engaging said floatable roll, said floatable roll and pressure roll being movable vertically in their guides and bearings respectively by the buoyancy of said roll.

3. In a device of the class described, a paste container, a paste applying roll therein, a paper carrier, a guide roller, paper from the paper carrier being brought into contact with said paste applying roll and passed beneath said guide roller, and a paste distributer comprising a shaft pivotally mounted on the opposite ends of said paste container, an L-shaped plate fixed by its long arm to said shaft, its short arm being bent upon itself to form a contact member, a lever on one end of said shaft, and a rack, the teeth thereof being adapted to be engaged by said lever.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WALTER J. BEACH.

Witnesses:
C. E. JACKSON,
J. F. BREWER.