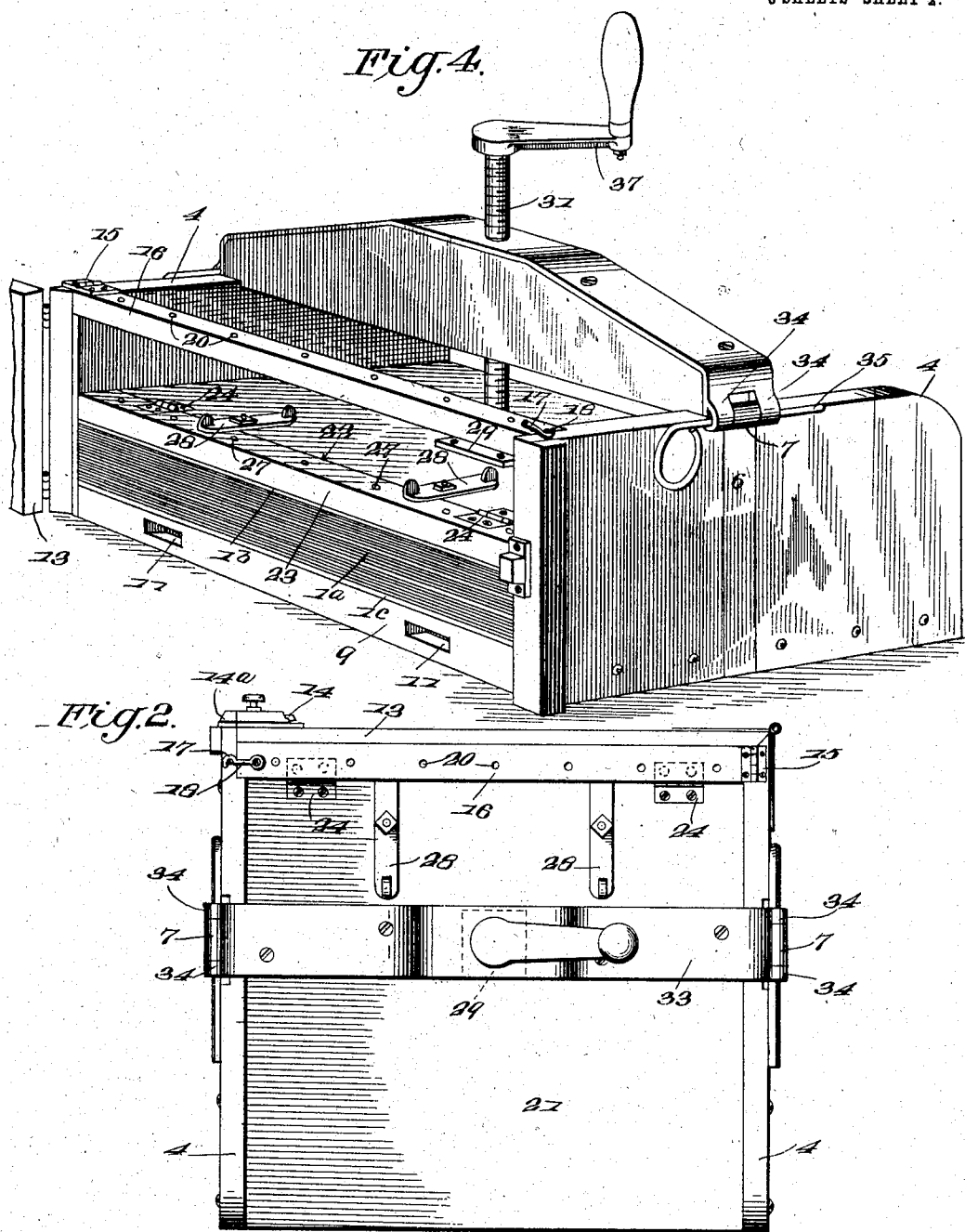


No. 796,346.

PATENTED AUG. 1, 1905.

C. F. McBEE.
BINDING MACHINE FOR WAY BILLS, &c.
APPLICATION FILED DEC. 6, 1904

3 SHEETS—SHEET 2.



WITNESSES:
E. M. Callaghan
E. Everett Ellis

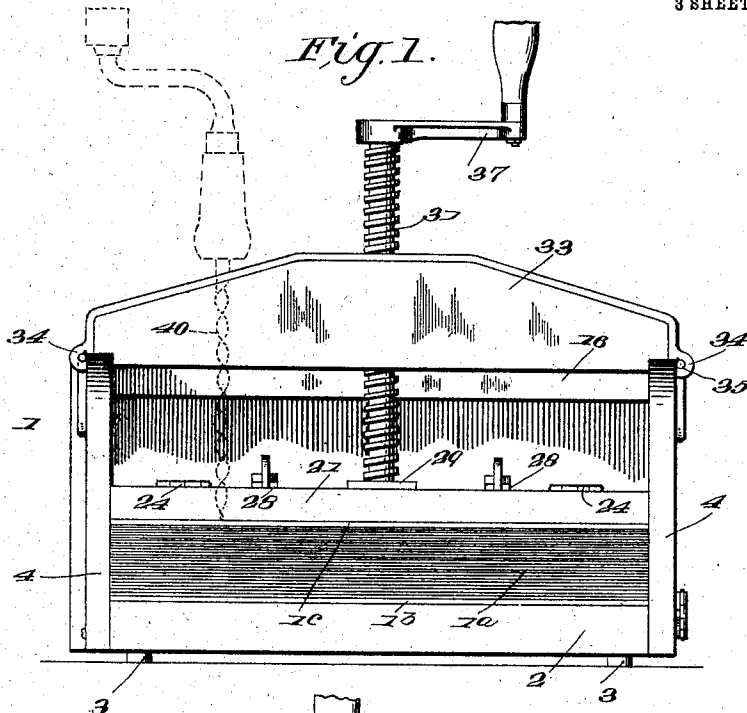
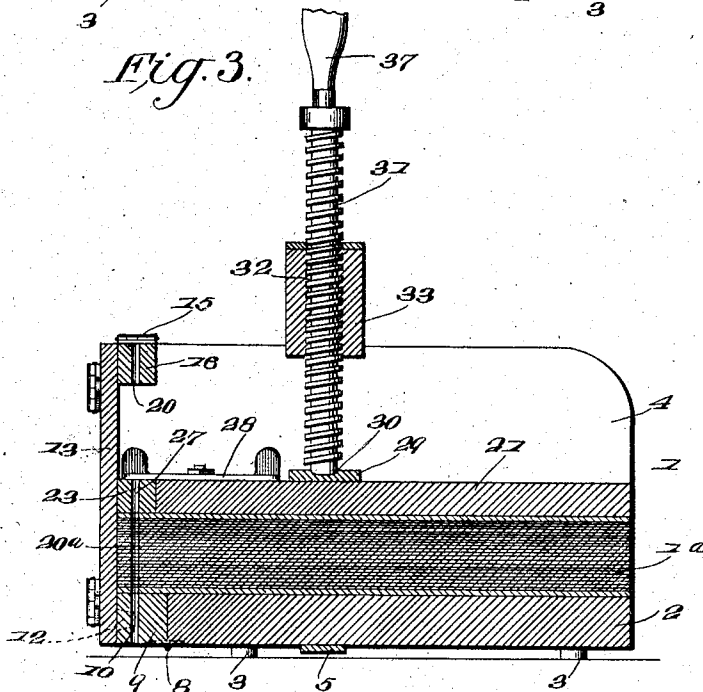
INVENTOR
Charles F. McBee
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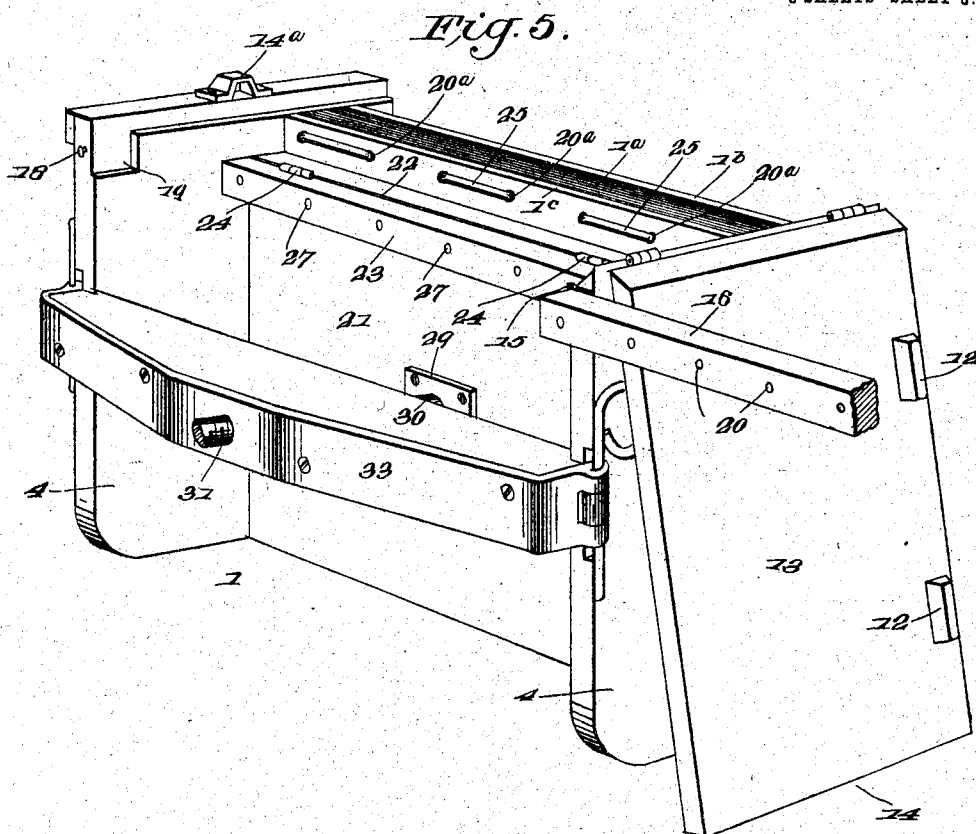
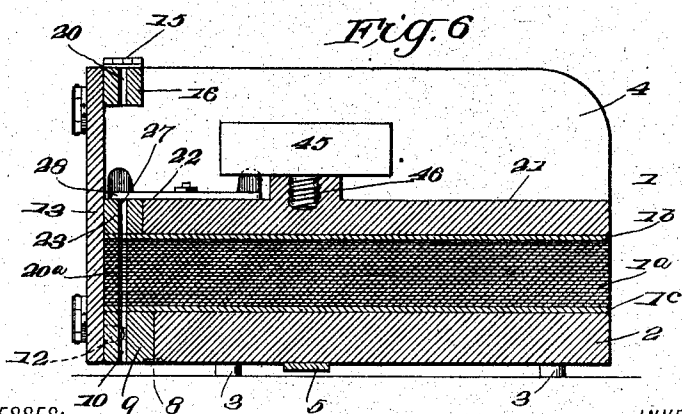
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3 SHEETS—SHEET 3.



WITNESSES:
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E. Everett Ellis

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UNITED STATES PATENT OFFICE.

CHARLES F. McBEE, OF ATHENS, OHIO.

BINDING-MACHINE FOR WAY-BILLS, &c.

No. 796,346.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed December 6, 1904. Serial No. 235,661.

To all whom it may concern:

Be it known that I, CHARLES F. McBEE, a citizen of the United States, residing at Athens, in the county of Athens and State of Ohio, have made certain new and useful Improvements in Binding-Machines for Way-Bills and the Like, of which the following is a specification.

This invention relates to binding-machines; and it consists substantially in the improvements hereinafter particularly described, and pointed out in the claims.

The invention has reference more especially to machines for binding together in book form any desired number of paper or other sheets, as way-bills, checks, or the like, and one of the principal objects thereof is to overcome numerous disadvantages and objections common to many other machines hitherto devised for similar purposes.

A further object is to provide a machine of the character specified which is simple in construction, easy of manipulation, and inexpensive to manufacture, besides being thoroughly effective and reliable in use and possessing the capacity for long and repeated service.

The above and additional objects are attained by means substantially such as are illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the machine, representing in dotted lines the employment of an ordinary rotary bit for forming holes in the paper or other sheets adjacent to one of the edges thereof. Fig. 2 is a plan view. Fig. 3 is a central transverse sectional view. Fig. 4 is a rear perspective view showing the swinging evener (broken off) for the sheets as swung partly open to disclose the interior construction and organization of parts more clearly. Fig. 5 is a perspective view representing the machine as turned upwardly on end and the parts thrown to position to enable the insertion of the binder for the sheets subsequent to the formation of the holes through the latter. Fig. 6 is a transverse sectional view illustrating a modification.

Before proceeding with a more detailed description it may be stated that in the forms of my improvements herein shown I employ suitable means for receiving or containing any desired number of paper or other sheets to be bound together and also employ a suitable pressure device for holding the sheets in solid or compact relationship to enable a row of holes to be formed therethrough near one of

their edges for receiving a wire, cord, or other binder for the sheets. The holes for the binder are preferably formed by means of an ordinary manually-operated rotary bit, and I employ suitable means for evenly guiding the bit in its movements, as well as for gaging the distance between the holes. I still further employ suitable means for evening the edges of the sheets adjacent to which the holes are formed, and while I have herein represented my improvements in certain preferred embodiments it will be understood that I do not limit myself thereto in precise detail, since immaterial changes therein may be made and still come within the scope of my invention.

Reference being had to the drawings by the designating characters marked thereon, 1 represents in entirety what I term a "receiver" for the paper or other sheets 1^a to be bound together, the same comprising a base or bottom 2, having suitable supporting-feet 3 and also provided with opposite sides 4 of suitable height and depth. The said receiver may be constructed of any suitable material, and as a strengthening device therefor I preferably employ a longitudinal frame 5, having vertical side portions 6 sunken in recesses therefor in the outer surfaces of the said sides 4 and provided at their upper ends with eyes 7. The rearward ends of the said sides 4 of the receiver extend somewhat beyond the rearward edge of the base or bottom 2, as shown, and hinged at 8 to the said rearward edge of the base or bottom is a longitudinal block 9, having therein a series of vertical holes 10, preferably disposed equal distances apart, said block being adapted to be turned outwardly with respect to the base or bottom for the purpose hereinafter to be described. This hinged block 9 is provided in its outer face with preferably two recesses 11, in which are received corresponding members 12, projecting from the inner surface of a swinging evener 13 for the sheets hinged at one end to the rearward end of one of the sides 4 of the receiver and provided at its other end with any suitable form of latch 14, which is engaged by a keeper 14^a therefor secured to the rearward end of the other one of the sides 4. Also hinged at 15 to the rearward end of one of the sides of the receiver is an outwardly-swinging strip 16, the free end of which is provided with a suitable hook 17 for engaging a pin or fastener 18 therefor near the rearward end of the other one of said sides 4, the inner sur-

face of each of the latter being notched at 19 to form a suitable rest or support for the said strip 16. This strip is formed with a series of vertical holes 20, corresponding in position to the vertical holes 10 in the hinged block 9 above referred to, the two sets of said holes serving as guides for an ordinary rotary bit employed for forming corresponding holes 20^a in the sheets 1^a near or adjacent to one of their edges, as will be presently explained.

In connection with the receiver for the sheets 1^a I employ a suitable pressure device for the sheets comprising a removable platen 21 of dimensions practically equal to the inner dimensions of the receiver and provided at the rearward edge 22 thereof with a block 23, hinged at 24 to the platen, so as to be capable of being turned outwardly in a direction opposite to that in which the block 9 is turned at the time of inserting a wire or other binder 25 through the holes 20^a, which are formed in the sheets. The said hinged block 23 is also provided with a series of holes 27, corresponding to the holes 10 and 20 in the block 9 and strip 16, respectively, and the upper surface of the platen 21 is provided with suitably-disposed rotatable arms 28, which preparatory to boring the holes through the sheets are turned in position to bring an end of each of them across the upper surface of the block 23, thus to securely hold the latter downwardly upon the sheets. The upper surface of the said platen 21 is preferably provided with a plate 29, having a central bearing or recess 30 for receiving the lower end of a screw 31, working in a central vertical opening 32 of a longitudinally-disposed yoke 33, having at each end thereof a pair of separated metal eyes 34, receiving between them one of the eyes 7 of the side pieces 6 of the strengthening-frame 5 for the receiver. Passing through all of the eyes referred to at each side of the machine is a suitable device, as a pin 35, for securing the yoke in its mounted position upon the upper edges of the sides of said receiver, it being noted that the upper end of the screw 31 is provided with a suitable operating-handle 37.

As thus constructed and organized the operation of the machine is as follows: I first place upon the upper surface of the base or bottom of the receiver preferably a sheet of cardboard or the like, as indicated at 1^b, and then I place upon said sheet the pile or stack of sheets 1^a to be bound together, it being understood that at this time the block 9 and the strip 16 are in the positions indicated in Fig. 4 and that the evener 13 is in the closed position thereof. (Indicated in Figs. 1, 2, and 3.) The inner or rearward edges of the sheets are held evenly against the inner surface of the said evener 13, as will be understood, and after the pile or stack of sheets has been properly placed in position upon the base or bottom of

the receiver another of sheet cardboard 1^c is preferably placed upon top of the same, whereupon the platen 21 is introduced and the hinged block 23 thereof turned downwardly to the position indicated in Fig. 4, being held in its position by proper adjustment of the rotatable arms 28, as hereinbefore mentioned. The screw 31 is now operated to cause the platen to exert sufficient pressure upon the sheets to hold them in solid or compact relationship while the holes are being bored therethrough. The bit 4 (indicated by dotted lines in Fig. 1) is successively introduced through the corresponding openings of the hinged strip 16 and the hinged block 23, and then by properly turning the bit the holes are formed in the sheets one after the other, as will be apparent. The holes 10 in the block 9 are for the purpose of receiving the end of the bit after it has passed all the way through the sheets, and after all of the holes have been formed in the sheets the machine is turned upwardly on end, as indicated in Fig. 5, whereupon the evener is unfastened and carried upwardly and downwardly against one of the sides of the receiver, and the block 9, strip 16, and block 23 are carried to the positions also indicated, thus exposing the inner or rearward end portions of the sheets in such manner as to enable the wire or other binder to be inserted through the holes 20^a therein and suitably fastened to secure the sheets together. After this the pressure upon the platen is relieved by rotating the screw 31 in the opposite direction, and then the sheets may be withdrawn from the machine, all bound together in book form, as will be apparent. In some instances I may dispense with the evener 13, since the sheets may be sometimes placed within the machine in sufficiently even shape without it; but I prefer to employ the same for the purposes of effectiveness in the use of the machine.

Instead of the pressure device (illustrated in Figs. 1 to 5, inclusive) I may sometimes dispense with the yoke and screw, together with their appurtenances, above set forth, and employ a simple weight 45 (see Fig. 6) for exerting the desired pressure upon the platen 21, said weight being conveniently provided with a threaded pin 46 on its underside, screwing into a threaded opening therefor formed in the upper side of the platen.

In the event the evener 13 is dispensed with it may also be desirable to dispense with the supporting-feet 3 for the receiver, so as to enable the base or bottom of the latter to lie flatly upon the upper surface of a table or bench while the bit is being operated to bore the holes through the sheets one after the other, as already explained. In this way, then, the hinged blocks 9 and 23 will be maintained in proper relationship both while the pressure devices are being applied to the sheets and while the bit is being operated. The holes

in the block 9 are each merely to provide a clearance for the end of the bit after the latter has been forced all the way through the sheets, and in the use or employment of both the evener and the supporting-feet the block 9 will be held in proper relation to the block 23 and base 2 of the receiver in virtue of the entrance of the members 12 on the evener into the recesses of said first-named block. It is apparent that other means than the rotatable arms 28 may be employed for holding down the block 23, and also that the yoke 33 may be constructed in different ways, and that simple pieces of wire or the like may be substituted for the pins for securing the eyes on the yoke to the eyes on the sides of the receiver. The sheets of cardboard or the like applied to the outer sides of the pile or stack of sheets serve as backings for the latter, and when the machine is turned on end, as indicated in Fig. 5, and the evener 13, the strip 16, and blocks 9 and 23 are turned outwardly or away from each other, as shown, the binder for the sheets may be conveniently inserted through the holes therein in any suitable way. The machine may be made of any desired size, and the height of the pile or stack of sheets to be bound together may be varied within the limits thereof, as will be understood. To remove the platen, it is simply necessary to loosen the screw 31 sufficiently, and to detach the yoke 33 the fastenings therefor are first removed from the eyes at its ends.

In the event of the weight 45 being used in lieu of the yoke and its screw the machine may not be turned on end, as in Fig. 5, to insert the binder through the holes in the sheets, since the platen and weight would then be likely to fall out of position and disarrange the sheets. Instead, however, the machine may be moved so as to cause the rearward end thereof to project slightly beyond an edge of the supporting table or bench for the machine and the binder applied to the sheets after throwing open the evener and strip 16 and turning apart the blocks 9 and 23, as already explained with reference to said Fig. 5. In thus operating the machine even the weight 45 may sometimes be dispensed with, provided the platen itself be made heavy enough to exert the desired pressure upon the sheets to hold them in position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A binding-machine for paper or other sheets, comprising a receiver and a pressure device for the sheets, and means to guide an implement for forming holes through the sheets adjacent to one of their edges, said receiver having a base and opposite sides, and a swinging evener for one of the edges of the sheets.

2. A binding-machine for paper or other sheets, comprising a receiver and a pressure

device for the sheets, and means to guide an implement for forming holes through the sheets adjacent to one of their edges, said receiver having a base, opposite sides, and a swinging evener for one of the edges of the sheets, and said pressure device being constructed of a yoke supported by said sides, and a screw working in the yoke and against the platen.

3. A binding-machine for paper or other sheets, comprising a receiver and a pressure device for the sheets, and means to guide an implement for forming holes through the sheets adjacent to one of their edges, said receiver having a base and opposite sides, the latter having eyes at their edges, and said pressure device being constructed of a removable platen, a yoke and a screw working in the yoke and against the platen, each end of the yoke having separated eyes receiving between them an eye of one of said sides, with a device detachably securing the eyes together.

4. A binding-machine for paper or other sheets, comprising a receiver and a pressure device for the sheets, and means to guide an implement for forming holes through the sheets adjacent to one of their edges, said receiver having a base, opposite sides, and a swinging evener for one of the edges of the sheets, the sides being provided with eyes at their edges, and said pressure device being constructed of a removable platen, a yoke and a screw working in the yoke and against the platen, each end of the yoke having separated eyes receiving between them an eye of one of said sides, with a device detachably securing the eyes together.

5. A binding-machine for paper or other sheets, comprising a receiver and a pressure device for the sheets, said receiver having a base and opposite sides, a block hinged to the rearward edge of the base, having holes therein, and a strip hinged above said block, having corresponding holes therethrough, and said pressure device having a removable platen with a block hinged to its rearward edge, having holes therethrough corresponding to the previously-mentioned holes, and means for holding this block down upon the sheets.

6. A binding-machine for paper or other sheets, comprising a receiver and a pressure device for the sheets, said receiver having a base and opposite sides, a block hinged to the rearward edge of the base, having holes therein, and a strip hinged above said block, having corresponding holes therethrough, and said pressure device having a removable platen with a block hinged to its rearward edge, having holes therethrough corresponding to the previously-mentioned holes, and rotatable arms on the platen for holding this block down upon the sheets.

7. A binding-machine for paper or other sheets, comprising a receiver and a pressure

device for the sheets, said receiver having a base and opposite sides, a block hinged to the rearward edge of the base, having vertical holes therein and provided in its outer surface with recesses, a hinged strip above said block, having corresponding holes there-through, and a swinging evener for the sheets, having projections for entering said recesses; and said pressure device including a removable platen with a block hinged to its rearward end, having holes therethrough corresponding to the previously-mentioned holes.

8. A binding-machine for paper or other

sheets, comprising a receiver and a pressure device for the sheets, and means to guide an implement for successively forming holes through the sheets, adjacent to one of their edges, said receiver having a base and opposite sides, and provided with a hinged evener for the sheets, having means for securing the same in closed position with reference to said sides.

CHARLES F. McBEE.

Witnesses:

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FRANK H. DIKE.