No. 847,491. PATENTED MAR. 19, 1907.

H. A. & W. A. MORGAN.

MECHANISM FOR USE IN EDGING WALL PAPER.

APPLICATION FILED MAY 4, 1905.

3 SHEETS—SHEET 1.

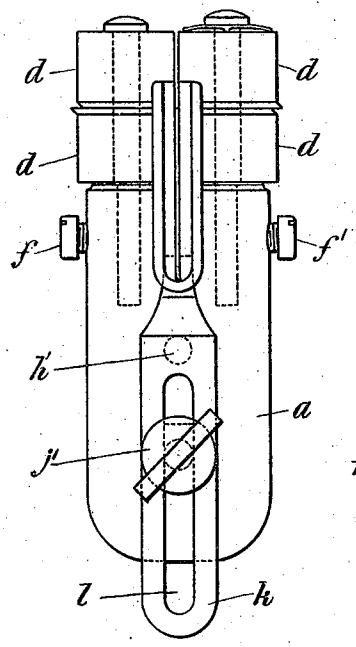


FIG 1

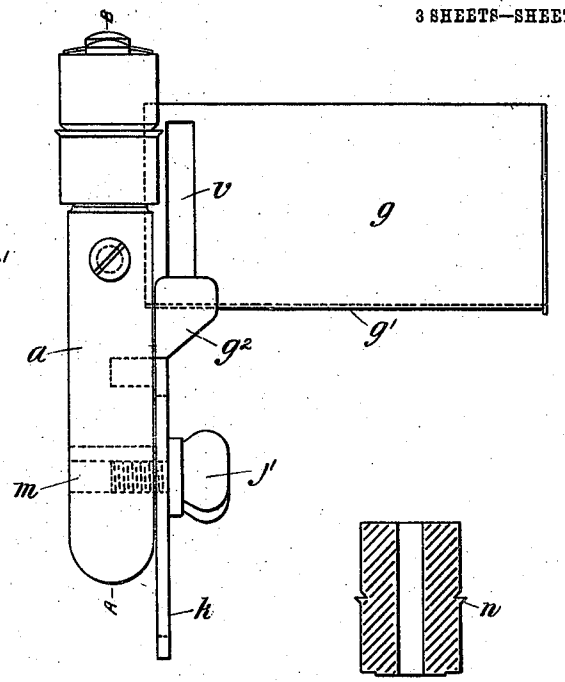


FIG 2

FIG 3

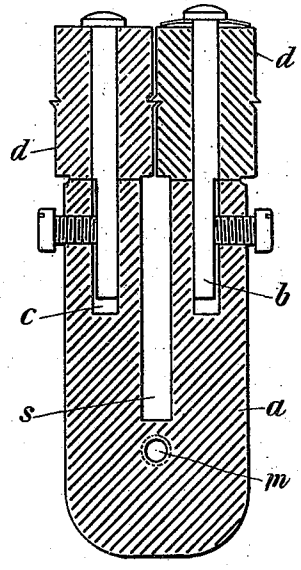


FIG 5

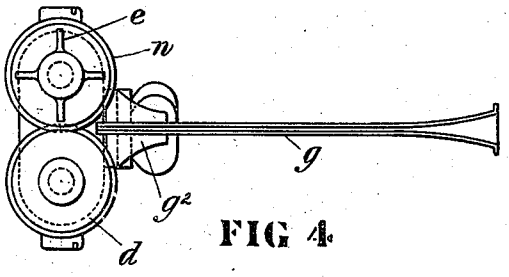


FIG 4

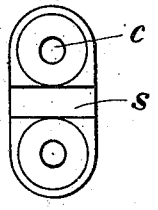


FIG 6

FIG 7

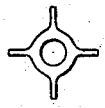


FIG 8

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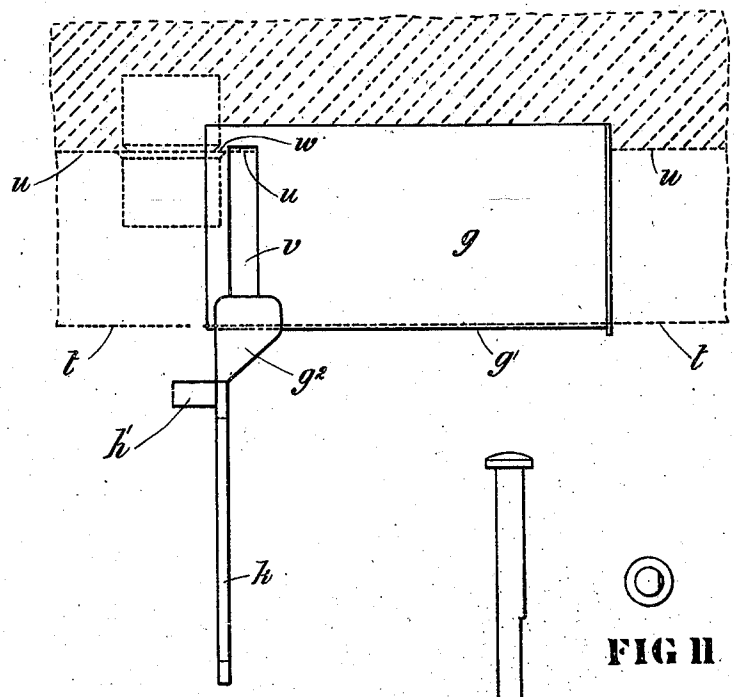


FIG 9

FIG 10

FIG 11

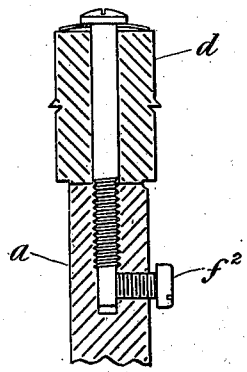


FIG 12



FIG 13

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3 SHEETS—SHEET 3.

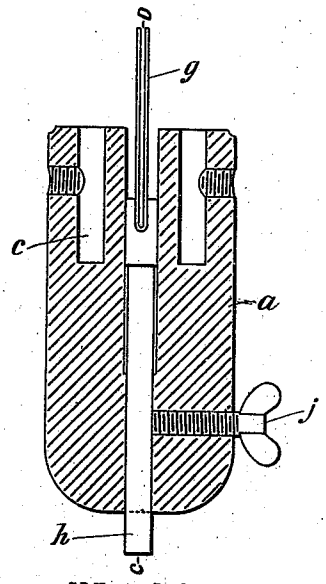


FIG 14.

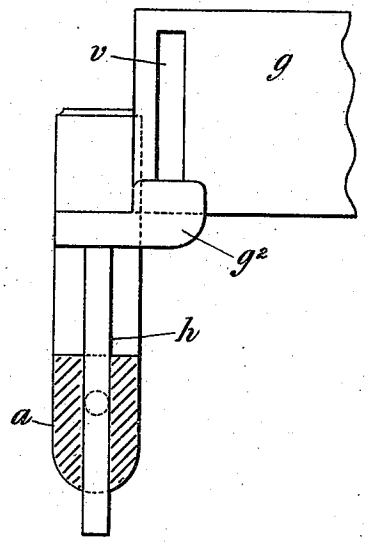


FIG 15.

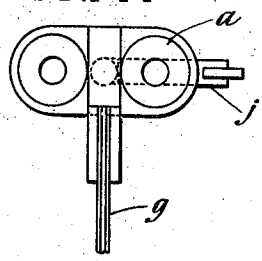


FIG 16.

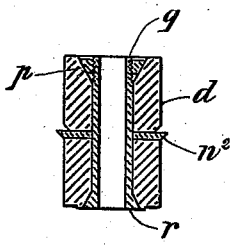


FIG 17.

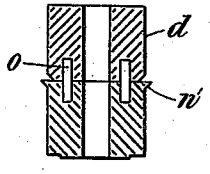


FIG 18.

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MECHANISM FOR USE IN EDGING WALL-PAPER.

No. 847,491. Specification of Letters Patent. Patented March 19, 1907.

Application filed May 4, 1905. Serial No. 258,900.

To all whom it may concern:

Be it known that we, HENRY ALBERT MORGAN, residing at 35 Wilton street, Lozells, Birmingham, in the county of Warwick, England, and WILLIAM ALFRED MORGAN, residing at 106 Crompton road, Birmingham, in the county of Warwick, England, subjects of the King of Great Britain, have invented certain new and useful Improvements in and Relating to Mechanism for Use in Edging Wall-Paper, of which the following is a specification.

This invention relates to mechanism for use in cutting wall-paper and also for use in cutting other substance.

This invention has for its object the production of mechanism combined with a revolving knife, the whole being so combined that the passing of the substance to be cut under the knife mechanism will revolve the cutting-knife.

We will now proceed to describe with reference to the accompanying drawings the manner in which the various parts of our invention are constructed, assembled, and used.

Figure 1 represents a front elevation of the complete appliance or tool. Fig. 2 represents a side elevation of Fig. 1. Fig. 3 represents a vertical section through roller-cutter. Fig. 4 represents a plan of Fig. 2. Fig. 5 represents a vertical section of Fig. 2 on line A B. Fig. 6 represents a plan of top of body part of appliance or tool. Fig. 7 represents a side view of star-spring. Fig. 8 represents a plan of Fig. 7. Fig. 9 represents a side view of guide, showing a broken-off piece of paper in the cutting position. Fig. 10 represents an elevation of cutter-pin as shown in use at Figs. 1, 2, and 5. Fig. 11 represents a plan of Fig. 10. Fig. 12 represents a broken-off vertical sectional part of the complete structure shown in section at Fig. 5, but with a screwed cutter-pin to facilitate the adjustment of star-spring and roller-knife. Fig. 13 represents an elevation of cutter-pin as shown in use at Fig. 12. Fig. 14 represents a vertical section of body part showing the gage adjusted by means of central rod. Fig. 15 represents a vertical section of Fig. 14 on the line C D. Fig. 16 represents a plan of Fig. 14. Fig. 17 represents a vertical section of a modification of rollers and cutter with the rollers and cutter made as three separate parts secured together by means of a tubular bolt. Fig. 18 represents a vertical section of a modification of rollers and cutter with the cutter formed on the under roller and the upper roller secured to the lower roller by means of dowels.

In carrying out our invention we provide the fork-shaped roll-frame *a*, as shown at Figs. 1, 2, and 5, each fork or arm of which receives a roller-stud *b*, as shown detached at Figs. 10 and 11. We next provide a pair of the roller-cutters *d*, one of which is shown detached at Fig. 3. We take one of the roller-cutters *d* and pass therethrough the shank end of a roller-stud *b* and pass the shank end of such stud into the stud-hole *c* at left side of roll-frame and then tighten the set-pin *f* against the flattened surface on shank of stud *b*, thereby securing the roller-cutter to the roller-frame, so that the roller and its cutter will revolve on the stud *b*. We provide the star-shaped spring *e*, as shown in detail at Figs. 7 and 8, and we thread one of the roller-studs *b* through the star-shaped spring *e*, thence through one of the roller-cutters, and onward into the stud-hole *c*. We provide the set-pin *f'* and screw the same in position against the flattened face of the shank of stud to thereby secure the roller and its top cutter in the required position. The star-shaped spring exerts pressure on the top of roller over which it is placed to keep the peripheral flanges of top knife bearing continuously, closely, and yet lightly against the under knife-flange.

We provide the guide frame or gage, which consists of a piece of sheet metal bent into a U shape or gutter shape, as shown at *g*, Figs. 1, 2, 4, 9, and 15. The under edge *g'* of the gage is gripped by means of the grip-block g^2, to which is in some cases secured an adjusting-rod *h*, as shown at Figs. 14 and 15, which takes into a centrally-pierced hole formed in the roller-frame *a*. A suitable set-pin or fly-nut *j'* is provided to bear against the adjusting-rod *h* to secure the same at any required position when setting the gage. In other cases instead of the vertically-situated pin or rod *h*, secured to the grip-block g^2, the grip-block is extended to form a tang-shaped surface *k*, as shown at Figs. 1 and 2, through which is pierced an adjusting-slot *l*, and in such cases we also provide the short rod or pin *h'*, situated at right angles to the tang *k*. The pin *h'* slides up and down the slot *s* in

guide-frame. We provide the set-pin or fly-nut j', the screwed end of which takes into the tapped hole m.

It will be observed that the rollers and cutters shown in the detached view Fig. 3 are produced out of one piece of metal, the metal being removed so as to produce the rollers d and leave the knife n projecting beyond the periphery of the rollers. Nevertheless, although that is one method of producing the rollers and central cutter, we in some cases as part of our invention produce the cutter n' as part of one roller and produce the other roller as a separate part and secure the two parts together by means of the dowels o, as shown at Fig. 18. We in other cases produce the knife n^2 as a separate part and produce the two rollers as two separate parts and secure the three parts together by means of a tubular bolt, the tapered nut p taking over the screwed end q of the tubular bolt into the countersink, the head r of the bolt passing into a countersink provided in the roller, as shown at Fig. 17.

The complete paper-edging tool provided with the gage having a slotted tang is shown ready for use in front elevation, side elevation, and vertical section at Figs. 1, 2, and 5.

In using our invention as hereinbefore described for edging wall-paper the operator grips the roller-frame a in one hand and passes the taper-mouthed end of the U-shaped or gutter-shaped metal gage g over the edge of the roll of wall-paper. The tapered or trumpet formation of end of gage is provided to pass over any tears in the edge of the paper. The operator then sets the gage in the required position to cut off the surplus edge from the wall-paper. A short broken-off piece of wall-paper is shown at Fig. 9 embraced within the gage g. The part extending from the outer edge t to the jointing edge u is the strip or riband that has to be removed, and a like unprinted edge strip is situated on both edges of a roll of wall-paper. The long transverse slot v is pierced through one or both cheeks of the gage g, so that the person using our improved cutting mechanism can set the slotted tang end k of the gage in the required usable position by means of the pin h', that slides within the groove s, and see through the slot v to move the gage g until the jointing edge u is exactly linable with the edge w of the roller-cutter. The gage can then be rigidly tightened against the face of the roll-frame a by means of the collared thumb-screw j'. The gage g is shown in the set position at Figs. 1 and 2. The paper is situated between two upper rollers bearing on the upper side of the paper and two rollers bearing on the lower side of the paper and also between the upper knife and the lower knife. The action of passing the paper between the pair of upper rolls and the pair of lower rolls revolves both sets of rolls together with the knives. Moreover, the drawing or passing of the paper between the upper knife and the lower knife helps to revolve the said knives, the main driving action being the pressure of the paper that extends on both sides of the cutting edges of the knives against the rollers—that is to say, there is no separate mechanism used to revolve the knives—because the action of the drawn-through paper on the knives and on the knife-rollers revolves the rollers together with the knives forming parts of such rollers or secured to such rollers to move with the rollers.

One practical method of using our improved wall-paper-cutting mechanism or wall-paper-cutting tool is for the paper-hanger to be seated in a similar manner to that in which he uses a pair of scissors to edge a roll of wall-paper. In such a case the workman would take the end of paper in his left hand and our edging-tool in his right hand, (in place of the scissors.) He would pass the edge of paper into the trumpet end of gage and push the gage along the edge of the paper until the paper passed between the top and bottom rollers and the top and bottom cutters. Then by drawing the paper toward himself by means of his left hand he would use his right hand to push the gage forward the full stroke of his arm, and thus clear the stripped-off edge of paper, then roll that sheared end up and by a continuation of the rolling and cutting very quickly shear off the whole of one edge, then start on the other edge and shear that in a like manner. Another good and practical way of using our improved tool is to cut off a number of lengths of wall-paper sufficient to paper a room, (or several rooms,) each length being equal to the height of the room or place to be papered, then stack the lengths on top of each other on a suitable bench a little wider or a little narrower than the paper. The workman would then stand up to his work alongside the bench and shear off one side of the top length, draw the second length forward, shear that edge off, and so on until the pile of lengths were all edged. He could then go on other side of the narrow bench (if having sufficient room) and shear the other edges of the pile of lengths or he could turn the pile up side down, and thus bring the uncut edges in position ready for cutting on same side of the bench that the first edges were sheared.

Our improved tool can be used by law stationers and by others for trimming the edges of sheets of paper, cardboard, and the like or by box-makers for slicing up sheets of paper or thin cardboard into strips or for other such like uses.

To facilitate the adjustment of the star-shaped pressure-spring e, so that it will exert exactly the required amount of pressure to

keep the upper knife-bearing on the lower knife, we in some cases screw the lower part of the cutter-pin in the manner shown on the detached view Fig. 13 and also tap the arm of roll-frame, so that the screwed cutter-pin can be passed through the pressure-spring *e* and through the rolls *d* and be screwed into the arm of roll-frame a sufficient distance to produce the required amount of pressure to keep the knives bearing against each other. The cutter-pin would in such cases be locked in the set position and prevented from moving by means of the set-pin f^2.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

A tool for use by hand for edging wall-paper and the like, consisting of a forked holder having a central longitudinal hole in each of its two fork-arms, two rollers having circular knife-edges formed upon them and grooved so that the corresponding knife-edges can enter the grooves, such knife-rollers being attached to the holder by means of spindles passing through their centers and into the central longitudinal holes in the arms of the forked holder to be secured therein by means of set-pins, with the rollers close together and the circular knife-edges overlapping each other, a star-spring placed under the head of one of the spindles to bear upon the knife to keep the overlapping knife-edges in close contact with each other, a guide formed of a sheet of metal folded over and shaped as shown and provided with a sighting-slot, such guide being adjustably secured to the forked holder substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

HENRY ALBERT MORGAN.
WILLIAM ALFRED MORGAN.

Witnesses:
ALFRED WILLIAM TURNER,
ARTHUR R. GILL.