

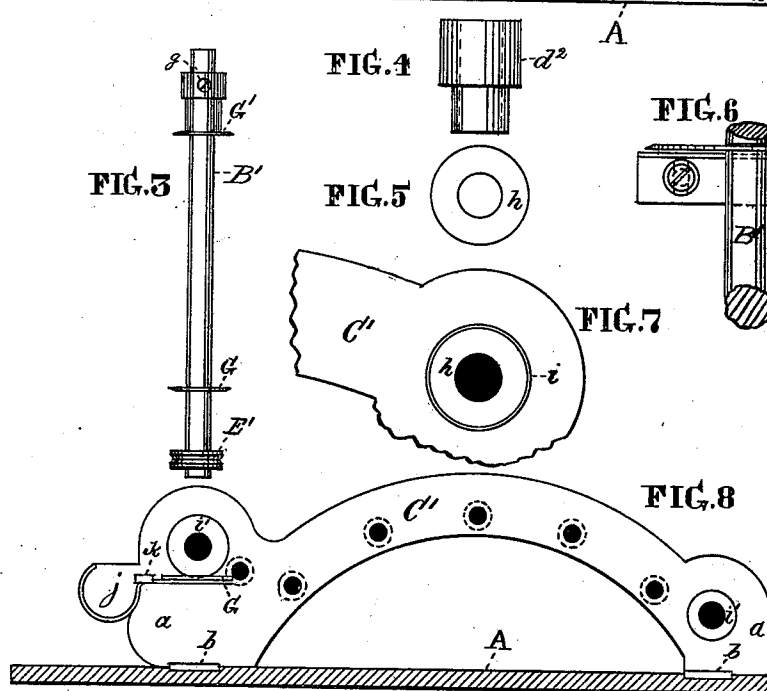
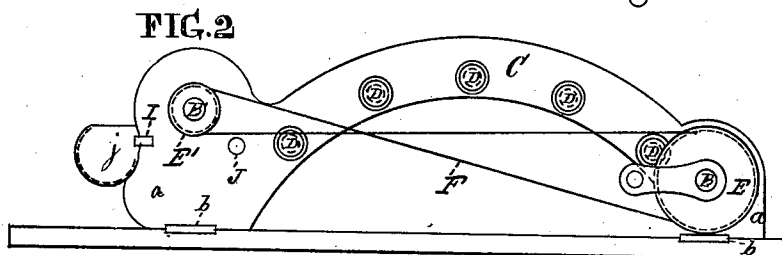
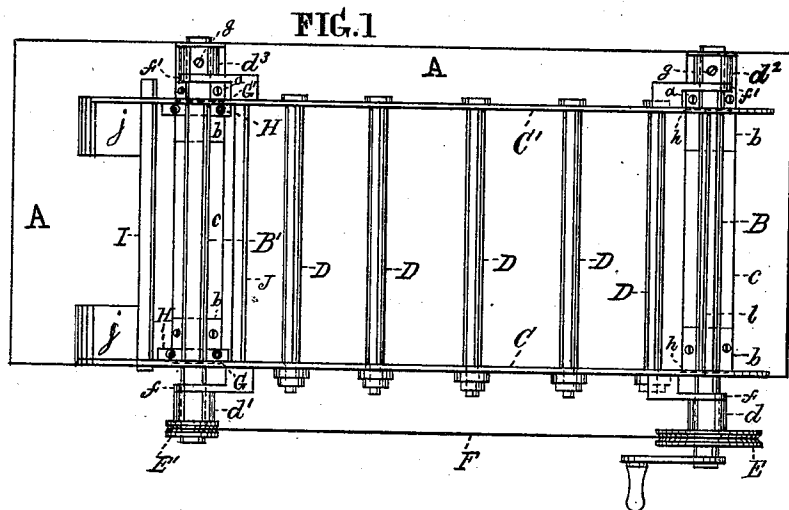
(No Model.)

R. STEEL.

WALL PAPER TRIMMING MACHINE.

No. 254,443.

Patented Feb. 28, 1882.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

ROBERT STEEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO JOSEPH E. VANMETER, OF SAME PLACE.

## WALL-PAPER-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 254,443, dated February 28, 1882.

Application filed June 11, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT STEEL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Wall-Paper-Trimming Machines, of which the following is a specification.

The object of my invention is a cheap and efficient machine of simple construction that will trim both edges of wall-paper at one operation; and the nature of my invention is as follows: In connection with a bed-plate are two longitudinal guides which are parallel to each other, through which the paper is drawn by means of a revolving shaft, as it is cut or trimmed the desired width by means of circular knives on the ends of a revolving shaft at the opposite end of the machine to the end containing the draft-roller above mentioned. Between the two shafts any desirable number of rollers are arranged in arch form for the support of the paper as it is drawn along. The rollers and the shafts are so connected with one of the above-mentioned guides as to be prevented from shifting longitudinally, while they have a rotary movement; but in order to adjust the other guide any desired distance from its fellow to suit the desired width for trimming the paper the two shafts and the series of rollers connected therewith at their ends have a shifting movement, as hereinafter fully described. The above-mentioned guides have at their ends with which the cutter-shaft is connected circular bearings to contain the roll of paper to be cut or trimmed, and a rest-bar for the paper between these bearings and the cutters, the bar having a fixed connection with the stationary guide at one end and a sliding connection at its other end with the adjustable guide.

As the construction and arrangement of the several parts of the machine are fully described in the body of the specification, a specific description is omitted in this place.

In the accompanying drawings, which make a part of this specification, Figure 1 is a plan view of my improved wall-paper-trimming machine. Fig. 2 is a side elevation of the same.

Fig. 3 is a side view of the revolving cutter-shaft B', provided with cutters G and G' and a grooved pulley, E'. Fig. 4 is a side view, on an enlarged scale, of the adjustable hub  $d^2$  of the shaft B. Fig. 5 is a face view of a washer, h, on an enlarged scale. Fig. 6 is a plan view, on an enlarged scale, of an end portion of the cutter-shaft B', provided with a circular cutter, G', and the stationary cutter H, connected therewith. Fig. 7 is a portion, on an enlarged scale, of the adjustable guide C', having a recess, i, for the reception of the washer h. Fig. 8 is a side elevation of the adjustable guide C', in connection with the bed-plate A, which is shown in longitudinal section. Fig. 9 is a cross-section of the shaft B on an enlarged scale.

Like letters of reference in all the figures indicate the same parts.

A represents the bed-plate of my improved machine.

B is a revolving shaft, on which the paper is wound as it is trimmed by revolving knives on the shaft B' and stationary knives combined therewith, as hereinafter described.

C and C' are parallel guides for the paper as it is drawn forward and wound on the above-mentioned shaft B. These guides have pedestals or legs a, in which are suitable bearings for the journals of the shafts B and B', the legs being provided with feet b, which rest in the grooves c c of the bed-plate A, and are secured in their places by means of bolts. The guide C' is adjustable in adaptation to the various widths the paper is required to be trimmed, the feet of the guide being moved along in the grooves c c of the bed-plate in the adjustment. There is a series of rollers, D, arranged in arch form between the shafts B and B', for the support of the paper, whereby the sagging of the paper is prevented as it is drawn forward and wound on the shaft B. The rollers turn in suitable bearings in the guides C and C'. The shafts B and B' are provided respectively with the pulleys E and E', which are connected together by means of the band F, to provide for the cutter-shaft B' being revolved by the shaft B, when the latter is driven by any suitable means, for the purpose of revolving the circular cutters G and G' on the

shaft B' for trimming the edges of the paper as the shaft B is revolved by any suitable means. The said pulleys are fast on the shafts B and B', and their inner ends are of reduced diameter and constitute the journals of the ends of the shafts, turning in suitable bearings in the stationary guide-plate C, there being additional bearings in the arms *ff*, which are cast fast to the outer flat surface of the guide. The other ends of the shafts are provided with similar hubs, *d*<sup>2</sup> and *d*<sup>3</sup>, which are adjustable thereon for the adjustment of the guide C' to suit the width the paper is to be cut or trimmed, the hubs being made fast in their adjusted position by means of the set-screws *g*. The journal part of these hubs *d*<sup>2</sup> and *d*<sup>3</sup> also has bearings in the guide C' and additional bearings in the arms *f' f'*, which are cast fast to the guide C'. There are washers *h* placed on the journals of the hubs *d'* and *d*<sup>2</sup>, against the shoulders of the journal, which fit recesses *i* of the guides C and C'. At the other end of the guides are similar recesses, in which the cutters G and G' are permitted to revolve, so as to bring the cutters in line with the guides.

H H are stationary cutters, against which the circular cutters G and G' work. One of them is shown on an enlarged scale in Fig. 6, in connection with a cutter, G'.

The ends of the rollers D, in connection with the stationary guide C, are provided with a shoulder, and have a washer and nut, so as to bring the guide between the shoulders and washers in such a manner as will admit of the rotary movement of the rollers, but prevent their shifting in the direction of their length. There is a rod, J, inside of the cutter-shaft B' for guiding the paper after it passes the cutters, to make it bind on the first supporting-roller D, and thereby take the circular direction of the rollers. This rod has a fixed connection in its longitudinal position with the stationary guide C, but fits loosely in the guide C', in the manner of the rollers D. Between the cutter-shaft B' and the bearings *jj* at this end of the guides, in which the ends of a roll of paper to be trimmed are laid, there is a guiding-bar, I, for the paper as it passes to the cutters. This bar has one end permanently connected with the stationary guide C, but the other end fits loosely in the opening or slot *k* of the adjustable guide C'.

The operation of the machine is as follows:  
A roll of paper to be trimmed is placed in connection with the circular bearings *jj*, and the

circular knives or cutters G and G' being rotated by means of the connection of their shaft B' with the driving-shaft B, as above described, the outer end of the paper is drawn forward by hand, for the trimming of its edges, far enough to connect the end of the paper with the longitudinal groove *l* of the shaft B. Then by turning the shaft partly around the paper is connected fast therewith, and by continuing the revolution of the shaft the whole roll is drawn forward and trimmed at both edges at one operation, being wound in its forward movement on the shaft B. When the trimming is completed this shaft is drawn out of the trimmed roll, said roll removed and the shaft re-engaged with the machine, and the like operation gone through with another untrimmed roll of paper, and so on continuously.

By having the knives H H fastened to the guides C and C', and the latter also provided with the circular rests for the roll of untrimmed paper, the position of the said knives or cutters H H and rests *jj* in relation to the revolving cutters G and G' is not disturbed in any manner in changing the machine to trim the paper to various widths, each change being effected by simply adjusting the guide C' and cutter G'.

I claim as my invention—

1. In a wall-paper-trimming machine, in combination with the revolving shaft B, having a stationary knife, G, and an adjustable knife, G', the stationary guide C and adjustable guide C', having each a knife, H, and paper-roll rest *j*, whereby to adapt the trimming machine to trim the paper to any desired width by simply adjusting the guide C' and the revolving knife or cutter G', substantially as described.

2. The combination of the series of supporting-rollers D, arranged in arch form, with the revolving cutter-shaft B', the guides C and C', and the winding-shaft B, having a longitudinal groove, *l*, substantially as and for the purpose set forth.

3. The combination of the revolving shaft B, having a pulley, E, provided with a hub, *d*, at one end, and a hub, *d*<sup>2</sup>, at its other end, with the guides C and C', having arms *f* and *f'* respectively, and with the cutter-shaft B', having a pulley, E', provided with a hub, *d'*, at one end, and a hub, *d*<sup>3</sup>, at its other end, the hubs *d*<sup>2</sup> and *d*<sup>3</sup> being adjustable, substantially as described.

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Witnesses:

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