April 21, 1970 T. R. SMITH 3,507,601

BINDING LOADING FIXTURE

Filed Oct. 20, 1966 2 Sheets-Sheet 1

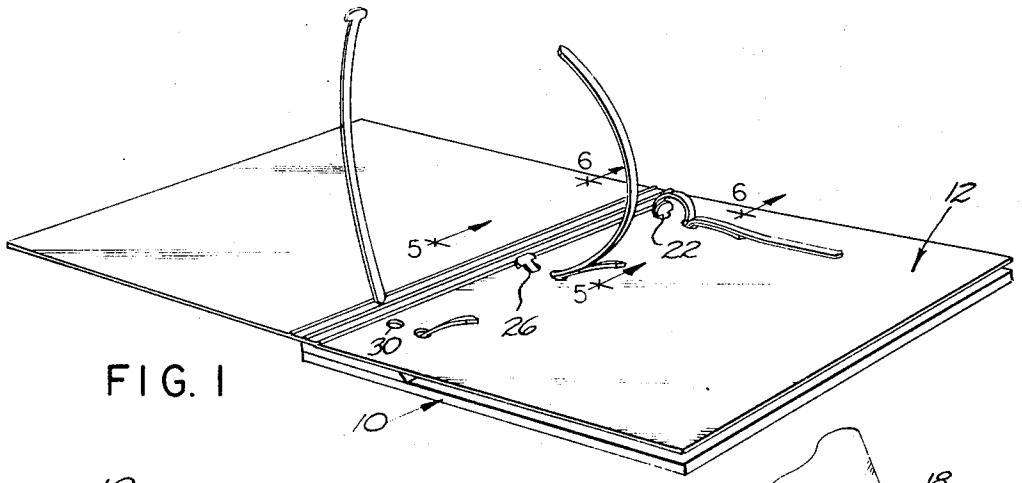


FIG. 1

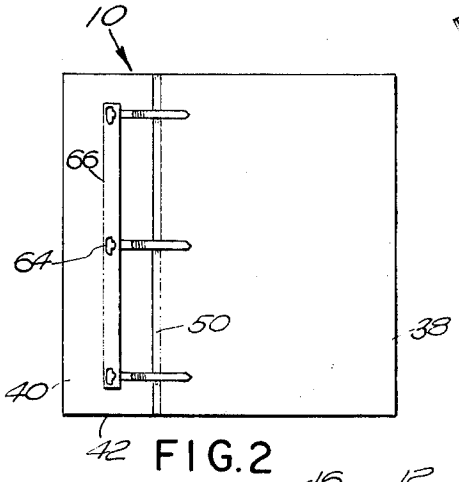


FIG. 2

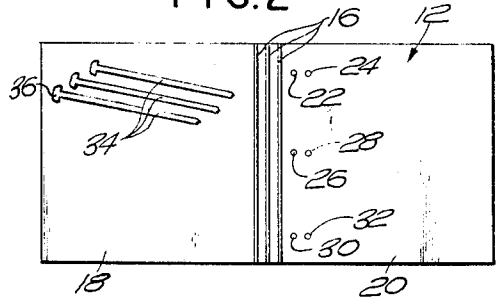


FIG. 4

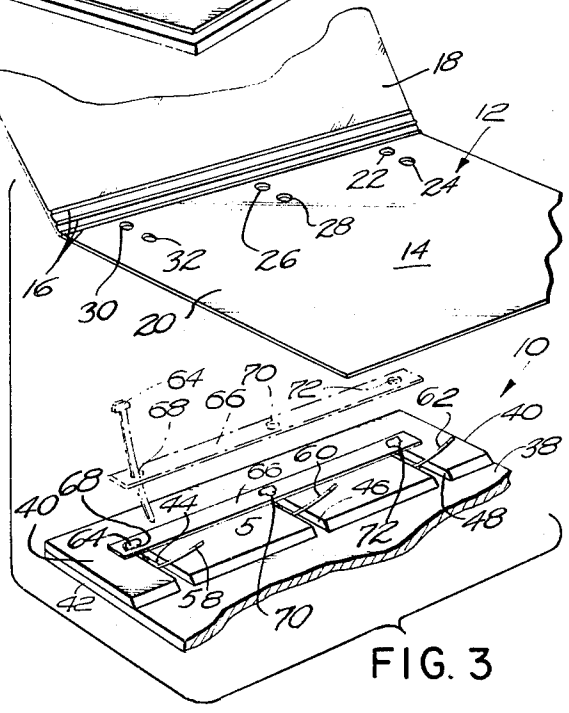


FIG. 3

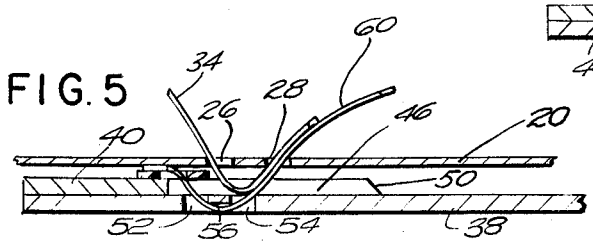


FIG. 5

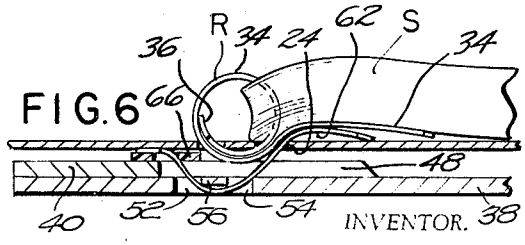


FIG. 6

INVENTOR.
THOMAS R. SMITH
BY
ATTORNEY

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BINDING LOADING FIXTURE

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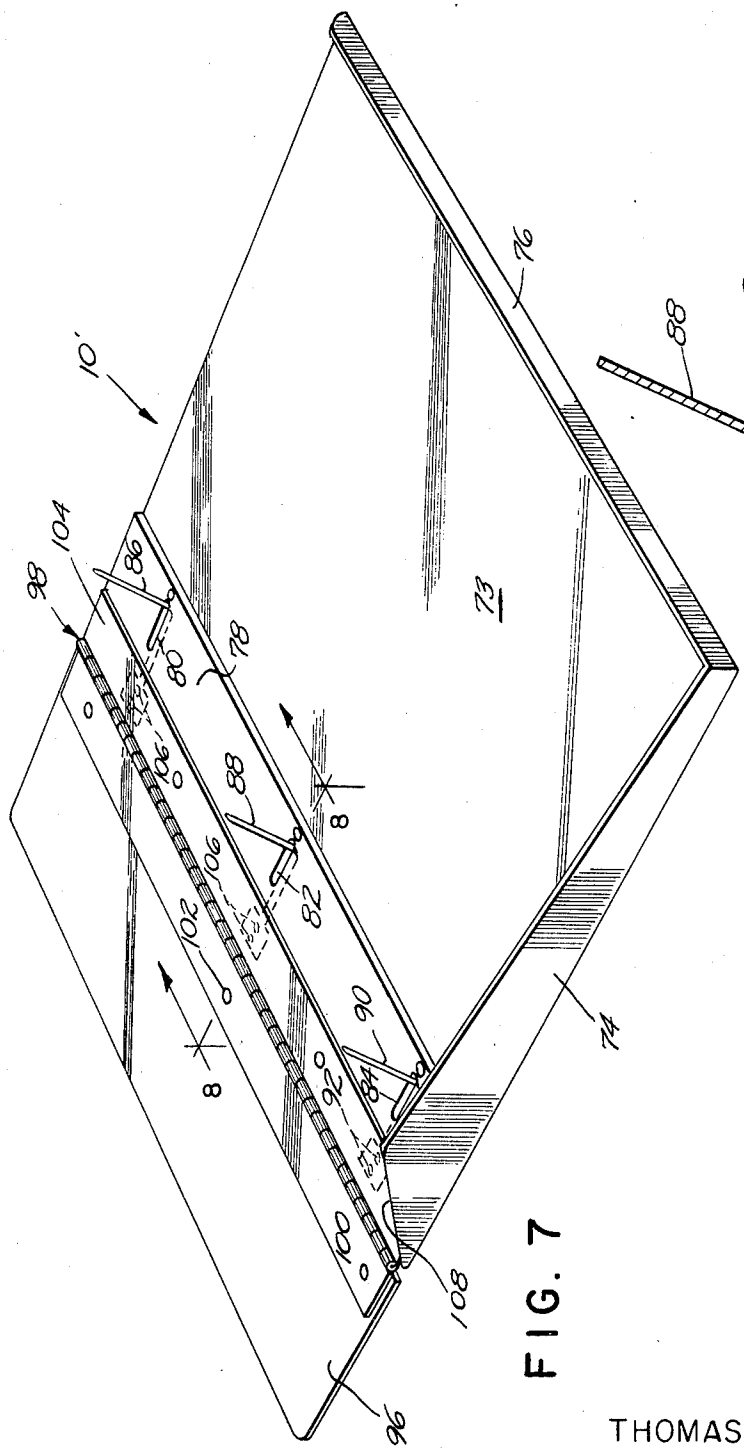


FIG. 7

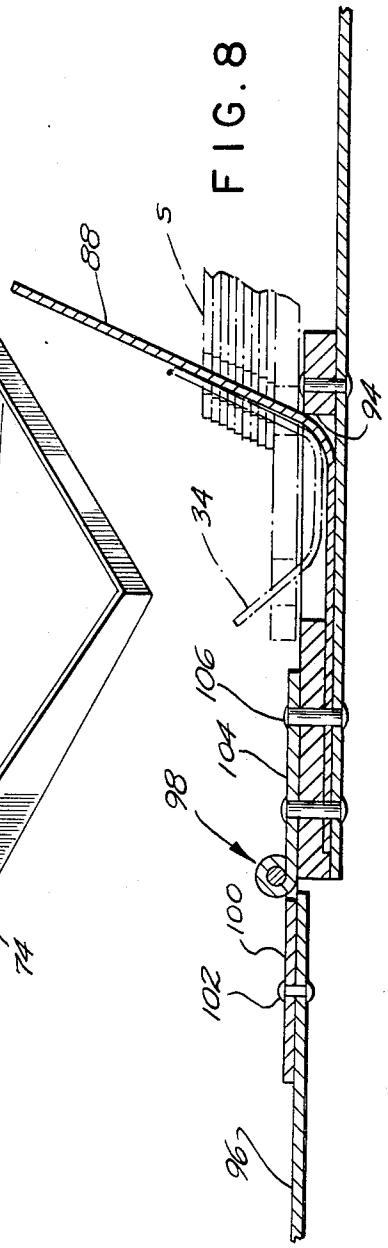


FIG. 8

INVENTOR.
THOMAS R. SMITH
BY
Maxwell J. Furotta
ATTORNEY

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BINDING LOADING FIXTURE

Thomas R. Smith, 27A Brushy Hill Road, Newtown, Conn. 06470

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U.S. Cl. 402—8 1 Claim

ABSTRACT OF THE DISCLOSURE

A device for loading sheets in a binder that includes a cover formed with pairs of spaced holes therein through which flexible binder strips are adapted to be threaded for locking the sheets in the binder, the device including a base on which the binder cover is positioned in oriented relation and having transverse grooves formed therein in spaced relation, guide elements being fixed to the base and extending upwardly through the grooves for projection thereabove and defining guides for the threading of the binder strips through the holes in the sheets as they are loaded onto the binder cover.

The present invention relates to improvements in binder cover loading and more particularly to an improved binder loading fixture.

Of late binders have been developed in which a binder cover is employed which has a series of pair of holes formed therein. A binder loop is formed by an elongate flat plastic strip having a head so as to simulate a flat nail. The strip is threaded through the pair of holes and paper to be bound and then back through the pair of holes for securement and adjustment. In such binders, the threading operation can be difficult and it has become desirable to facilitate such operation for economic reasons.

Accordingly, is is a primary object of the present invention to provide an improved binder cover loading fixture which will facilitate loading of binder covers.

Another object of the present invention is to provide an improved binder cover loading fixture wherein threading of the binder loop through holes in the cover is guided so as to expedite loading.

A further object of the present invention is to provide an improved binder loading fixture whereby flexible ring-forming strips can be threaded through coplanar holes in a binder cover merely by directing the strips through one hole of a pair.

Other objects of the present invention are to provide an improved binder cover loading fixture which is easily used, economical to manufacture, lightweight and inexpensive.

Various other objects and advantages will become apparent from the detailed description to follow.

In the drawings:

FIGURE 1 is a perspective view showing the loading fixture of the present invention with a binder cover in position for loading;

FIGURE 2 is a plan view of the fixture per se;

FIGURE 3 is a perspective view of the fixture with a binder cover ready for loading;

FIGURE 4 is a plan view of a binder cover with which the fixture is utilized;

FIGURE 5 is a sectional view taken substantially on the plane of line 5—5 in FIGURE 1;

FIGURE 6 is a sectional view taken substantially on the plane of line 6—6 in FIGURE 1.

FIGURE 7 is a perspective view of a second embodiment of binder cover loading fixture;

FIGURE 8 is a sectional view taken substantially on the plane of line 8—8 in FIGURE 7.

Referring more particularly to the drawings wherein like numerals apply to like parts throughout, it will be seen that I have provided an improved binder cover loading fixture **10** for binder covers **12**.

The binder cover **12** is comprised of a folder cover **14** of any desired material, such as cardboard or plastic material, and has a series of fold lines formed therein at **16** so as to enable the cover to be folded in half to provide front and rear cover portions **18, 20**, respectively. The rear cover portion **20** has three sets of two holes each, as at **22, 24**; **26, 28**; and **30, 32**, the holes being laterally aligned but coplanar in the cover. Of course, the number of sets can be varied as desired.

The binder loops are provided by the strips **34**, which are identical in design. Elongate flat strips of plastic having enlarged heads at **36** form flat nail-like elements which can be threaded through the sets of holes as will be described.

The fixture **10** comprises an elongated member formed by flat board **38** of any suitable selected material preferably rectangular in shape. A second thickness of stock **40** is bonded or otherwise joined to the board along the working edge thereof at **42**. The pieces **38, 40** could be integrally molded from plastic. The piece **40** is formed with three slots or grooves **44, 46, 48** corresponding to the holes **22, 24**; **26, 28**; **30, 32**, in spacing. Also, the slots or grooves are as wide as the diameter of the holes. The grooves are as deep as the piece **40** and open out at the edge **50** thereof.

The piece **38** has three pairs of holes therein aligned with the slots **44, 46, 48**, as at **52, 54** in FIGURE 5. A recess **56** joins the holes **52, 54** on the underside of piece **38**.

A series of flexible tongues **58, 60, 62** are anchored in the grooves **44, 46, 48**, respectively. The tongues are similar to the strips **34** and preferably formed of plastic or flexible metal strips. The tongues have heads as at **64**. An anchor strap **66** with three apertures **68, 70, 72** spaced according to the spacing of grooves **44, 46, 48**, is positioned over piece **40** and the three tongues **58, 60, 62** are inserted through the respective apertures, down through the respective grooves and holes, **52**, across recess **56** and up through hole **54**. The tongue free ends upwardly and outwardly incline as shown in FIGURE 2.

The fixture can have the tongues otherwise anchored. It is now ready for usage.

The binder cover **12** is positioned over the fixture **10** and the three tongues **58, 60, 62** are engaged through the holes **24, 28** and **32**, or the right hand hole of each pair in the cover. Next, a strip **34** is directed downwardly through each of the left hand holes **22, 26, 30** as shown in FIGURE 1, and as seen in FIGURE 5, the end of the strip will automatically be upwardly directed through the other hole of the pair.

The sheets S to be bound can then have the strips **34**, passed through their punch holes.

Next the strips are arcuated rearwardly and reengaged through the left hand holes **22, 26, 30** of the pairs of holes and beneath the heads **36**. Again the strips will be guided out through holes **24, 28, 32** as shown in FIGURES 1 and 6. The size ring as at R can be varied according to the bulk of S, as will be obvious.

Finally the binder cover is merely lifted from the fixture and the tongues **58, 60, 62** will simply retract from the holes in the cover. The fixture is now ready to use in loading another cover.

In the embodiment of FIGURES 7 and 8, the fixture **10'** can be fabricated from metal or plastic or combinations thereof. The fixture includes a planar plate **73** of sufficient elongate length to accommodate the edge of a binder cover. The plate is of rectangular shape and has

right-angularly upturned edges at **74, 76** against which corresponding edges of a binder cover can be abutted as will be described hereinafter.

Along the side edge opposite upturned edge **76**, an elongated plate **78** is positioned. The plate has three slots or grooves **80, 82** and **84** formed therein at spacings equal to the spacings of holes **22, 24; 26, 28;** and **30, 32**. The grooves are of a width adapted to cooperate with the strips **34**, as above described.

The tongues **86, 88, 90** are of spring metal stock the width of grooves **80, 82, 84** and have widened ends as at **92** seated beneath the plate **78** while the free ends project through the grooves and are upwardly directed on an inclined plane by engagement with the groove end wall at **94**.

The cover plate **96** is joined to plate **73** by hinge **98**, one flange **100** of which is secured by rivets **102** to the cover plate and the other flange **104** of which is secured by rivets **106** through plate **78** to plate **73**. The rivets **106** also pass through the enlarged heads **92** of the tongues for secure anchoring thereof.

When the fixture is not in use the cover is pivoted over to cover the tongues and rests on the inclined edge **108** of side edge **74**.

When used, the fixture receives a binder cover thereon with edges thereof abutting the edges **74, 76** of the fixture. This positions the holes **24, 28, 32** of the cover exactly for entry of the tongues **86, 88, 90** (see the dotted line cover in FIGURE 8). Next the contents S are engaged on the tongue, as shown. Then the strips **34** can be inserted as in the above embodiment and will engage in the respective groove and be upwardly directed by the tongue therein so as to pass through the fillers S, also as shown. Completion of the loop or ring is as above described and then the binder cover is simply removed by lifting from the fixture, as will be obvious.

Accordingly, it is believed that I have provided an improved binder cover loading fixture which fulfills the objects hereinbefore enumerated.

As this invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, the present embodiment is therefore illustrative and not restrictive, since the scope of the invention is defined by the appended claim rather than by the description preceding it, and all changes that fall within the metes and bounds of the claim or that form their functional as well as conjointly cooperative equivalents, are therefore intended to be embraced by the claim.

I claim:

1. In a device for loading a plurality of sheets in a binder, wherein the binder includes at least one cover that is formed with pairs of spaced holes therein and flexible binder strips are threadably received in said holes for locking said sheets in said binder, a base having a generally planular surface to which an upstanding wall is joined along an edge thereof, said wall receiving a binder thereagainst during a loading operation for orienting the binder in a loading position, an elongated plate joined to said base adjacent an edge thereof and extending in perpendicular relation with respect to said wall, a plurality of elongated spaced grooves formed in said plate and extending perpendicular to the longitudinal axis of said plate and parallel to said wall, a plurality of flexible guides secured to said base, an end of each guide being concealed beneath said plate and fixed to said base, each of said guides extending along the bottom of a groove for substantially the length thereof and then extending upwardly in an inclined direction at the end of the groove that is located furthest away from the second named edge of said surface, each guide terminating in a free end that projects above said base and extends in a direction away from the second named edge, the end of each guide that is concealed beneath said plate being fixed in said base adjacent to said second named edge, each of the pairs of the holes in said binder being located over a groove and each of said guides being received in a hole of each pair of holes in said binder cover to orient said binder cover on said base, the portion of each guide occupying substantially the length of a groove defining a guiding surface for a binding strip that is threaded through a pair of said holes in said binder cover when said sheets are located therein.

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JEROME SCHNALL, Primary Examiner