

G. E. BISSEX.
 STRIP APPLYING MACHINE.
 APPLICATION FILED NOV. 1, 1911.

1,061,966.

Patented May 13, 1913.

2 SHEETS—SHEET 1.

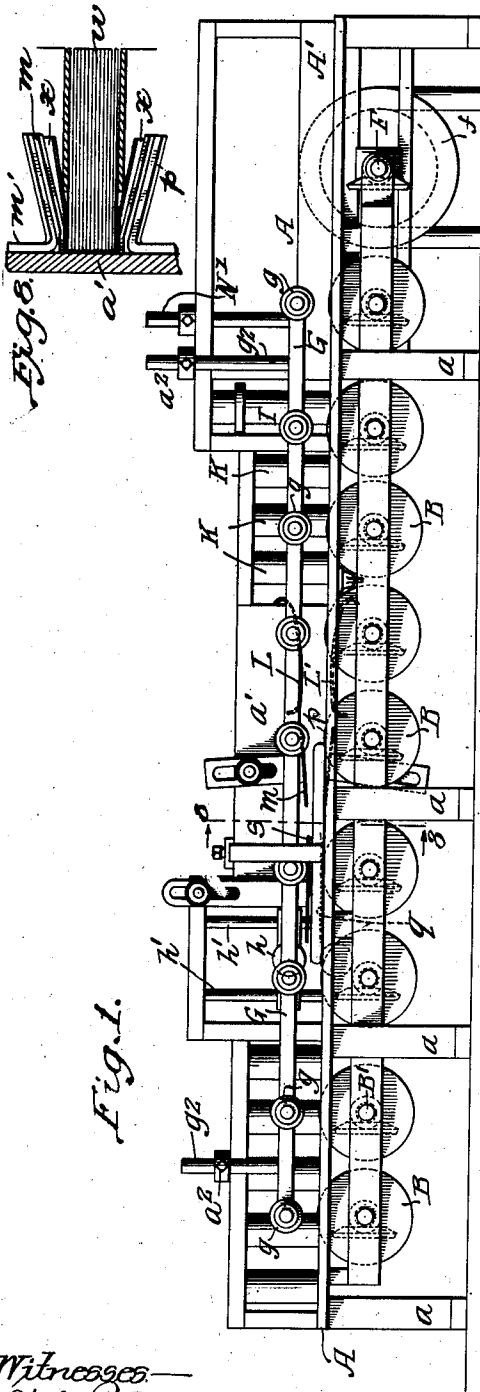


Fig. 1.

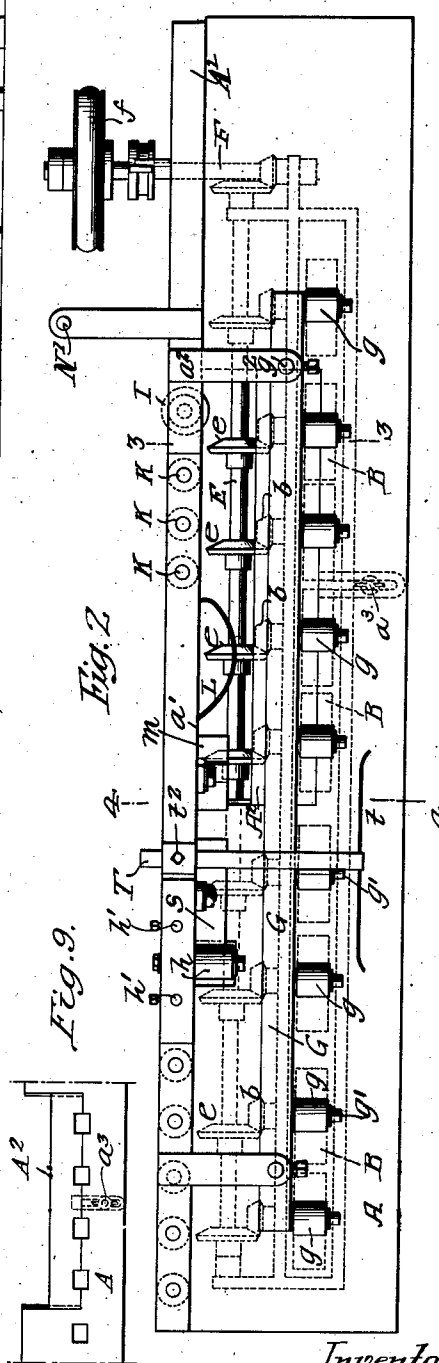
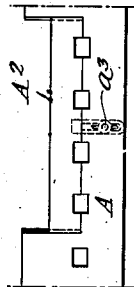


Fig. 2.

Fig. 3.



Witnesses—
 Walter S. Cullinger
 Wills A. Burrows

Inventor—
 George E. Bissex.
 by his Attorneys—
 Howson & Brown

UNITED STATES PATENT OFFICE.

GEORGE E. BISSEX, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO STEPHEN GREENE CO., OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

STRIP-APPLYING MACHINE.

1,061,966.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed November 1, 1911. Serial No. 657,933.

To all whom it may concern:

Be it known that I, GEORGE E. BISSEX, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Strip-Appling Machines, of which the following is a specification.

The object of this invention is to provide a machine for quickly and accurately pasting fabric or paper strips on the backs of books, forming part of the binding.

The invention is particularly adapted for use in stripping books of the type not fully bound, such as quarter bound, saddle stitch and side stitch; the sides in these classes of binding being secured to the leaves by strips pasted at the back. The invention can also be used for applying strips to cards.

In the accompanying drawings:—Figure 1, is a front view of my improved book stripping machine; Fig. 2, is a plan view; Fig. 3, is a sectional view on the line 3—3, Fig. 2, showing the strip partly secured to the book; Fig. 4, is a sectional view on the line 4—4, Fig. 2, showing the strip secured to the book; Fig. 5, is a perspective view of sufficient of the machine to illustrate a series of books with a sheet of strip material in position; Fig. 6, is an enlarged sectional view of part of Fig. 4; Fig. 7, is a diagram plan view showing the method of pasting or gluing the strip and feeding it to the machine; Fig. 8 is an enlarged sectional view taken on the line 8—8 Fig. 1 showing a form of strip presser which I employ; and Fig. 9 is a fragmental plan view of the table and an adjustable supporting strip.

My improved machine is so designed that a series of books can be fed to the machine and a continuous strip of backing material secured to the books as they pass through the machine, after which the strips are severed between the books.

The machine consists of a table A mounted on suitable supports *a*, and projecting through openings in this table are rollers B mounted on shafts B' driven from a longitudinal shaft E through bevel gears *e* and *b*. This longitudinal shaft is geared to a transverse driving shaft F having a driving pulley *f*.

G is a longitudinally arranged presser bar having a series of presser rollers *g* carried by laterally projecting spindles *g'*. These presser rollers *g* are directly above the car-

rying rollers B and the two series of rollers feed the book forward in the direction of the arrow, Fig. 5. The presser bar G in the present instance has standards *g*² which extend through bearings *a*² projecting from the frame of the machine. Set screws in the bearings secure the standards in the position to which they are adjusted.

At the feed end of the machine is a plate A', against which the backs of the books are placed, and this plate locates the books so that they will come in proper alinement with the mechanism for placing the strip in position.

I is a vertically arranged roller, around which the strip of material *x* passes from the pasting device N, which consists of a trough having a pasting roller *n* of any suitable type. The strip is drawn from a roll or spool *n'*, Fig. 7. The strip after passing around a guide rod N' is so turned around the vertically arranged roller I that the pasted surface of the strip will be next to the back of the book, as clearly shown in Fig. 5, in which *x* is the strip and *w* is the book. Located adjacent to the roller I is a series of vertical rollers K; these rollers bear against the strip *x* and press it against the back of the book. The upper and lower edges of the strip, however, being out of contact with the book, as clearly shown in Fig. 3.

m is an adjustable presser plate having a slotted extension *m'*, through which passes a confining screw *m*², and under the plate *m* is a plate *p* also adjustable. The plates are of the same contour and are set at an angle, both longitudinally and transversely, and are so adjusted that the inner corner of each plate presses the strip against the edges of the books. As the plates *m* and *p* are made thin and of steel as shown, they are resilient and will slightly yield and be deflected if a book, or other object, is passed therebetween which is of greater thickness than the normal distance between the plates. This construction and arrangement of the plates *m* and *p*, taken with the fact that they are disposed so as to converge both in the direction of movement of the books and toward the back of the books, causes the binding strip to be pressed and pasted securely over any irregular portions in the book such as are caused by the insertion of binding staples, etc., as the plates press the strip

against the books by a small surface contact which yields and conforms to the surface of the book. There is a second presser plate *s* directly back of the plate *m*. This plate has a slotted extension *s'* secured to the frame by a bolt *s*², and under the presser plate *s* is a plate *q* secured to the table A, Fig. 6. The plates *s* and *q* are shaped to properly press the strip onto the sides of the books, as shown in Figs. 4 and 6. Back of the presser plate *m* is a plate *a'* which is vertically arranged and secured to the table A, and the book is pressed against this plate by the guard *t* carried by an arm T adjustably mounted in a bearing *t'* and held in the adjusted position by a set screw *t*². A bent wire L is so shaped as to cause the upper edge of the strip to bend away from the roller K to more readily direct it under the presser plate *m*. There is a similarly bent wire L' located under the table for guiding the strip, see Fig. 1. After the strip is applied to the sides of the book in passing under the plate *s*, it passes under a vertically adjustable roller *h* carried by a block H. This block is mounted to slide on standards *h'* and can be locked in the position to which it is adjusted by set screws *h*², so as to accommodate books of different heights.

The operation of the machine is as follows:—The strip is placed upon the roll *n'* and is directed over the pasting roll *n* and around the vertical roller I with the pasted surface exposed. The books are then fed over the table one after another, as indicated in the perspective view, Fig. 5, under the presser bar G, and the driven rollers B feed the books forward so that the books will travel into the bent strip, and the first action is to force the backs of the books against the strip, thus securing the strip to the books; the strip is then pressed against the edges of the books by the plates *m* and *p*; the strip is then pressed upon the upper and lower sides of the books by the presser plates *s* and *q*, and finally rolled as the books pass under the roller *h*. Thus by this machine the strip can be quickly and accurately applied to the backs of the books.

I have described my invention as used in connection with a quarter bound book, but it will be understood that it can be used on a saddle stitch book, or a side stitch book as well, and the shape of the presser plates will conform to the style of book being bound. The invention can also be used for stripping cards or other material which it is desired to reinforce by a fabric or paper strip.

I preferably cut out the table A directly in front of the rollers K and guide plate *a'*, and mount in said cut out portion of the table a movable supporting strip A², which can be adjusted to and from the rollers K

and plate *a'*, so as to properly support books of different widths and types. The strip can be secured in the position to which it is adjusted by a screw or wing nut *a*³.

I claim:—

1. A strip-applying machine comprising a supporting structure; means for moving the material to which a strip is to be applied; and two independently adjustable resilient members fixed to the supporting structure and having oppositely disposed surfaces between which the said material moves.

2. A strip-applying machine comprising a supporting structure; means for moving the material to which a strip is to be applied; and a combined strip guiding and presser member adjustably fixed to the supporting structure and having its operating surface inclined in two directions to the plane of movement of the said material, a portion of said member being placed to be deflected by the said movement of the material thereby, said latter portion being resilient and acting to press the strip to the said material.

3. A strip-applying machine comprising a supporting structure; means for moving the material to which a strip is to be applied; and two independently mounted plates adjustably fixed to the supporting structure and having oppositely disposed surfaces between which the material passes, each of said surfaces being inclined in two directions to the plane of movement of the said material.

4. A strip-applying machine comprising a supporting structure; means for moving the material to which a strip is to be applied; two strip guiding and pressing plates having oppositely disposed surfaces and adjustably fixed to the supporting structure, each of said surfaces being operatively inclined in two directions to the plane of movement of said material therebetween, each of said plates having a resilient portion placed to be deflected by the said material in its passage therebetween and acting to press the strip to the said material.

5. A strip-applying machine comprising a supporting structure; means for moving the material to which a strip is to be applied; a member having a strip guiding and pressing plate; and means for operatively keeping a part of the operating surface of the said plate inclined in two directions to the plane of movement of the said material, said plate also having a portion placed to be deflected by the material during the movement thereof and acting to press the strip to the said material.

6. A strip-applying machine comprising a supporting structure; means for moving the material to which a strip is to be applied; two members each having a strip

guiding and pressing plate thereon; and means for operatively keeping a portion of each plate inclined in two directions to the plane of movement of the said material, each of said plates having a portion placed to be deflected by the material during the said movement and acting to press the strip to the said material.

7. A strip-applying machine comprising a supporting structure; means for moving the material to which a strip is to be applied; and two strip guiding and pressing plates independently and adjustably mounted on the supporting structure and having their operating surfaces oppositely disposed, the greater part of each of said surfaces being operatively kept in an inclined position in two directions to the plane of movement of material, each of said plates having a portion placed to be deflected by the material during the said movement therebetween and acting to press the strip to the said material.

8. A machine for applying strips to books comprising a table; means for moving books over the table; and a binding strip presser including two pressing plates, one above and one below the path of movement of the books, said plates converging both in the direction of the movement of the books and toward the bound edge of the book whereby the pressure on the strip is greatest at the bound portions of the sides of the books.

9. A machine for applying strips to books comprising a table; means for moving books over the table; two independently adjustable strip guiding and pressing plates fixed to the machine and having oppositely disposed surfaces, the greater part of each of said surfaces being operatively kept in an inclined position in two directions to the plane of movement of the book to which a strip is being applied, each of said plates having a portion which is deflected by the books during their said movement and acting to press a strip to the book.

10. A machine for applying strips to books comprising a table; a series of rollers mounted below the table; a second series of rollers mounted above the table; means for driving certain of the rollers to move the books along the table; a plate disposed at an angle to the top of the table; means for guiding a pasted strip to a point between the edges of the book and said plate; a primary strip-guide; and a strip presser having two independently mounted and adjustable strip guiding and pressing plates having oppositely disposed surfaces between which books may pass, a portion of each of said surfaces being operatively kept in an inclined position in two directions to the plane of move-

ment of the books, each of said plates having a portion adapted to be deflected by the books during their said movement and acting to press the strip to the books.

11. A machine for applying strips to books comprising a table; a series of rollers mounted below the table; a second series of rollers mounted above the table; means for driving certain of the rollers to move the books along the table; a plate disposed at an angle to the top of the table; means for guiding a pasted strip to a point between the ends of the book and said plate; a primary strip-guide; a strip presser having two independently mounted and adjustable strip guiding and pressing plates having oppositely disposed surfaces between which books may pass, a portion of each of said surfaces being operatively kept in an inclined position in two directions to the plane of movement of the books, each of said plates having a portion which is deflected by the books during the said movement thereof and acting to press the strip to the latter; and a second presser located to the rear of the said first presser and between which the books are adapted to be moved.

12. A machine for applying strips to books comprising a table; a series of rollers mounted below the table; a second series of rollers mounted above the table; means for driving certain of the rollers to move the books along the table; a plate disposed at an angle to the top of the table; means for guiding a pasted strip to a point between the ends of the book and said plate; a primary strip-guide; a strip presser including two independently mounted and adjustable strip guiding and pressing plates having oppositely disposed surfaces between which books may pass, a portion of each of said surfaces being operatively kept in an inclined position in two directions to the plane of movement of the books, each of said plates having a portion which is deflected by the books during the said movement thereof and acting to press the strip to the latter; a second presser located to the rear of the said first presser and between which the books may be moved; with an adjustable presser roller located in the rear of the second presser and adapted to act on the books in contact with the strip pasted thereon.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GEORGE E. BISSEX.

Witnesses:

WM. E. SHUPE,
WM. A. BARR.