Jan. 6, 1953 A. CHALMERS 2,624,407

WALLPAPER TRIMMING MACHINE

Filed Nov. 14, 1949 2 SHEETS—SHEET 1

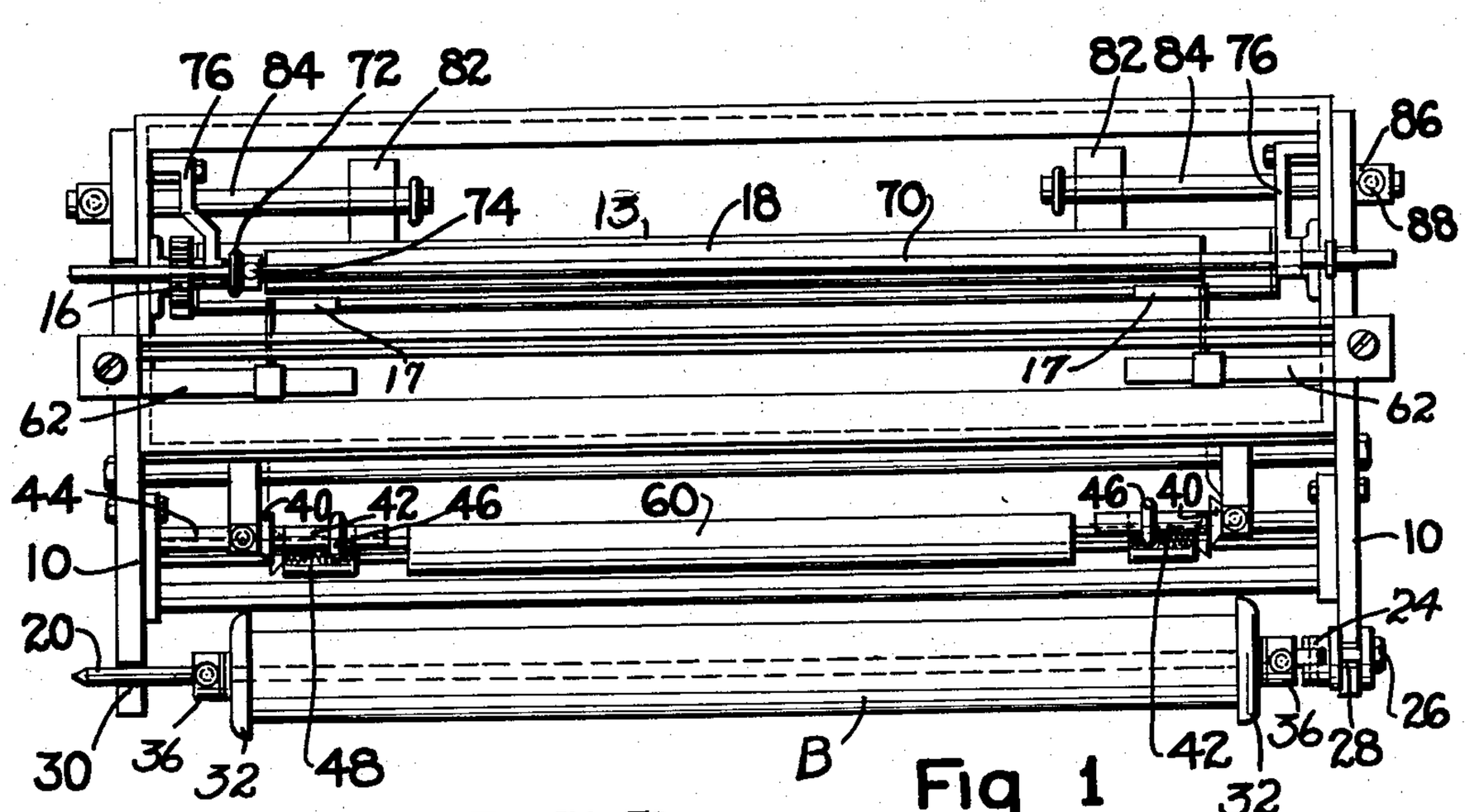

Fig 1

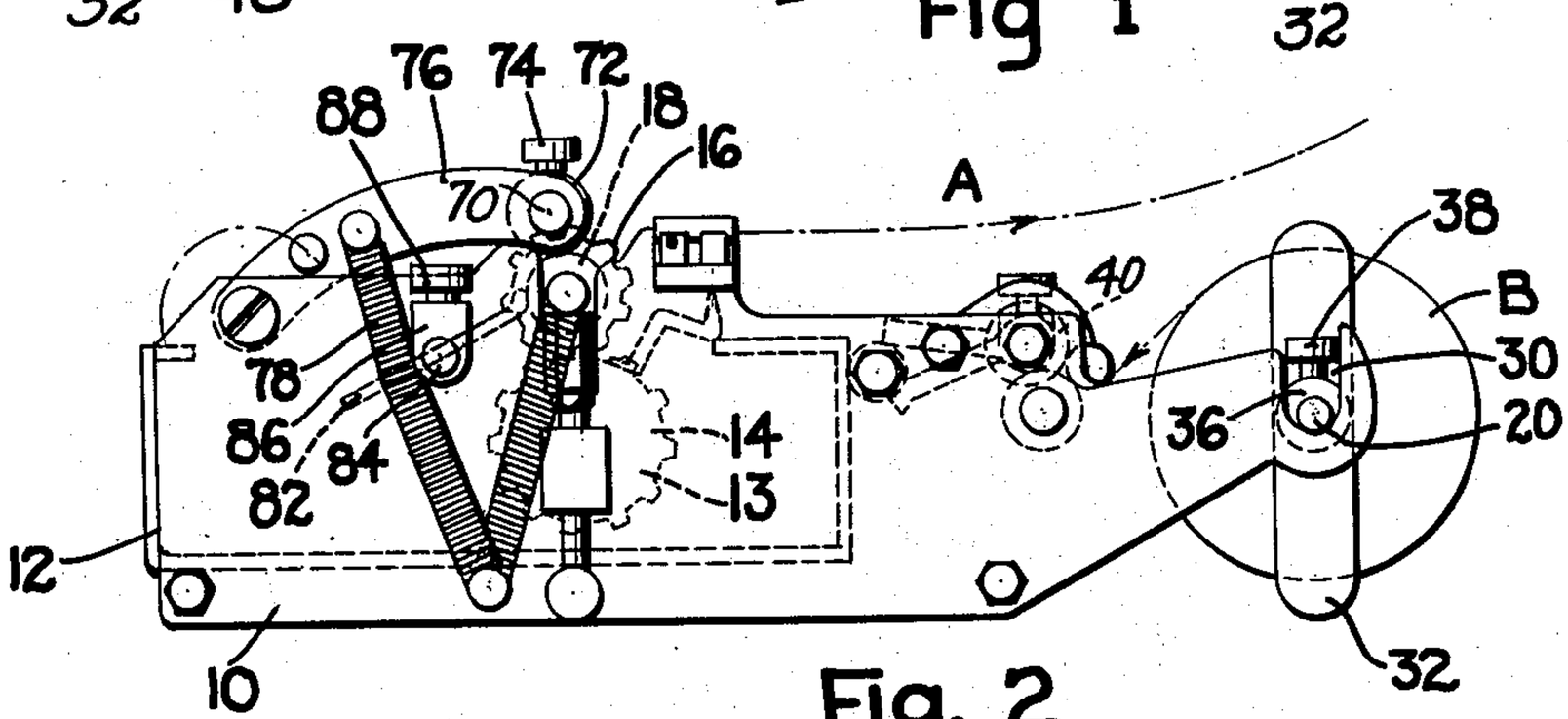

Fig. 2

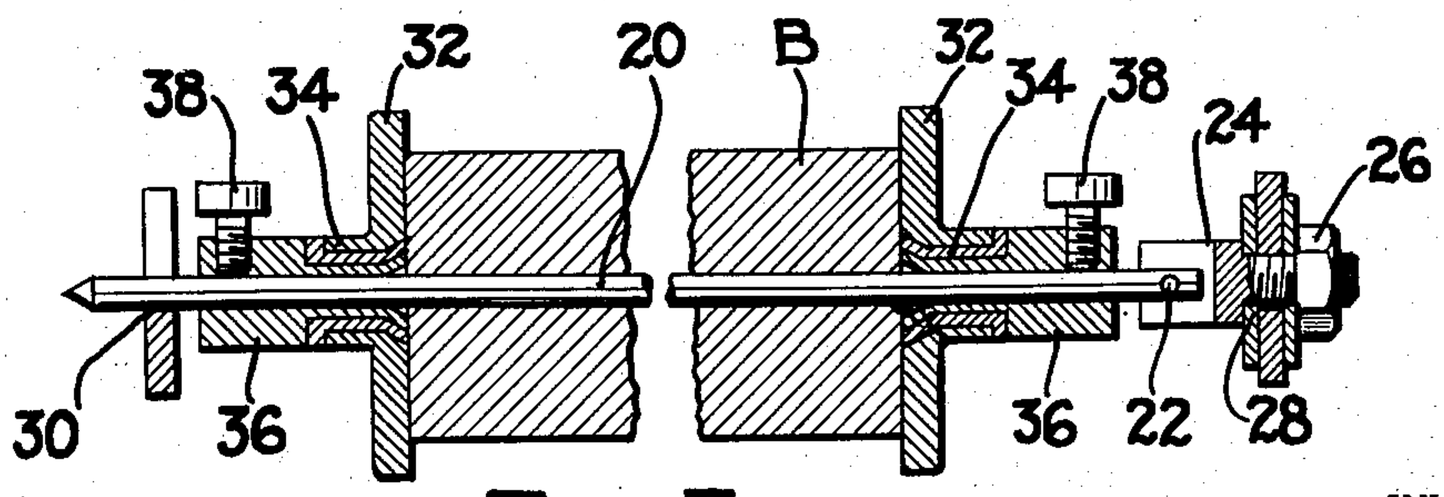

Fig. 3

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2 SHEETS—SHEET 2

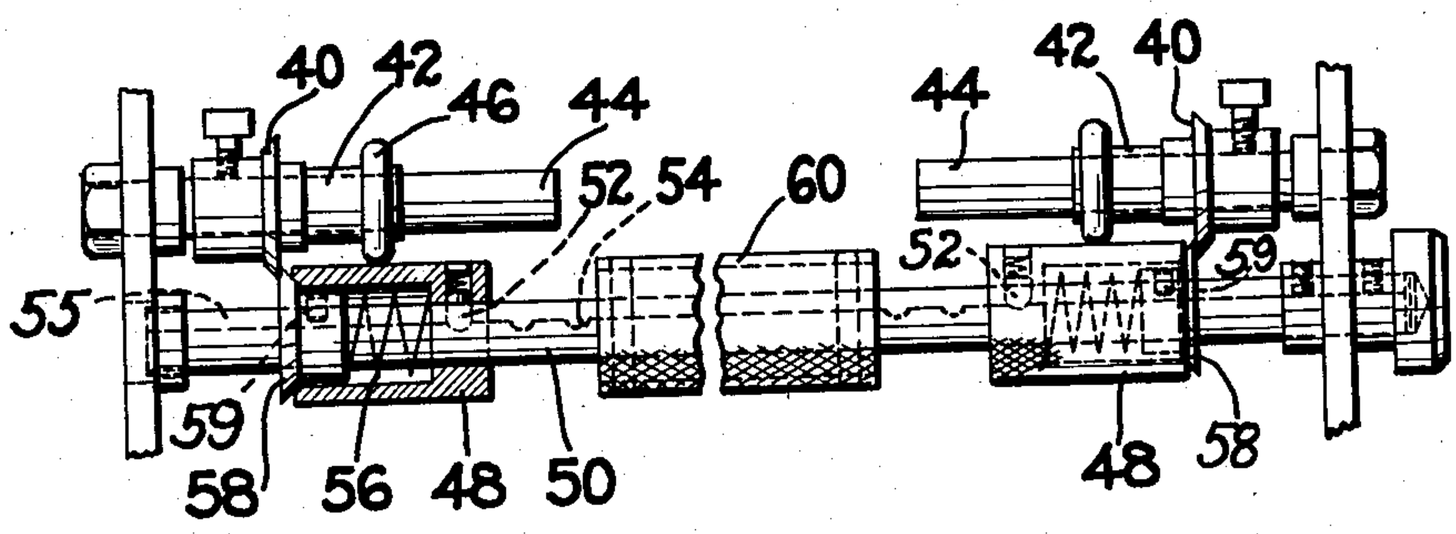

Fig. 4

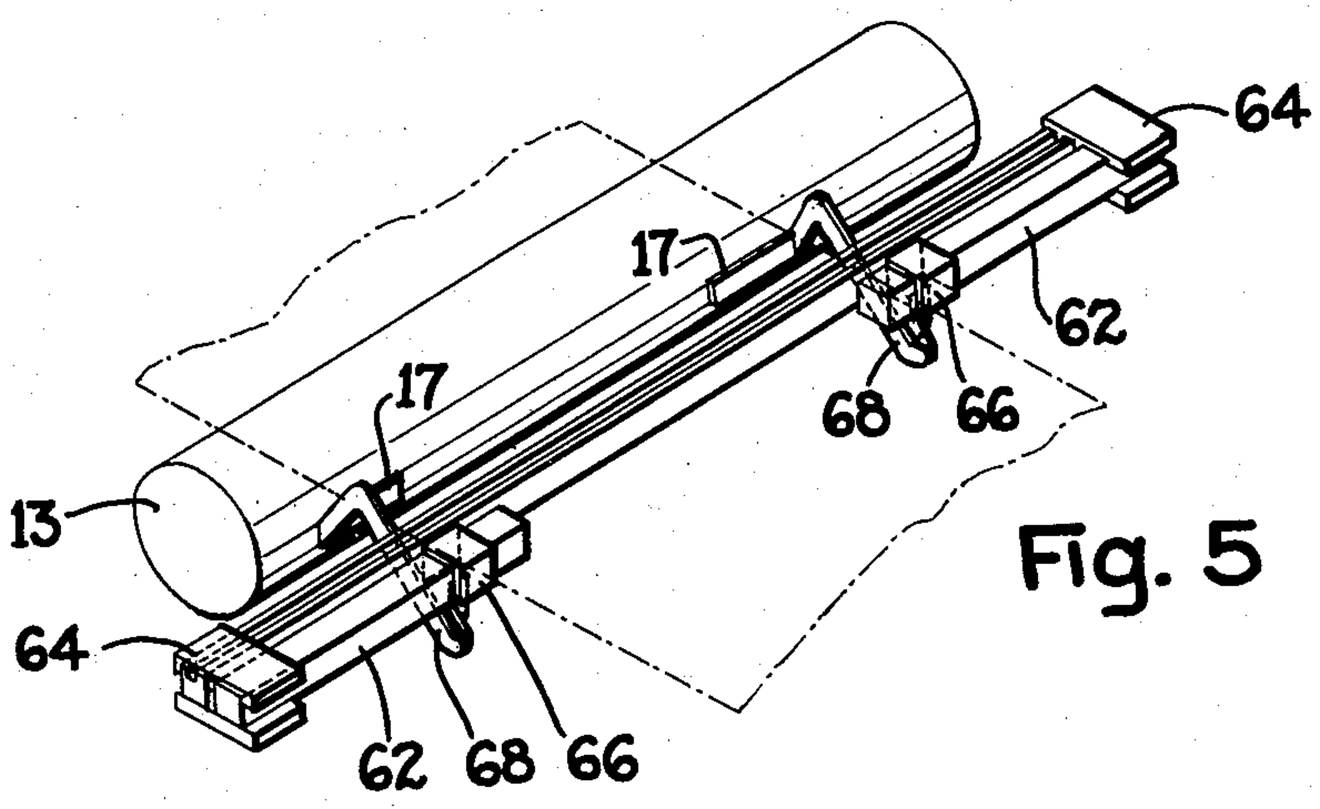

Fig. 5

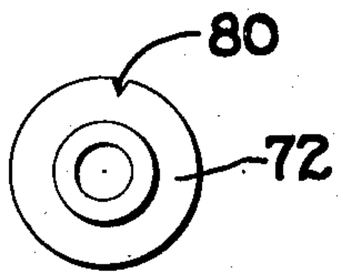

Fig. 6

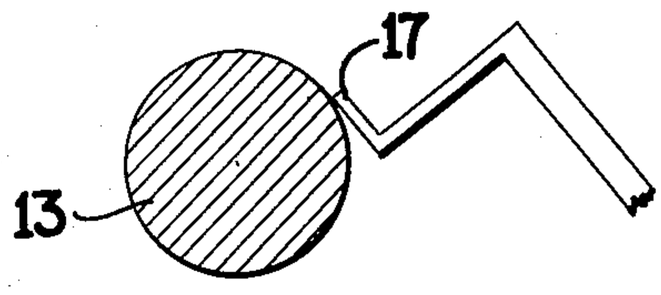

Fig. 7

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2,624,407

UNITED STATES PATENT OFFICE

2,624,407

WALLPAPER TRIMMING MACHINE

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Application November 14, 1949, Serial No. 126,935

3 Claims. (Cl. 164—61)

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This invention relates to new and improved machines adapted to the purpose of preparing wallpaper for hanging. The principal object of this invention resides in the provision of a machine in the class described which is easily and quickly adjustable to any size wallpaper, wallpaper usually coming in rolls 18'' to 30'' wide.

Another object of the invention resides in the provision of a new and improved roll holder to take any width of paper roll and provide it with new and improved end clamps which prevent the paper from becoming twisted and maintain the same in the exact position wanted, relative to the paper edge trimmers and other parts of the machine.

A further object of the invention resides in the provision of adjustable selvage trimmers which are easily and quickly set to trim exactly the width of paper being processed; the provision of a device of the class described comprising a pair of axially adjustable rolls each carrying a spring pressed disc cutter in cooperation with axially adjustable cutters in shearing cooperation therewith and including wheels for rotating the same as the paper passes between the rolls and the wheels; and the provision of a machine as above stated including new and improved paste roller scraping means; and a new and improved adjustable notched wheel paper perforating means particularly adapted for providing a division in the paper for paper hanging in corners.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which

Fig. 1 is a top plan view of the new machine;

Fig. 2 is a view in side elevation thereof;

Fig. 3 is an enlarged detailed view of the roll holding mechanism;

Fig. 4 is a view in front elevation on an enlarged scale illustrating the adjustable trimming mechanism;

Fig. 5 is a perspective view illustrating the wipers;

Fib. 6 is an enlarged view of the perforating disc; and

Fig. 7 is an end view of the paste roller and scrapers.

Referring now to Figs. 1 and 2, the machine shown is provided with side plates 10 which are strong and heavy enough to support the entire mechanism. Attached between the two plates 10 is a paste pot or tank 12 and in this paste pot there is rotatably mounted a pasting roll 13 rotated by means of a gear 14, said pasting roll,

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of course, extending from end to end of the paste pot as is well known in the art. Gear 14 is rotated by a gear 16 mounted at the end of a pressure roll 18, roll 18 being rotated as the paper passes between the same and the pasting roller and over the pressure roll in the direction of the arrow A in Fig. 2, it being understood that the paper is unwound from roll B and passes between the pasting roll and roll 18 reversing over the latter as is well known in the art.

The roll B is mounted on a spindle 20 pivoted on a pin 22 in a swivel or boss 24, the latter being tightened by a nut 26 in a slot in the frame as at 28. The other end of the spindle 20 is adapted to rest in a corresponding slot at 30 in the other plate 10.

Rotary roll clamps 32 are provided one at each end of the spindle, these clamps rotating on bearings 34 mounted on longitudinally adjustable clamping elements 36 which are adapted to be adjustably secured to spindle 20 by means of thumb screws 38. By this means, the spindle may be swung out, and the roll B inserted on the spindle and lightly clamped by the rotary roll clamps 32 which are held against longitudinal movement on the spindle but rotate with the roll as it is unwound. The clamps maintain the roll even at the ends so that the paper has no chance to slip from the ends or to run through the machine in canted condition. It will be seen that the roll clamps 32 will accommodate any length of roll.

The paper necessarily must be trimmed as to the selvages and to accomplish this purpose there are provided a pair of disc cutters 40, each of which is mounted on a cylinder 42 in turn mounted to be axially shiftable on a rod 44 secured at one end to the corresponding side plates. Each cylinder 42 is provided with a tired wheel 46 which is adapted to turn as the paper is drawn thereunder. The paper is in contact at its lower surface with knurled rolls 48 mounted on a rod 50, these rolls being shiftable axially thereon, said rolls 48 being held in adjusted location by any desired means such as an interior spring pressed detent 52 which takes into cooperating depressions 54 in the rid 50, the latter being rotatably mounted in the side plates 10, depressions 54 being at the bottom of a groove 55.

Each roll 48 is hollow and contains a compression spring 56 urging outwardly a disc cutter 58 into cooperative cutting relation with the cutter 40 so that at all times the two disc cutters are in operative shearing relationship even though the setting of the respective parts may not be

exactly accurate to insure the shearing action required. Cutters **58** are nonrotatably secured to the rod **50** by lugs or keys **59** in groove **55**.

In this way, any length of roll may be accommodated by adjusting the roll clamps **32** and the selvage cutters **40** and **58** i. e., by adjusting cylinders **42** and rolls **48**. Centrally of rod **50** there is a stationary but rotary knurled roll **60** and when the two rolls **48** are located in their inwardmost positions, the smallest paper roll made, i. e., 18'' is accommodated; and any size of roll between 18'' and 30'' is easily accommodated by proper adjustment as above stated. In either case, the fixed elongated roll **60** supports the central portion of the paper and keeps it smooth.

Referring now to Fig. 5, there are shown a pair of square rods **62** which extend inwardly from brackets **64** in turn mounted on plates **10**. Each square rod loosely supports a sliding bracket **66** of similar cross section, each said bracket in turn supporting an arm **68** on which is mounted a paste scraper **17**. These paste scrapers are elongated and lie parallel to the pasting roll in tangential relation thereto, see Fig. 7. The scrapers are located so that they are interposed between the paper at the edges and the roll.

Due to these scrapers, the edges of the paper are insured against accumulating a surplus of paste, the paste usually tending to flow out toward the edges of the paper.

At the rear of the machine, there is provided a rod **70** on which is slidably mounted a disc cutter **72**, this disc cutter having a set screw or the like **74** maintaining it in any position desired along the rod **70**. The latter is mounted on a pair of arms **76** and may be swung up thereon in order to enable the disc cutter **72** to be adjusted along the rod **70** while the paper is in the machine. The arms **76** are provided with springs **78** holding the arms, rod **70** and disc cutter thereon so that the latter is in close contact with pressure roll **18**, see Fig. 2, to cut the paper longitudinally as it is drawn through the machine.

As more clearly shown in Fig. 6, the disc cutter **72** is provided with a single notch **80** which, of course, fails to cut, and thus leaves the two longitudinal sections of paper very lightly connected together at spaced points and being otherwise separate. This cutter is provided for the purpose of papering corners more easily and it will be seen that the operator can determine where the corner comes and substantially separate the paper into two parts, one for each angle for the corner, but at the same time he is able to hang the two pieces simultaneously and to make a perfect papered corner, the design being continuous and the corners being very neatly finished.

Flexible wipers **82** may be provided for wiping off excess paste at the edges of the paper and these wipers are adjustable transversely of the machine, by being mounted on the rods **84** movable in and out through bosses **86** and secured by thumb nuts **88**.

In view of the above, it will be seen that there has been provided a very easily and quickly adjustable machine for trimming and pasting any width or length of paper and including means for longitudinally perforating the paper as above explained for corner work.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed otherwise than as set forth in the claims, but what I claim is:

1. A paper trimming device comprising a frame, a pair of axially spaced rods in the frame, a cross shaft below the two rods, a central, elongated paper supporting roll on the shaft, a short roll at each end of the elongated roll, the short rolls being of substantially the same diameter as the central elongated roll and axially adjustable on the shaft to and from the ends of the central elongated roll, means to yieldingly latch the short rolls in selected positions on the shaft, a disc cutter associated with each of the short rolls, said cutters being mounted respectively at the ends of the short rolls opposite the ends thereof that face the central elongated rolls, a cylinder on each rod, one cylinder for each short roll, a resilient wheel on each cylinder for engagement with the respective short rolls, a disc cutter on each cylinder, the cylinder cutters and roll cutters being overlapping at the peripheries thereof and in flat engagement for trimming a paper web.

2. A paper trimming device comprising a frame, a pair of axially spaced rods in the frame, a cross shaft below the two rods, a central, elongated paper supporting roll on the shaft, a short roll at each end of the elongated roll, the short rolls being of substantially the same diameter as the central elongated roll and axially adjustable on the shaft to and from the ends of the central elongated roll, means to yieldingly latch the short rolls in selected positions on the shaft, a disc cutter associated with each of the short rolls, said cutters being mounted respectively at the ends of the short rolls opposite the ends thereof that face the central elongated rolls, a cylinder on each rod, one cylinder for each short roll, a resilient wheel on each cylinder for engagement with the respective short rolls, a disc cutter on each cylinder, the cylinder cutters and roll cutters being overlapping at the peripheries thereof and in flat engagement for trimming a paper web, said short rolls being hollow, a spring in each short roll, said springs bearing on the respective disc cutter on the short rolls and maintaining the cutters in engagement, the wheels and short rolls always being maintained in the same relative position.

3. A paper trimming device comprising a frame, a pair of axially spaced rods in the frame, a cross shaft below the two rods, a central, elongated paper supporting roll on the shaft, a short roll at each end of the elongated roll, the short rolls being of substantially the same diameter as the central elongated roll and axially adjustable on the shaft to and from the ends of the central elongated roll, means to yieldingly latch the short rolls in selected positions on the shaft, a disc cutter associated with each of the short rolls, said cutters being mounted respectively at the ends of the short rolls opposite the ends thereof that face the central elongated rolls, a cylinder on each rod, one cylinder for each short roll, a resilient wheel on each cylinder for engagement with the respective short rolls, a disc cutter on each cylinder, the cylinder cutters and roll cutters being overlapping at the peripheries thereof and in flat engagement for trimming a paper web, said short rolls being hollow, a spring in each short roll, said springs bearing on the respective disc cutter on the short rolls and maintaining the cutters in engagement, the wheels and short rolls always being maintained in the same relative position, the short rolls being located inwardly of the respective cylinder cutters and moving the latter outwardly on the rods, upon outward adjustment of the short rolls, and the

cylinders moving the short rolls inwardly on the shaft upon adjustment inwardly of the cylinders on the rods.

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