Nov. 2, 1937. A. J. MOYER 2,098,060

MECHANISM FOR SHAPING THE BACKS OF BOOK COVERS

Filed June 1, 1936 3 Sheets-Sheet 1

Fig 1

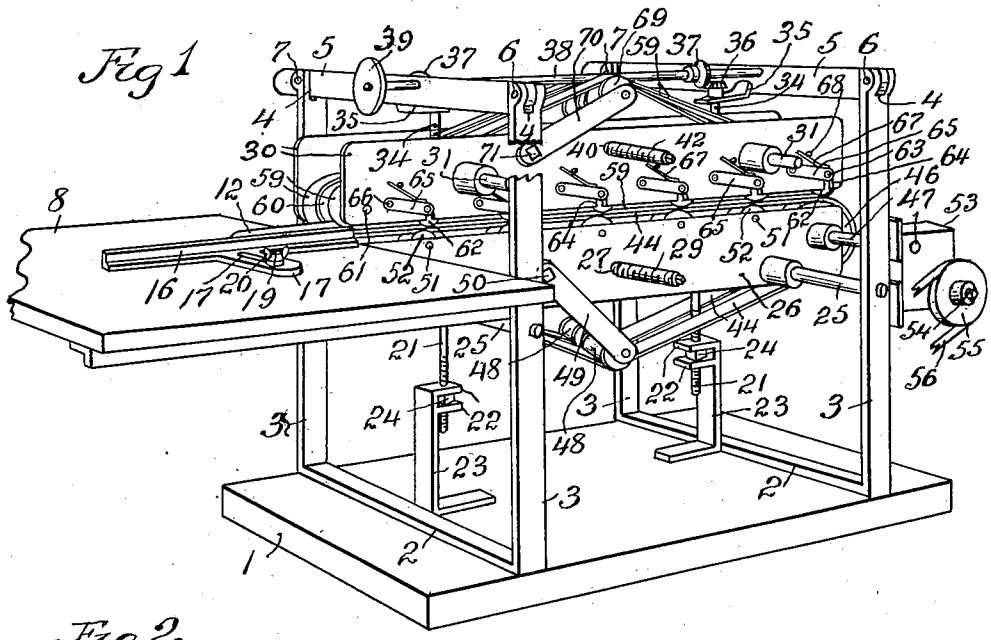
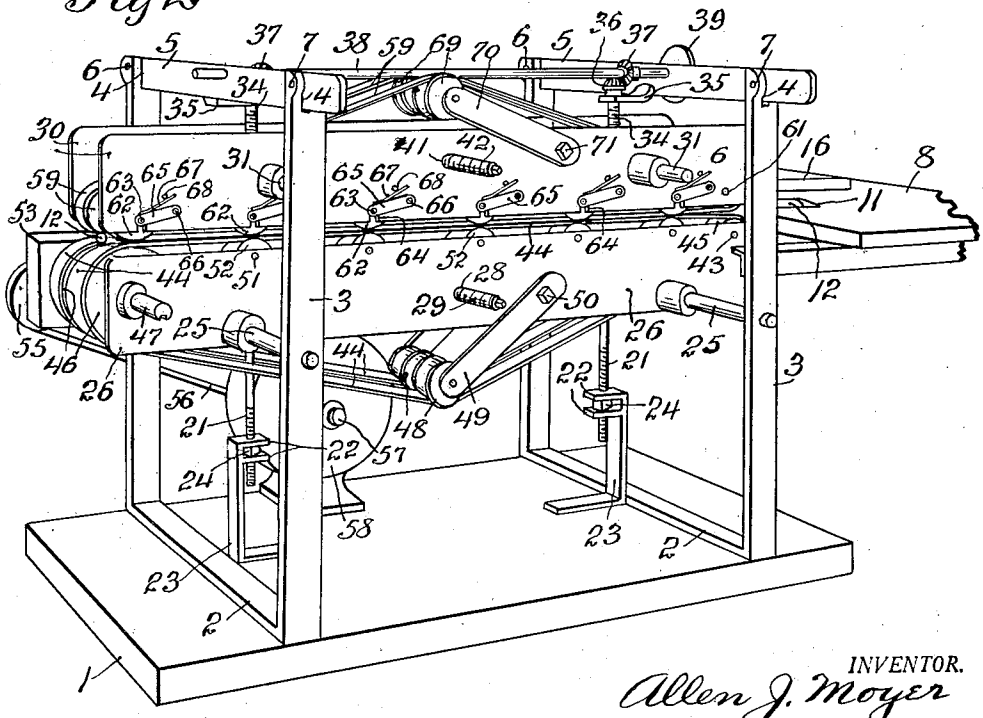


Fig 2



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MECHANISM FOR SHAPING THE BACKS OF BOOK COVERS

Filed June 1, 1936 3 Sheets-Sheet 2

Fig 3

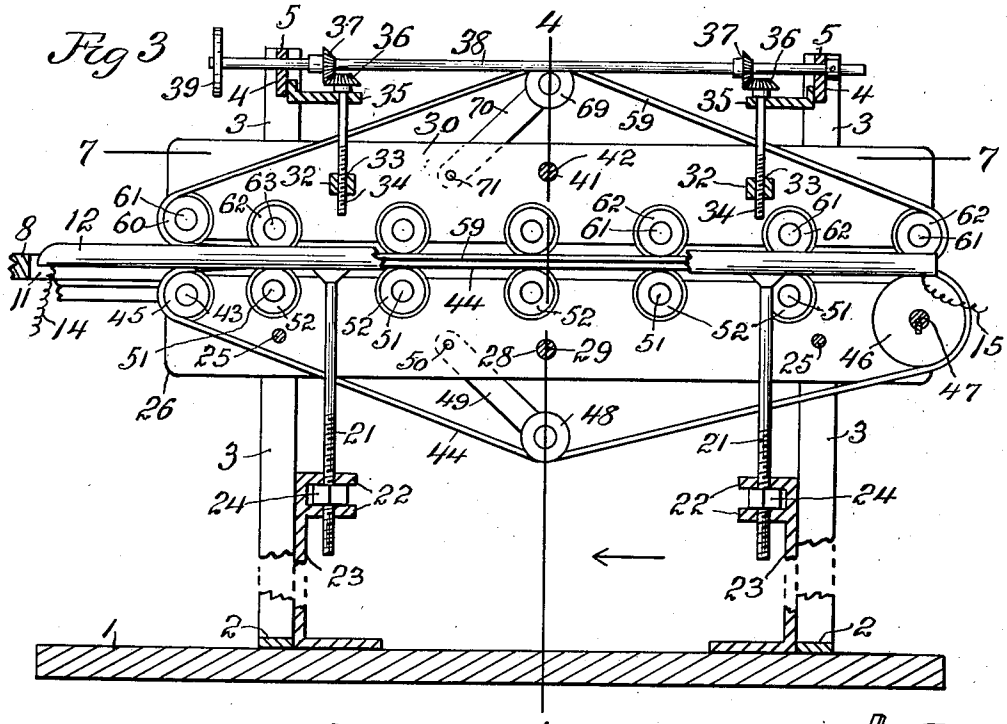


Fig 4

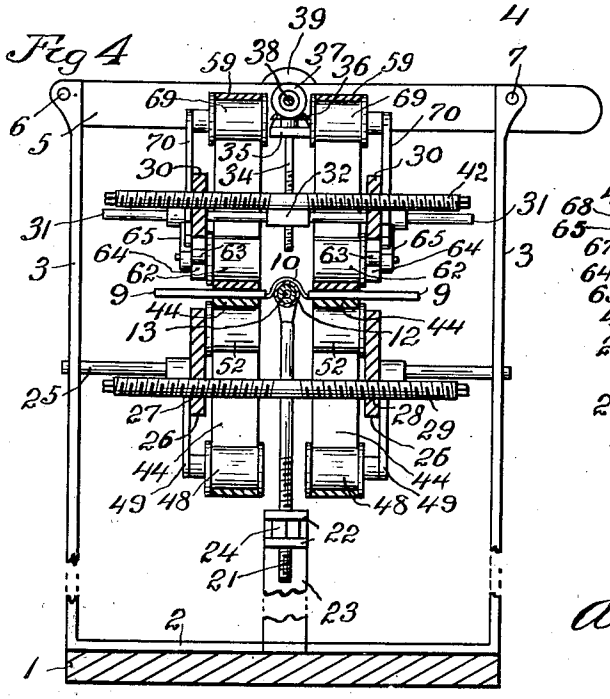
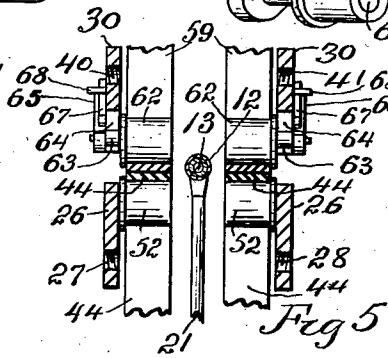


Fig 6



Fig 5



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MECHANISM FOR SHAPING THE BACKS OF BOOK COVERS

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Fig 7

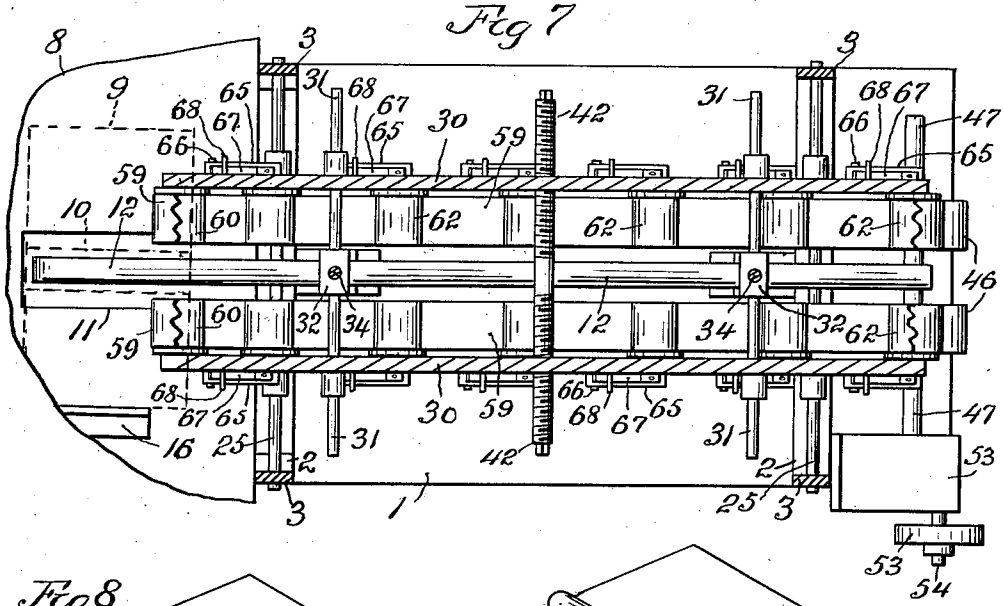
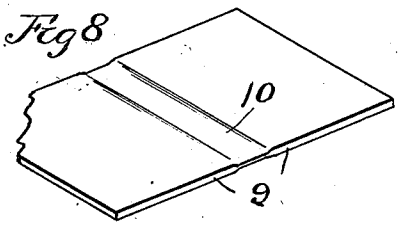


Fig 8



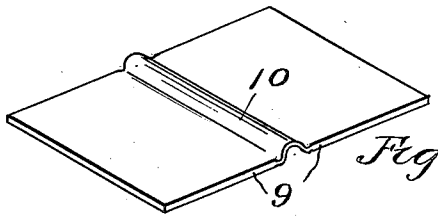


Fig 9

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Patented Nov. 2, 1937 2,098,060

UNITED STATES PATENT OFFICE

2,098,060

MECHANISM FOR SHAPING THE BACKS OF BOOK COVERS

Allen J. Moyer, Kansas City, Mo., assignor to Interstate Bindery Company, Kansas City, Mo., a corporation of Missouri

Application June 1, 1936, Serial No. 82,823

20 Claims. (Cl. 11—2)

My invention relates to improvements in mechanisms for shaping the backs of book covers. It relates particularly to the type of such mechanisms in which an open book cover is fed endwise with its sides at opposite sides respectively of a rectilinear heated back shaping member which forms or shapes the back of the cover while the cover is being fed with the back in sliding contact with the back shaping member.

One of the objects of my invention is the provision of novel cover feeding means which will firmly grip the sides of the cover and feed it endwise while holding the back against and conformed to the back shaping member; which will rapidly feed the covers without damage to or distortion of the covers, even those which have very thin pliable sides; which can be easily and quickly adjusted to feed covers having backs that vary widely in width and thickness and which will support and guide the sides of the covers and hold the back conformed to the back shaping member with the elimination of other accessory means for effecting such functions.

A further object of the invention is the provision of a novel mechanism for shaping the backs of book covers, which is relatively simple, strong, durable, not likely to get out of order, and which is efficient in its operation.

The novel features of the invention are hereinafter fully described and claimed.

In the accompanying drawings which illustrate the preferred embodiment of the invention,

Fig. 1 is a perspective view, partly broken away, of a machine which embodies the novel features of the invention, looking at one side and end of the machine.

Fig. 2 is a view similar to Fig. 1, looking at the other side and end of the machine, and showing its operating motor.

Fig. 3 is a vertical sectional longitudinal view of the machine, parts being broken away.

Fig. 4 is a vertical sectional view, partly broken away, taken on the plane of the line 4—4 of Fig. 3, and showing a book cover being fed through the machine.

Fig. 5 is a vertical sectional view of some of the parts shown in Fig. 4, others being omitted, the cover being omitted, and the upper belts in contact with the lower belts.

Fig. 6 is an enlarged perspective view of one of the belt pressing rollers and its supporting member.

Fig. 7 is a horizontal sectional view on the plane of the line 7—7 of Fig. 3, some parts being omitted and others broken away.

Fig. 8 is a perspective view, partly broken away, of a book cover prior to its back being shaped.

Fig. 9 is a perspective view of a book cover after it has been passed through the machine, and with its back shaped.

Similar characters of reference designate similar parts in the different views.

The machine is provided with a supporting frame comprising a base plate 1 on which are supported two U shaped end members 2 the arms 3 of which are vertical and form the corner posts of the frame. The upper ends of each pair of arms 3 are respectively provided with vertical end slots 4 which are alined with each other and in which is disposed edge up a transverse bar 5.

Each bar 5 is pivoted by a pin 6 to one of the adjacent arms 3, so as to be adapted to be vertically swung. A removable pin 7 is normally extended through the bar 5 and the other adjacent arm 3, for locking the bar in its horizontal operative position.

Attached to the arms 3 at one end of the machine is a table 8 upon which is laid in its initial proceeding the book cover, shown in dotted lines in Fig. 7, the sides of the cover being designated 9 and the back of the cover 10.

The end of the table 8 which is attached to the arms 3 is provided with a slot 11 into which extends one end portion of a back shaping means, comprising, as shown, a horizontal longitudinal metal tube 12 which extends lengthwise of the machine equidistant from the arms 3 of the frame. The tube 12 has closed ends and has extending lengthwise in it an electrical heating element 13 which is insulated from the tube and has its ends joined respectively to two insulated conducting wires 14 and 15 connected with a suitable source of electrical current supply, not shown.

The cover which is to have its back shaped is disposed on the table 8 spread out, as shown in dotted lines in Fig. 7, with the inner side of the back 10 pressed against the upper side of the projecting end portion of the back shaping tube 12 and the sides 9 of the cover disposed at opposite sides respectively of the shaping tube 12. To properly initially locate the covers to be treated, a guide plate 16, Figs. 1, 2 and 7 is mounted on the table 8 at one side of the slot 11. The guide plate 16 has a lateral arm 17 provided with a slot 18 through which upwardly extends a screw 19 mounted in the table 8 and having adjustably mounted on it a thumb nut 20 adapted to engage the arm 17 and clamp the guide plate 16,

to the table, in the position to which the plate is adjusted.

The shaping tube 12 is supported upon the upper ends of two vertical rods 21, Figs. 1, 2, 3 and 4, the upper ends of which are attached to the under side of the tube 12 at a substantial distance apart and respectively adjacent to the transverse planes of the arms 3. The lower end of each rod is screw threaded and is vertically adjustable slidably in a vertical hole provided through two lateral spaced apart ears 22 on the upper end of a post 23, the lower end of which is mounted upon and fastened to the base 1 adjacent to the transverse portion of the adjacent member 2.

Respectively fitted on the threaded portions of the rods 21 are two nuts 24 which are respectively rotatably mounted between the pairs of ears 22, the lower ears supporting the nuts 24, which in turn support the rods 21. By adjusting the nuts 24 on the rods 21, the back shaping tube 12 may be adjusted vertically and to a horizontal position, or to a position angling either way from a horizontal, as may be needed to have it properly cooperate with the cover feeding means to be hereinafter described.

Two transverse horizontal bars 25, mounted in the end member arms 3, one bar in each pair of arms, extend transversely through two longitudinal side members comprising longitudinal plates 26 disposed edge up between the arms 3 at opposite sides respectively of the back shaping tube 12, and slidably adjustable on the bars 25 simultaneously toward or from the tube 12 and each other.

As shown in Figs. 4 and 5, the side plates 26 are respectively provided transversely therethrough with two alined but oppositely threaded holes 27 and 28 in which are respectively fitted two oppositely threaded end portions of an adjusting screw 29, by which on turning in proper directions, the side plates 26 may be adjusted toward and from the tube 12, as described above.

Disposed respectively directly above the two plates 26 and parallel therewith, are two similar side plates or side members 30 also disposed edge up at opposite sides of the back shaping tube 12, and slidably adjustable toward and from each other and said tube 12 on two horizontal cylindrical end portions respectively of two transverse bars 31, each having a rectangular middle portion 32 through which extends a vertical threaded hole 33, Figs. 3 and 7.

Revolubly fitted respectively in the holes 33 are the threaded lower ends of two supporting and adjusting rods 34, which support the bars 31, thereby supporting the side plates 30. The rods 34 respectively extend vertically upwardly through holes in two brackets 35, which are respectively rigidly fastened to the bars 5. Rigidly secured respectively to the upper ends of the rods 34 are two bevel gear wheels 36 which respectively rest on the upper sides of the brackets 35 and support the rods 34.

The bevel gear wheels 36 respectively mesh with two bevel gear wheels 37 which are fastened on and are revoluble with a horizontal longitudinal adjusting rod 38 rotatably mounted in and extending through and supported by the bars 5. Fastened on one end of the rod 38 is a hand wheel 39 by which the rod 38 may be turned in either direction. The rods 34 are threaded alike, and the gear wheels 37 are at the same sides of the gear wheels 36, so that when the hand wheel is turned, the rods 34 will be turned in a like direction with each other, so as to raise or lower the side plates 30, as may be desired.

For simultaneously adjusting the side plates or side members 30 toward or from each other, and toward or from the back shaping tube 12, said plates near their medial portions are provided respectively with two oppositely threaded holes 40 and 41 in which are respectively fitted the oppositely threaded end portions of an adjusting screw 42, by which on turning in the proper directions, the side plates 30 may be adjusted as above described.

Alined inwardly extending horizontal studs 43 are respectively mounted on the inner sides of the side plates 26 near the forward ends and upper edges thereof. A pair of lower flat belts 44 are respectively mounted on and have traveling engagement with two pulleys 45 respectively revoluble on the studs 43. Said belts 44 are respectively mounted upon and have driving engagement with two pulleys 46 keyed on a horizontal shaft 47 which extends through and is revoluble in the side plates 26 adjacent to the rear or delivery ends thereof.

The two belts 44 are respectively disposed in vertical longitudinal planes at opposite sides of the back shaping tube 12, and have their inner sides of their lower portions respectively engaged and held taut by two pulleys 48 respectively revoluble on two downwardly extending bars 49, which are respectively pivoted on two bolts 50 respectively mounted in threaded holes through the plates 26. The bars 49 are at the outer sides of the plates 26 to which they may be respectively clamped by tightening the bolts 50, Figs. 1, 2, and 3.

On the inner side of each side plate 26 is mounted a longitudinal horizontal row of inwardly extending studs 51 which are respectively transversely alined with the studs 51 of the other row. Upon the studs 51 of each row are revolubly mounted rollers or pulleys 52 all of which are of like diameter. The studs 51 and pulleys 52 are disposed intermediate of the pulleys 45 and 46, and the pulleys 52 of the two rows respectively have traveling engagement with the under sides of the upper portions of the belts 44. Those portions of the belts 44 between the end pulleys 52 are horizontal and parallel with the shaping tube 12 at opposite sides thereof and disposed in a horizontal plane lower than the plane of the top of said tube. The shaft 47 is rotated in a direction such as will drive the upper parallel portions of the belts rearwardly, or from the table 8 to the right, as viewed in Fig. 3.

For driving the shaft 47 and with it the belts 44, the shaft 47 is connected by usual transmission gearing in a gear box 53 mounted on one of the arms 3, with a shaft 54 on which is mounted a pulley 55 that is connected by a belt 56 with a pulley, not shown, mounted on the armature shaft 57 of an electric motor 58 mounted on the base 1.

Two flat endless belts 59 are disposed respectively at opposite sides of the back shaping tube 12 directly over and in vertical planes parallel with the belts 44. The belts 59 have longitudinal horizontal portions directly over and parallel with the parallel portions of the belts 44 that are engaged by the pulleys 52, and they cooperate with said portions of the belts 44 for gripping the sides 9 of the covers and feeding forwardly the covers while the backs of the covers are being formed on the shaping tube 12.

The belts 59 respectively have traveling engagement with two pulleys 60 revolubly mounted respectively on two horizontal studs 61 mounted respectively on the side plates 30 and extending inwardly therefrom over the studs 43. The belts 59 have their horizontal parallel portions in traveling engagement at their upper sides with pulleys 62 disposed respectively over the pulleys 52 and 46, and respectively revoluble on horizontal studs 63 that extend inwardly through slots 64 in the lower edges of the side plates 30.

The studs 63 are disposed respectively over the studs 51 and the shaft 47, and are respectively mounted on upwardly and downwardly swinging arms 65 pivoted at the outer sides of the side plates 30 on pins 66 mounted in said plates. Springs 67 respectively fastened to the upper sides of the arms 65 and bearing against pins 68 mounted in the side plates 30 normally force the arms 65 downwardly so as to have the pulleys 62 yieldingly force the horizontal parallel portions of the belts 59 toward the belts 44 respectively.

For holding the belts 59 taut, the under sides of their upper portions are respectively engaged with pulleys 69 respectively revoluble on two upwardly extending bars 70 respectively pivotally mounted at the outer sides of the side plates 30 on clamping bolts 71 mounted respectively in said plates and adapted to hold the bars 70 in the positions to which said bars are adjusted.

In the operation of the invention in forming the back of a cover, the cover is disposed as shown in dotted lines in Fig. 7 with the sides of the cover resting on the table 8 and the inner side of the back 10 pressed downwardly tightly on the upper side of the heated shaping tube 12. The cover is thus held momentarily until the heat softens the glue in the back 10 of the cover, so that the back conforms to the shape of the tube 12, as shown in Fig. 9.

The cover is then pushed endwise between and into engagement with the lower belts 44 and the upper belts 59. The said belts are disposed closely adjacent to the shaping tube 12, as shown in Figs. 4, 5 and 7, and they grip the sides 9 of the cover and hold the back 10 thereof against and conformed to the shaping tube 12 while at the same time feeding the cover through the machine with the back of the cover slidingly engaging the shaping tube 12, the cover being finally discharged from the machine over the pulleys 46 with its back permanently formed to the desired shape, which shape is determined by the contour of the upper side of the shaping tube 12.

By properly turning the hand wheel 39, the rod 38, gear wheels 36 and 37, rods 34 and bars 31—32 will vertically adjust the side plates 30 to suit the thickness of the sides 9 of the covers to be operated upon.

By properly turning the adjusting screws 29 and 42, the side plates 26 and 30 may be adjusted toward or from the shaping tube 12, thereby effecting the adjustment of the belts 44 and 59 toward or from the shaping tube 12, to accommodate the apparatus to the width of backs of the covers to be operated upon.

By adjusting the nuts 24, the shaping tube 12 may be raised or lowered or slightly inclined longitudinally in either direction to adjust the tube to its proper position relatively to the cover gripping means, that is the portions of the belts 44 and 59 which are parallel with each other and are engaged by the pulleys 52 and 62.

By employing traveling belts for gripping the sides of the covers and feeding the covers during the shaping operation, covers with extremely thin pliable sides may be fed through the machine without liability of their being damaged or distorted.

The spring pressed pulleys 62 press downwardly the upper belts 59 against the belts 44, so that the belts 44 being driven by the pulleys 46, drive the belts 59 in a direction such that the horizontal parallel gripping portions of the belts 59 will travel in the same direction as the parallel horizontal gripping portions of the belts 44, and if the sides of the covers separate the gripping portions of the two sets of belts, the covers will effect by the pressure exerted upon them, the driving of the belts 59 at such times.

Many modifications of my invention, within the scope of the appended claims, may be made without departing from its spirit.

What I claim is:

1. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two endless belts adapted for travel parallel with said shaping means and to have gripping engagement with the inner and outer sides of the cover and moving the cover endwise while the back of the cover is held against and conformed to said shaping means, and means for driving said belts to move said portions in the same direction at the same speed parallel with said shaping means.

2. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two endless belts on each side of said shaping means adapted for travel parallel with said shaping means and to have gripping engagement with the inner and outer sides of the cover and moving the cover endwise and so disposed as to hold the back of the cover against and conformed to said shaping means, and means for driving said belts to move said portions in the same direction at the same speed parallel with said shaping means.

3. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two gripping means at opposite sides respectively of said shaping means and adapted for travel at like speed and in the same direction parallel with said shaping means for respectively gripping the sides of the cover and moving the cover endwise while the back of the cover is held against and conformed to said shaping means, and means for supporting and so moving said gripping means.

4. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two gripping means at opposite sides respectively of said shaping means and adapted for travel at like speed and in the same direction parallel with said shaping means for respectively gripping the sides of the cover and moving the cover endwise while holding the back

of the cover against and conformed to said shaping means, and means for supporting and so moving said gripping means.

5. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two gripping means at opposite sides respectively of said shaping means for respectively gripping the sides of the cover, and means for simultaneously moving said two gripping means at like speed and in the same direction parallel with said shaping means, whereby the cover is moved endwise while the back of the cover is held against and conformed to said shaping means.

6. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two gripping means at opposite sides respectively of said shaping means for respectively gripping opposite sides of the cover and holding the back of the cover against and conformed to said shaping means, and means for simultaneously moving said two gripping means at like speed and in the same direction parallel with said shaping means, whereby the cover is moved endwise.

7. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two endless belts at opposite sides respectively of said shaping means and having respectively two portions parallel with each other and with said shaping means, means cooperating with said two portions for gripping the sides of the cover, and means for driving said belts in directions such that said two portions will travel simultaneously at like speed and in the same direction, parallel with said shaping means and with each other, whereby the cover is moved endwise while the back of the cover is held against and conformed to said shaping means.

8. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides of said shaping means, of two pairs of endless belts at opposite sides respectively of said shaping means and having rectilinear portions parallel with said shaping means and with each other, and means for driving two of said belts, one of each pair, in directions such that their said parallel portions will travel simultaneously at like speed and in the same direction parallel with said shaping means and with each other, the other two belts being so disposed relative to said driven belts respectively as to have their said parallel portions cooperate with said driven belts to grip the sides of the cover and move the cover endwise while the back of the cover is held against and conformed to said shaping means.

9. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two pairs of endless belts at opposite sides respectively of said shaping means and having rectilinear portions parallel with said shaping means and with each other, means for driving two of said belts, one of each pair, in directions such that their parallel portions will travel simultaneously at like speed in a like direction parallel with said shaping means and with each other, the other two belts being so disposed relative to said driven belts as to have their said parallel portions cooperate with said driven belts to grip the sides of the cover and move the cover endwise while the back of the cover is held against and conformed to said shaping means, and yielding means for normally forcing the said parallel portion of one belt of each pair toward the like portion of the other belt of the pair.

10. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two pairs of endless belts at opposite sides respectively of said shaping means and having rectilinear portions parallel with said shaping means and with each other, means for driving two of said belts, one of each pair, in directions such that their parallel portions will travel simultaneously at like speed in a like direction parallel with said shaping means and with each other, the other two belts being so disposed relative to said driven belts as to have their said parallel portions cooperate with said driven belts to grip the sides of the cover and move the cover endwise while the back of the cover is held against and conformed to said shaping means, and means for adjustingly moving said other pair of belts toward and from said driven belts respectively.

11. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two pairs of endless belts at opposite sides respectively of said shaping means and having rectilinear portions parallel with said shaping means and with each other and adapted to travel at like speed and in the same direction parallel with said shaping means and with each other, two belts, one of each of said pairs, being so disposed relative to the other two belts respectively as to have their said parallel portions cooperate with said other two belts to grip the sides of the cover and move the cover endwise while the back of the cover is held against and conformed to said shaping means, and means for adjustably moving one pair of said pairs of belts toward and from the other pair, and means for so driving two belts, one of each of said pairs.

12. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two pairs of endless belts at opposite sides respectively of said shaping means and having rectilinear portions parallel with said shaping means and with each other and adapted to travel at like speed and in the same direction parallel with said shaping means and with each other, two belts, one of each of said pairs, being so disposed relative to the other two belts respectively as to have their said parallel portions cooperate with said other two belts to grip the sides of the cover and move the cover endwise while the back of the cover is held against and conformed to said shaping means, means for adjustably moving two of said belts, one of each of said pairs,

toward and from the other two belts, and means for adjustably moving one pair of said pairs of belts toward and from the other pair, and means for so driving two belts, one of each of said pairs.

13. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two belts at opposite sides respectively of said shaping means and having respectively two parallel portions parallel therewith and with each other and adapted to travel at like speed and in the same direction, pulleys having traveling engagement with said belts, a support for said pulleys, two other belts similarly disposed relatively to said shaping means and having respectively two parallel portions so disposed as to cooperate with said first named two portions to grip the sides of the cover while the back of the cover is held against and conformed to said shaping means, pulleys having traveling engagement with said two other belts, a support for the last named pulleys, and means by which one of said supports may be so adjusted as to move said parallel portions of said belts carried thereby toward and from said other two parallel portions.

14. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two endless belts at opposite sides respectively of said shaping means having respectively two portions parallel with said shaping means and with each other and adapted to have gripping engagement with the sides respectively of the cover and to travel simultaneously at like speed and in a like direction while the back of the cover is held against and conformed to said shaping means, and supporting means for said belts by which they may be adjusted sidewise toward and from said shaping means and each other.

15. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two endless belts at opposite sides respectively of said shaping means having respectively two portions parallel with said shaping means and with each other and adapted to have gripping engagement with the sides respectively of the cover and to travel simultaneously in the same direction at the same speed while the back of the cover is held against and conformed to said shaping means, and pulleys supporting said belts.

16. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two endless belts at opposite sides respectively of said shaping means having respectively two portions parallel with said shaping means and with each other and adapted to have gripping engagement with the sides respectively of the cover and to travel simultaneously in the same direction at the same speed while the back of the cover is held against and conformed to said shaping means, two sets of pulleys respectively supporting said belts, and supporting means for said pulleys by which they and said belts may be adjusted toward and from said shaping means.

17. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two endless belts at opposite sides respectively of said shaping means having respectively two portions parallel with said shaping means and with each other and adapted to have gripping engagement with the sides respectively of the book cover and to travel simultaneously in the same direction at the same speed while the back of the cover is held against and conformed to said shaping means, two sets of pulleys respectively supporting said belts, two members at opposite sides respectively of said shaping means and respectively supporting said two sets of pulleys, and means for simultaneously adjusting said two supporting members, and with them and said belts, toward or from said shaping means and toward or from each other.

18. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two endless belts at opposite sides respectively of said shaping means having respectively two portions parallel with said shaping means and with each other and adapted to have gripping engagement with the sides respectively of the book cover and to travel simultaneously in the same direction at the same speed while the back of the cover is held against and conformed to said shaping means, two sets of pulleys respectively supporting said belts, two members at opposite sides respectively of said shaping means and respectively supporting said two sets of pulleys, means for adjusting said members simultaneously toward or from said shaping means, and means for adjusting said members, and with them said pulleys and said belts, simultaneously in the same direction and at right angles to the first named adjustment.

19. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shaping the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two endless belts at one side of said shaping means and having respectively two portions parallel with said shaping means and with each other and in register with each other and adapted to grip between them the adjacent side of the cover, two sets of pulleys having traveling engagement respectively with said belts, means for driving one of sets of pulleys in a direction such that said parallel portion of one of said belts will travel parallel with said shaping means, thereby propelling said cover in said direction while the back of the cover is held against and conformed to said shaping means, two supporting members respectively supporting said sets of pulleys, means for movably adjusting one of said supporting members toward or from the other supporting member, and means for adjusting said supporting members toward or from said shaping means.

20. In a book cover back shaping mechanism, the combination with rectilinear back shaping means for engaging the inner side of and shap-

ing the back of an open book cover, the sides of which are at opposite sides respectively of said shaping means, of two gripping feeding means at opposite sides respectively of said shaping means movable simultaneously at like speed and in the same direction parallel with said shaping means for respectively gripping the sides of the cover and holding the back of the cover against and conformed to said shaping means while feeding the cover endwise parallel with said shaping means, and means for adjusting said two gripping means toward or from said shaping means.

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