F. J. HRUSKA.

BINDER.

Fig. 1.

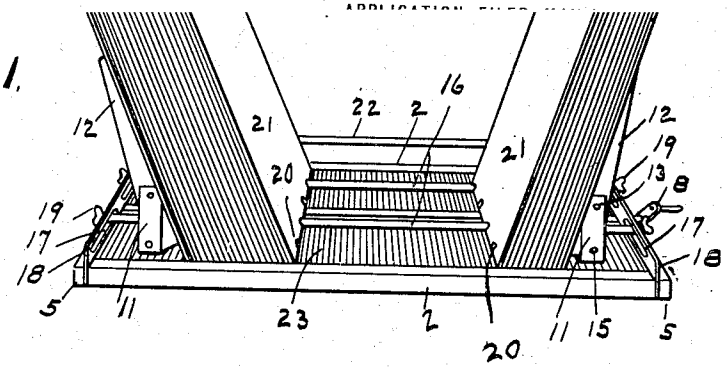


Fig. 2.

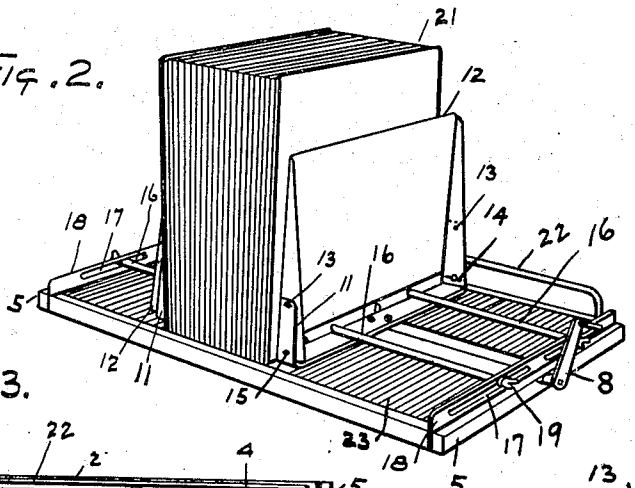


Fig. 3.

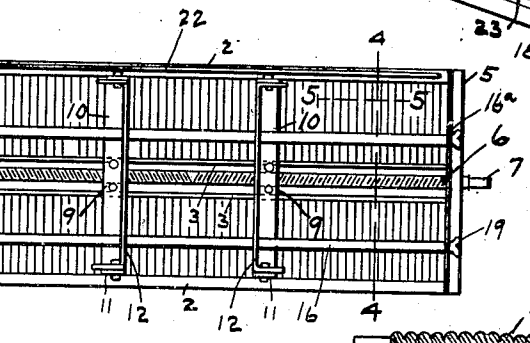
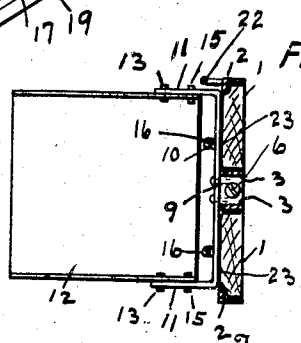
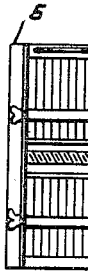


Fig. 4.





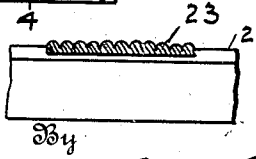


Fig. 5.

Inventor

Frank J. Hruska

By

Attorney

UNITED STATES PATENT OFFICE.

FRANK J. HRUSKA, OF CEDAR RAPIDS, IOWA, ASSIGNOR TO LE FEBURE LEDGER COMPANY, OF CEDAR RAPIDS, IOWA, A CORPORATION OF IOWA.

BINDER.

1,280,737. Specification of Letters Patent. Patented Oct. 8, 1918.

Application filed May 26, 1916. Serial No. 99,989.

To all whom it may concern:

Be it known that I, FRANK J. HRUSKA, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented new and useful Improvements in Binders, of which the following is a specification.

This invention relates to binders and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims.

More particularly the invention is directed to binder trays for handling leaves which are used in connection with bookkeeping machines. The device while not limited to this use is designed with this in view.

The invention is illustrated in the accompanying drawings as follows:—

Figure 1 shows a perspective view of the binder tray with the leaves in open position.

Fig. 2 the binder tray with the leaves closed.

Fig. 3 a plan view of the binder tray.

Fig. 4 a section on the line 4—4 in Fig. 3.

Fig. 5 a section of a fragment of the tray on the line 5—5 in Fig. 3.

The base of the tray is made up of the strips 1—1 preferably of wood. Angle irons 2 are arranged along the outer edges of these strips, the inner legs of the angle irons extending over upon the top face of the strips. Plates 3—3 are arranged along the inner edges of the strips 1. These are spaced apart forming a slot in the base. The strips 1, are secured together by the end pieces 5.

A screw 6 is rotatively mounted in the end pieces 5 and locked against end movement relatively thereto. The screw has the threads at its opposite ends oppositely pitched. A squared end 7 is provided on which a key 8 may be placed for operating the screw.

Nuts 9 are mounted on the screw 6, one at each end and clamping bars 10 are mounted on the nuts 9 and move along over the face of the base when operated by the nuts 9. The nuts 9 are of sufficient length to form a support and guide for the clamping bars. The clamping bars have the upturned ends 11 and the backing plates 12 are pivotally mounted by means of pins 13 between the upturned ends 11, the ends of the plates being flanged or turned backwardly to facilitate this mounting. Slots 14 are arranged in the plates 12 near the bottom of the flanged ends and stop pins 15 extend through the upturned ends 11 and into the slots and form stops limiting the pivotal movement of the backing plates 12.

Guide rods 16 extend from end to end of the binder. They extend through slots 17 in the upwardly extending plates 18, these plates being secured between the end pieces 5 and the ends of the strips 1. The rods 16 have reduced ends forming the shoulders 16ª which engage the plate and thumb screws 19 are arranged in the outer ends of the rods. By loosening these thumb screws the rods may be moved laterally in the slots 17 and then locked in adjustment by the thumb screws. The rods 16 are designed to enter the ordinary notches 20 in the leaves 21 and thus hold the leaves in register.

In order to facilitate the use of the device where the leaves are being withdrawn and replaced, it is desirable to provide a guide as 22 along one side of the binder against which the leaves may be thrown in returning them to the binder. This may be accomplished if the clamp is open at the side opposite the guide 22, or at least open throughout the greater part of the side of the clamp as this will permit of throwing or delivering the leaves sidewise into the clamp, the side rod forming a stop against which the leaves are brought to rest. The rod 22 has its ends bent downwardly extending into the base and are there secured. This rod is at a height to engage the edge and thus stop the side movement of a leaf as it is being returned so that it will settle in its proper position with its notch or notches on the rod 16.

It will be observed that the pivots formed by the pins 13 are below the centers of the backing plates so that when the binder is opened the parts naturally tilt so as to give the leaves their proper slant and make them readily accessible as clearly shown in Fig. 1. The opening may be made to any extent that may be desired. When the parts are closed and the backing plates clamped against the leaves they automatically bring the leaves into parallel relation and bring the leaves at the top edges into close contact.

By making both clamping bars movable and mounting them on the screw with the

right and left pitch the bars are moved equally in both directions and consequently the leaf body is maintained in a central position on the base of the binder. Thus the weight is always centrally located and the stability of the binder when being used is thus increased.

Binders of this type are opened so as to loosen the leaves in order that they may be freely removed and returned to the binder and there is a tendency of the leaves to slide out of place. To obviate this a surface 23 of corduroy is arranged on the top of the base forming a backing as it were for the binder. Any roughened surface such as velvet or similar material may be used but corduroy is preferred as it presents pronounced ribs, these ribs being arranged transversely of the base. This roughened surface or the ribs of the fabric engage the edges of the leaves and thus prevent the slipping down of the leaves when the binder is open. The alined ribs of the corduroy also tend to maintain the sheets in alinement. The corduroy should be arranged at such a distance from the rods 16 as to receive the weight of the leaves.

What I claim as new is:—

1. In a binder tray, the combination of a base; a screw mounted on the base, the threads of the screw being oppositely pitched at the opposite ends; a clamping bar mounted on each end of the screw; and a backing plate pivotally mounted on one of said clamping bars, the axis of the pivot being between the top and bottom of the plate.

2. In a binder tray, the combination of a base; a screw mounted on the base, the threads of the screw being oppositely pitched at the opposite ends; a clamping bar mounted on each end of the screw; and a backing plate pivotally mounted on each of said clamping bars, the axis of the pivots being between the top and bottom of the plates.

3. In a binder tray, the combination of a base; a screw mounted on the base, the threads of the screw being oppositely pitched at the opposite ends; a clamping bar mounted on each end of the screw; and a backing plate pivotally mounted on one side of said clamping bars with the pivot below the center of the plate.

4. In a binder tray, the combination of a base; a screw mounted in the base; a clamping bar mounted on the screw; and a backing plate pivotally mounted on the clamping bar, the axis of the pivot being between the top and bottom of the plate.

5. In a binder tray, the combination of a base having a longitudinal slot therein; a screw mounted on the base in the slot, the threads of the screw being oppositely pitched at opposite ends; nuts on the screw; clamping bars mounted on the nuts, the nuts riding on the screws forming guides for the clamping bars, said clamping bars having up-turned ends; backing plates pivotally mounted between the up-turned ends, the axis of the pivots being between the tops and bottoms of the plates and below the center thereof; and stops limiting the pivotal movement of the plates.

6. In a binder tray, the combination of a base; a clamp mounted on the base; and a tranversely adjustable guide rod mounted on the base and adapted to engage notches in leaves in the clamp.

7. In a binder tray, the combination of a base; a clamp mounted on the base; slotted plates arranged at the ends of the base; a guide rod extending across the base and into said slots; and means for securing the guide rod in different points of adjustment in said rods.

8. In a binder tray, the combination of a base; a clamp mounted on the base; and open at one side to permit a side delivery of a leaf to the clamp, and a guide rod at the opposite side of the clamp adapted to engage the side of a sheet in the clamp.

9. In a binder tray, the combination of a leaf supporting device; and a backing supporting the leaves in the device by engagement with their edges, said backing being formed of corduroy with the ribs arranged transversely.

In testimony whereof I have hereunto set my hand.

FRANK J. HRUSKA.