

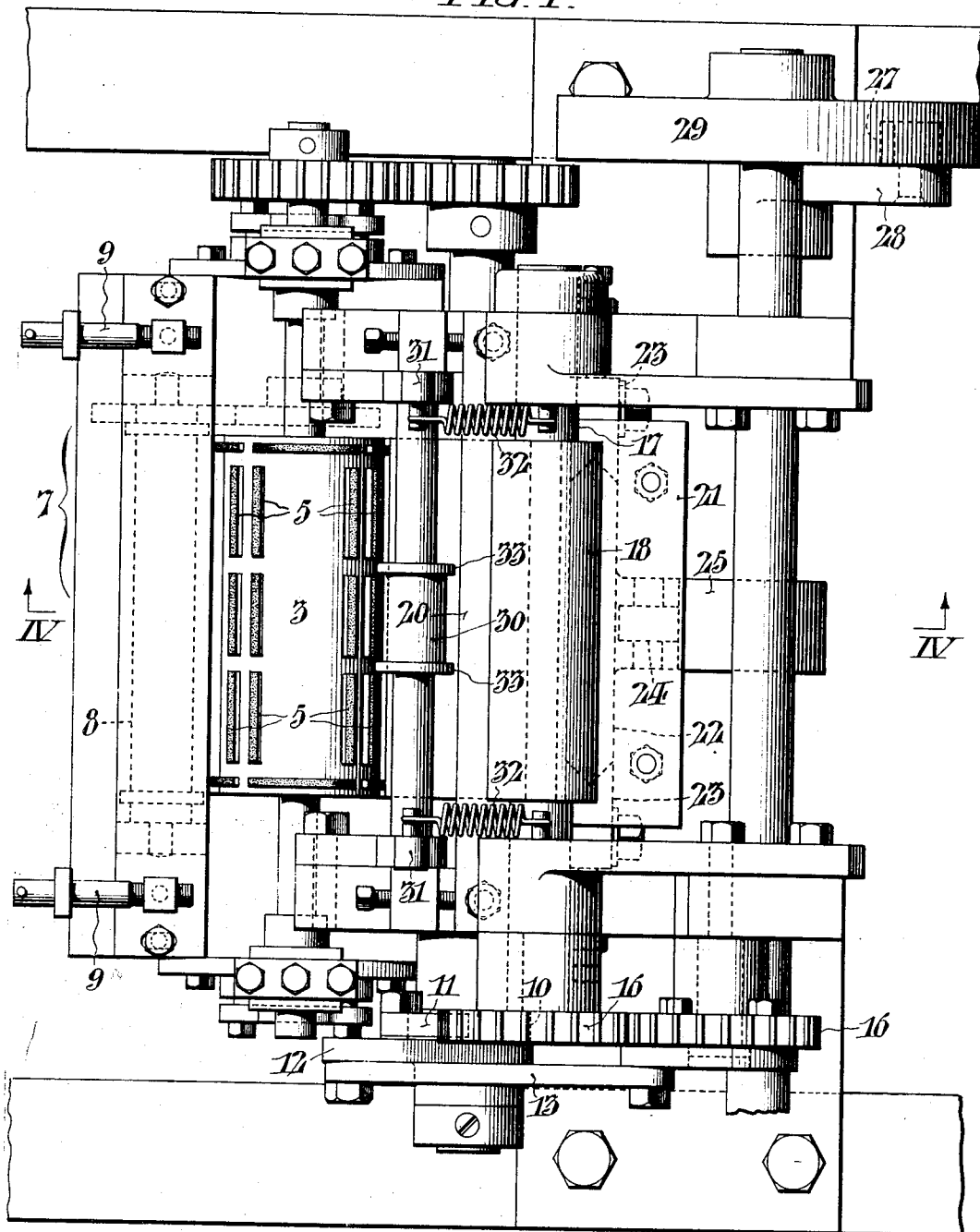
G. W. SWIFT, JR.
 MECHANISM FOR APPLYING WINDOW PATCHES TO ENVELOPE MATERIAL.
 APPLICATION FILED AUG. 4, 1917.

1,404,068.

Patented Jan. 17, 1922.

3 SHEETS--SHEET 1.

FIG. 1.



Inventor

George W. Swift, Jr.,

by *James H. Bell*

Attorneys

Witnesses
John C. Bergner
James H. Bell

G. W. SWIFT, JR.
MECHANISM FOR APPLYING WINDOW PATCHES TO ENVELOPE MATERIAL.
APPLICATION FILED AUG. 4, 1917.

1,404,068.

Patented Jan. 17, 1922.

3 SHEETS—SHEET 2.

FIG. II.

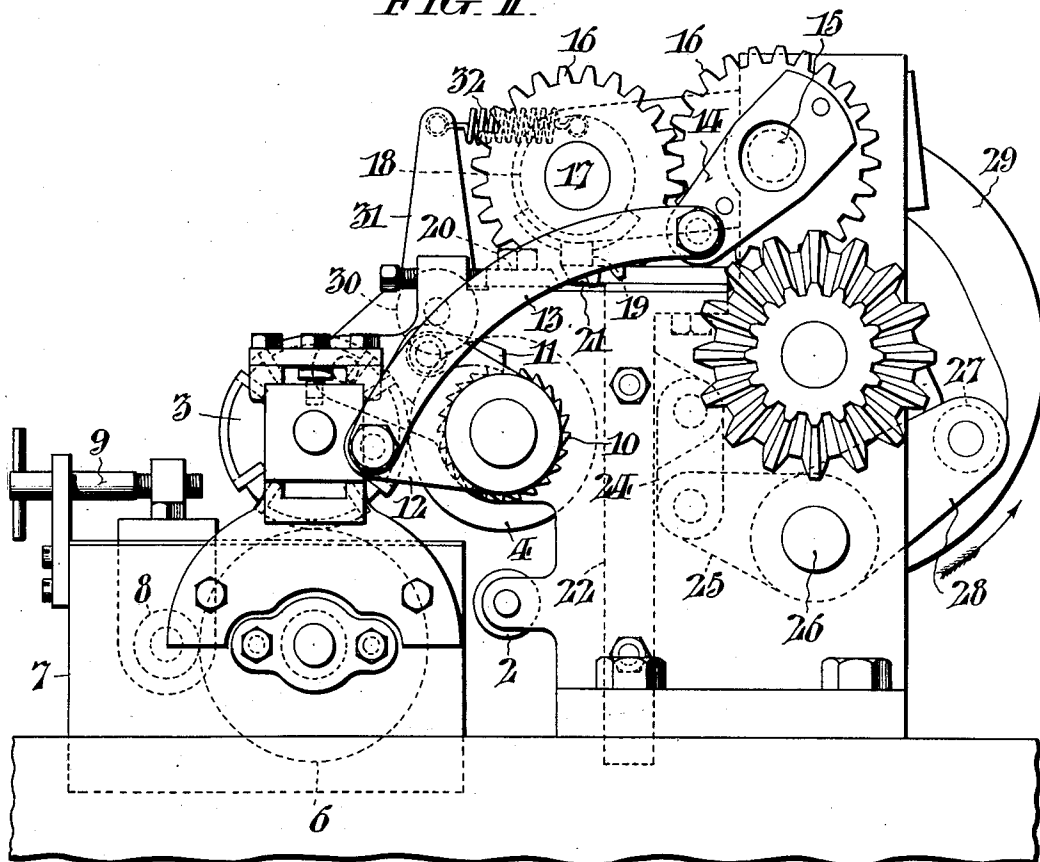
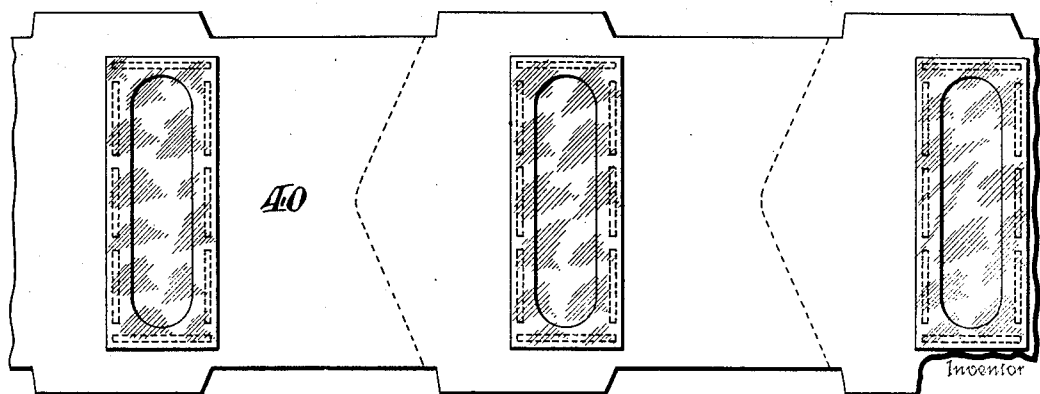


FIG. III.



Inventor

George W. Swift, Jr.,

by *Julius + Lang*

Attorneys

Witnesses
John C. Bergner
James C. Bell

G. W. SWIFT, JR.
 MECHANISM FOR APPLYING WINDOW PATCHES TO ENVELOPE MATERIAL.
 APPLICATION FILED AUG. 4, 1917.

1,404,068.

Patented Jan. 17, 1922.

3 SHEETS—SHEET 3.

FIG. IV.

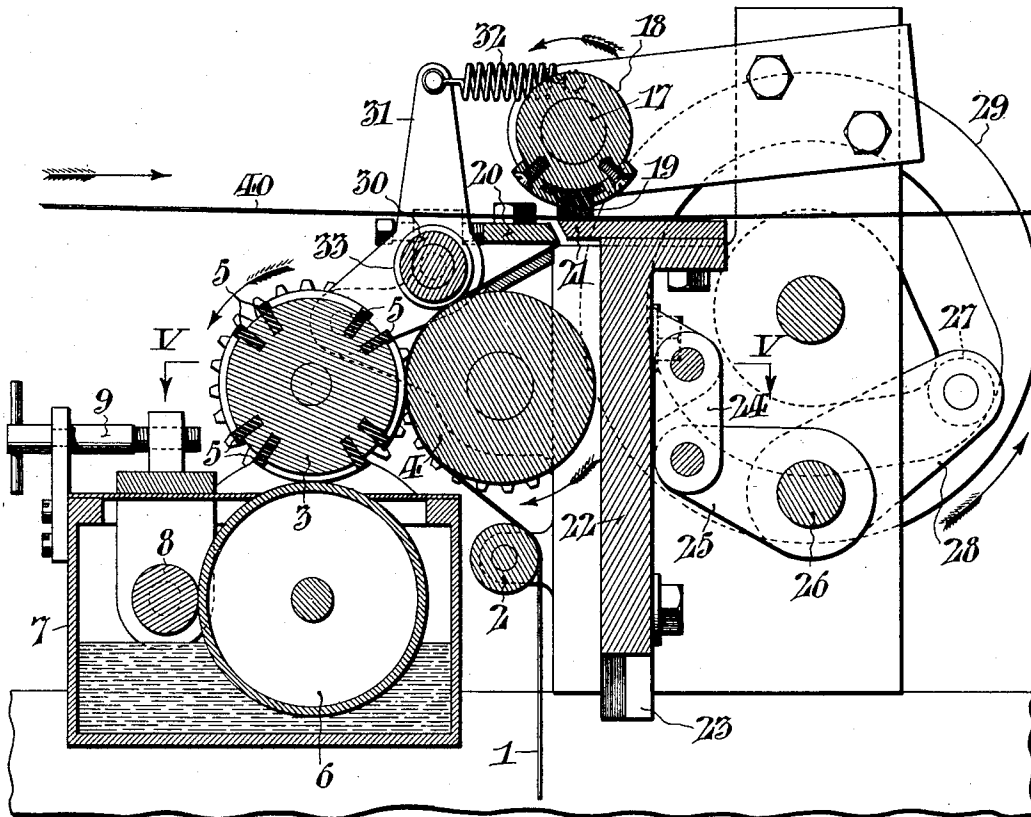
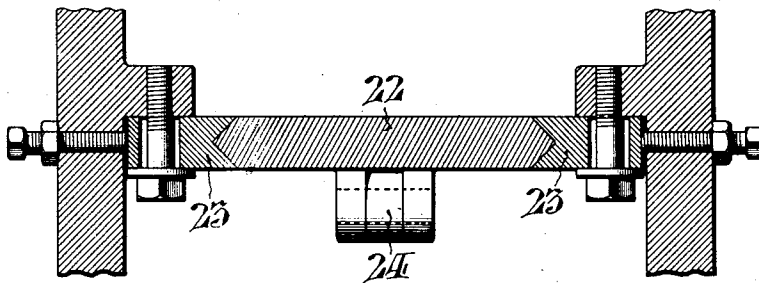


FIG. V.



Witnessed
 John C. Berger.
 James H. Bell

Inventor
 George W. Swift, Jr.,
 by *July & Lang*
 Attorneys

UNITED STATES PATENT OFFICE.

GEORGE W. SWIFT, JR., OF BORDENTOWN, NEW JERSEY.

MECHANISM FOR APPLYING WINDOW PATCHES TO ENVELOPE MATERIAL.

1,404,068.

Specification of Letters Patent. Patented Jan. 17, 1922.

Application filed August 4, 1917. Serial No. 184,397.

To all whom it may concern:

Be it known that I, GEORGE W. SWIFT, JR., of Bordentown, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Mechanism for Applying Window Patches to Envelope Material, whereof the following is a specification, reference being had to the accompanying drawings.

In the manufacture of window envelopes mechanism is provided by means of which patches are cut from a patch web and successively applied by adhesive to a running envelope web. Usually the envelope web has apertures or windows cut in it at intervals, and the patches are applied to the region of these apertures, so as to cover each window by a patch. But the patch may be applied to a running envelope web elsewhere than in the region of the window and before the windows are cut, the ultimate folding of the envelope being in such case relied upon to bring the patch into its ultimate position. This latter scheme of operation has been described in my application filed April 4, 1917, Serial No. 159,604, and in my Patent No. 1,275,788 granted August 13, 1918, "Window envelope machine."

My present application has to do with the mechanism whereby patches are applied to a running or progressively traveling envelope web, irrespective of whether the web is apertured and whether the patches are initially applied in the region of the aperture, being severed from a patch web and pressed against the running envelope web, to which they adhere.

In the accompanying drawings, Fig. I, is a plan view of mechanism embodying my invention.

Fig. II, is a side elevation of the same.

Fig. III, is a diagrammatic plan view of the running web.

Fig. IV, is a central longitudinal section along the line IV, IV, of Fig. I, and

Fig. V, a horizontal section along the line V, V, of Fig. IV.

Referring to Fig. IV, the patch web 1, is drawn around a guide roll 2, and passes between the rolls 3, and 4, of which the former is a gumming roll, having projecting from its periphery suitable gumming strips 5. These receive gum from the roller 6, rotating in the gum receptacle 7, and partially submerged in the liquid gum therein contained. The surface of the roller 6, is pre-

vented from carrying a too great thickness of gum by the presser roll 8, capable of adjustment in relation to its pressure upon roller 6, by means of the hand screws 9.

The gumming strips 5, on roll 3, are in the drawings shown as adapted to print upon the web hollow rectangular imprints as indicated in Fig. III, thus rendering it adhesive about the intended widow areas of the intended patch portions.

The gum-printed web is pressed against the periphery of the roll 4, by a tension roll 30, mounted between pivoted arms 31, under the tension of springs 32, which hold the projecting collars 33, of the tension roll (which correspond to breaks in the gumming strips 5) against the roll 4.

The rollers 3, and 4, are geared together to turn at equal speed, and are given intermittent rotation by the ratchet wheel 10, set upon the shaft of roll 4, and driven by the pawl 11, which is pivotally mounted upon the pivoted wrist plate 12, which is oscillated by the link 13, connecting it with lever 14, on shaft 15. By means of the pinions 16, 16, shaft 15, drives the shaft 17, carrying the presser roll 18, upon the surface of which the transverse presser edge 19, is carried. This edge 19, is resilient, being made preferably of rubber.

The shearing mechanism for the patches comprises a fixed blade 20, and a movable blade 21. The latter is mounted upon a reciprocating table 22, running in guideways 23. The link 24, connects this table with an arm 25, set upon rock shaft 26, which is rocked by the action of a cam 29 upon a roller 27, set upon arm 28, fast upon the rock shaft.

The motion of the blade 21, is thus accomplished in such a way that when the blade is in its lower position, the intermittent motion of the patch web mechanism carries a sufficient length of patch web between the shearing edges, thus feeding the end portion of the continuous web obliquely against the envelope material,—here shown as in a constantly moving continuous web. The upper surface of this portion of the patch web has already been gummed by roller 3. As the blade 21, rises, its shearing edge, co-acting with that of the fixed blade 20, shears off a proper length of the patch web (adhesive in a figure enclosing its intended window area) and carries it to the uppermost position as shown in Fig.

IV, where it presses it into contact with the under side of the running envelope web 40. At the same time the transverse presser edge 19, of the roller 18, has rotated to a position by direct opposition to it, and affords the necessary resistance to allow the blade to firmly press the gummed patch web on to the running envelope web, this action being rendered more easy by the rotation of roller 18, which has the effect of wiping the moving envelope material against the patch and thus causing adhesion of the patch to the envelope material.

Having thus described my invention, I claim:

1. In a window envelope machine, the combination of means for feeding a continuous patch web and for rendering it adhesive about the intended window areas of a succession of intended patch portions; and means for successively severing from the web patches thus rendered adhesive in figures enclosing their intended window areas and applying them to the envelope material, including a blade interposed between the envelope material and the patch web, as it advances to the point of severance, and a co-operating movable blade adapted to press the patch portions against the envelope material after having severed them from the patch web.

2. In a window envelope machine, the combination of means for feeding a continuous patch web and for rendering it adhesive about the intended window areas of a succession of intended patch portions; means for feeding the adhesive patch portions successively at the end of the web obliquely against the envelope material; and means for successively severing the obliquely extending patch portions so fed and pressing them against the envelope material, including a movable blade adapted to press the patch portions against the envelope material after having severed them from the patch web.

3. In a machine of the class described, the

combination of means for feeding the adhesive end portion of a continuous patch web obliquely against running envelope material; means for severing a patch from the end of the patch web, including a movable blade adapted to press the severed patch against the moving envelope material; and means for wiping the moving envelope material against the surface of the blade to cause adhesion of the patch thereto.

4. In a machine of the class described, the combination of a fixed blade and a movable blade beneath progressing envelope material; means for intermittently feeding a patch web across the top of the movable blade so that the motion of the latter shall advance the patch material to the fixed blade and sever a patch therefrom, and thereafter support and further advance said patch and apply the same to the progressing envelope web; and a presser roll above the envelope material opposite the movable blade adapted to wipe the moving envelope material against the patch on said blade.

5. In a machine of the class described, the combination of a fixed blade and a movable blade beneath progressing envelope material; means for feeding adhesive to a patch web; means for intermittently feeding said patch web, gummed side uppermost, over the top of said movable blade, so that the motion of the latter advances the patch material to the fixed blade, to sever a patch therefrom, and thereafter supports said patch during further advancement and applies the same to the progressing envelope web, and a presser roll above the envelope material opposite the movable blade adapted to wipe the moving envelope material against the patch on said blade.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this second day of August, 1917.

GEORGE W. SWIFT, JR.

Witnesses:

JAMES H. BELL,
A. REID.