

E. BIGGS.  
 PAD MAKING MACHINE FOR BOOKBINDERS.  
 APPLICATION FILED AUG. 5, 1910.

1,034,339.

Patented July 30, 1912.

2 SHEETS-SHEET 1.

Fig. 1.

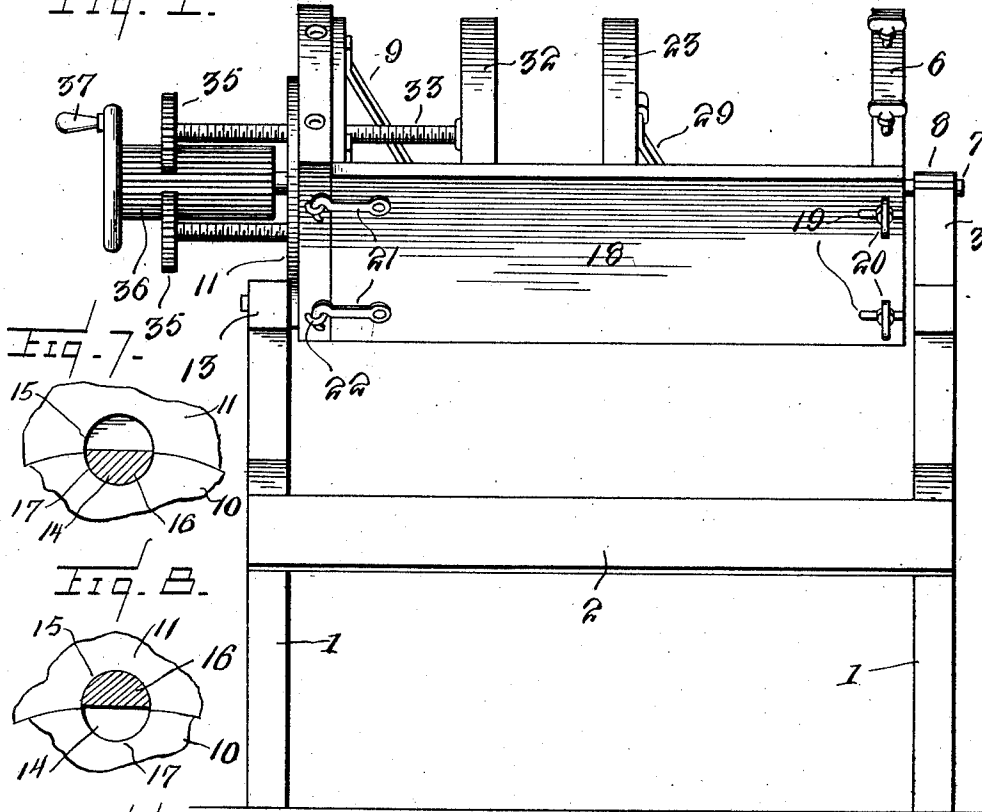


Fig. 7-

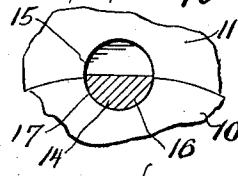


Fig. 8-

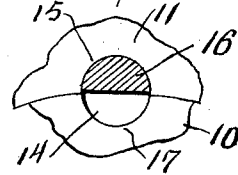
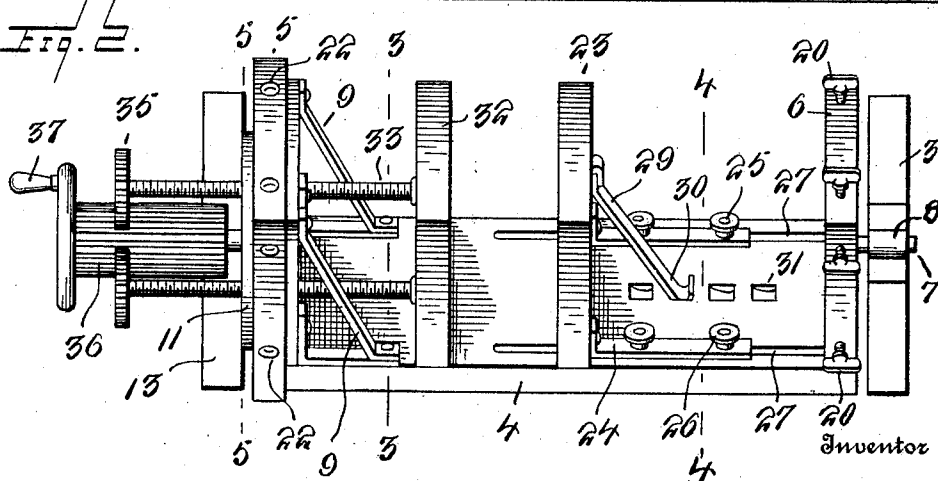


Fig. 9.



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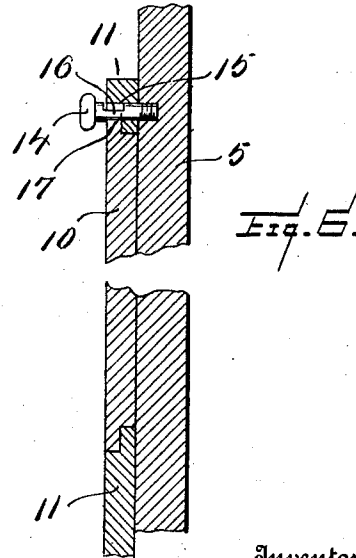
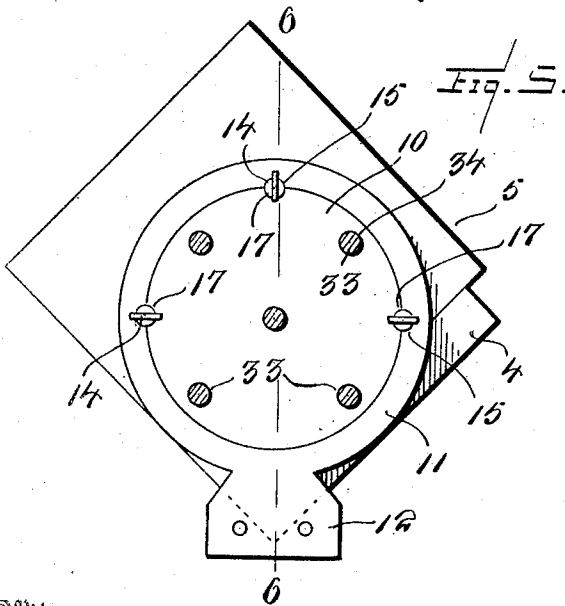
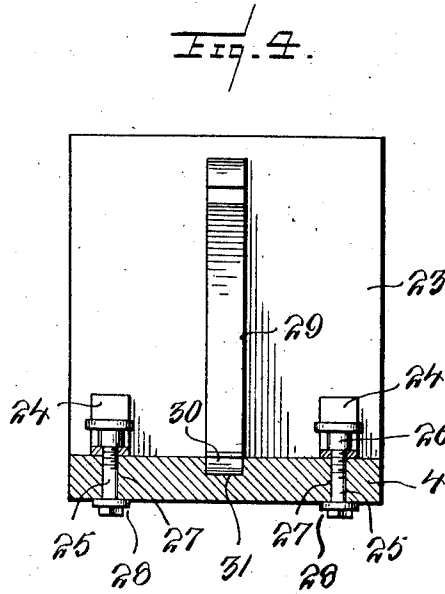
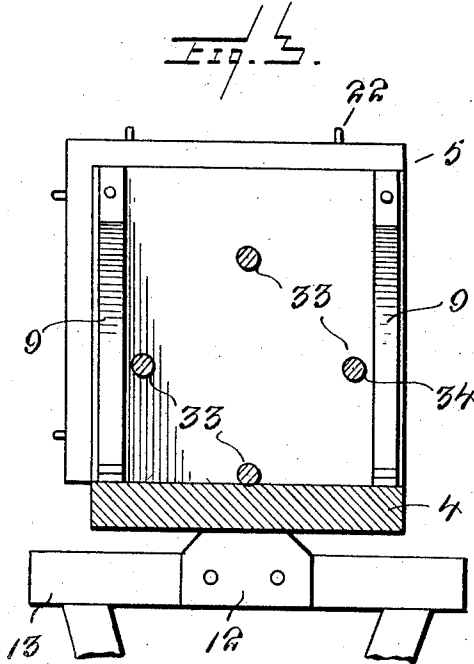
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

ELBRIDGE BIGGS, OF FRANKLIN, KENTUCKY.

PAD-MAKING MACHINE FOR BOOKBINDERS.

1,034,339.

Specification of Letters Patent.

Patented July 30, 1912.

Application filed August 5, 1910. Serial No. 575,733.

*To all whom it may concern:*

Be it known that I, ELBRIDGE BIGGS, a citizen of the United States, residing at Franklin, in the county of Simpson and State of Kentucky, have invented new and useful Improvements in Pad-Making Machines for Bookbinders, of which the following is a specification.

This invention relates to a machine for the use of printers, bookbinders, etc., in assembling and clamping letter-heads, bill-heads and other sheets of paper so that selected edges of the sheets will be even or lie in a common plane, so that glue may be applied thereto to bind the sheets together to form a pad or tablet.

The object of the invention is to provide a machine of this character which is simple and inexpensive of construction, efficient in use, and adapted to be conveniently operated in assembling and clamping the sheets and removing the formed pads.

The invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a front elevation of the machine, showing the swinging holder adjusted to filling position. Fig. 2 is a top plan view, showing the holder adjusted to a position to expose the edges of the sheets for the application of the binding medium. Fig. 3 is a cross section on the line 3—3 of Fig. 2. Fig. 4 is a cross section on the line 4—4 of Fig. 2. Fig. 5 is a vertical section on the line 5—5 of Fig. 2. Fig. 6 is a section on the line 6—6 of Fig. 5. Figs. 7 and 8 are enlarged detail views showing the construction of one of the locking keys and the co-acting recess.

The machine comprises a supporting frame embodying pairs of crossed legs 1 at the opposite ends thereof, and longitudinal bars 2 connecting the sets of legs, one of the pairs of legs being provided with a cap piece 3, as shown. Extending longitudinally between the upper portions of the sets of legs is a holder or receptacle consisting of a bottom 4 and end pieces or heads 5 and 6, the end piece 6 having an eccentrically disposed trunnion 7 extending therefrom and journaled in a bearing 8 on the cap piece 3. The end piece or head 5 is reinforced from the bottom wall 4 by braces 9 and is formed or provided upon its outer face with a cir-

cular disk or wheel 10 mounted to have rotary movement in a bearing ring 11 carried by a bracket 12 secured to a cross piece 13 connecting the upper ends of the legs at the adjacent side of the frame. The disk or wheel is so disposed that its axis is eccentric to the axis of the head 5 and in longitudinal alinement with the trunnion 7, so that the holder may be tilted forwardly from the inclined position shown in Fig. 2 to the inclined position shown in Fig. 1, and vice versa. When the holder is tilted forwardly to the position shown in Fig. 1, it stands substantially at an angle of about 45° to the horizontal so as to provide for the ready and convenient insertion of the sheets of paper to be bound to form a pad or tablet.

The head 5 carries a series of locking keys in the form of stems 14, journaled to turn thereon, and fitted within recesses 15 formed in the inner periphery of the ring 11. These recesses 15 are of semi-circular form and receive engaging portions 16 of the key 17, formed by cutting away the key on one side of its transverse center. The recesses 15 are adapted to register with keeper recesses 17' formed in the wheel disk 10, which is adapted to turn in a path through the notches or the cut-away portions of the keys when the latter are turned to dispose the portion 16 within the recesses 15. The keys may be quarter turned to project the portion 16 into the recesses 17', whereby the wheel or disk 10 will be locked from movement to retain the holder in one of its positions of adjustment. When the keys are turned to dispose the portions 16 within the recesses 15, the holder may be freely adjusted to any position within its range of movement, as will be readily understood.

The front of the holder is adapted to be closed by a board or wall 18 formed at one of its ends with longitudinal slots 19 to slidably engage the stems of wing nuts 20 carried by the front edge of the cap 6, by which said board may be secured to said cap. The other end of the board is provided with suitable fasteners such as hooks 21, to engage suitable keepers, such as eyes or staples 22, on the head 5 by which the board may be removably secured in position at the front of the holder. Arranged within the holder is a relatively stationary clamping plate 23 provided at its base with laterally extending bracket arms 24 through

which pass bolts 25 carrying at their upper ends clamping nuts 26. The bolts 25 extend downwardly through longitudinal guide slots 27 formed in the wall 4 and extending from a point about midway of the length thereof to the head or end piece 6, the lower headed ends of the bolts being arranged to bear against washers 28 engaging the bottom surface of the wall 4. By slackening the nuts 26 the bracket arms 24 may be freed for movement so that the clamping plate 23 may be adjusted longitudinally within the holder. For the purpose of bracing and holding said clamping plate firmly in position, said plate is provided with a spring metal bracket arm or dog 29 inclining outwardly and downwardly at a suitable angle from its outer face and having a bent or toothed free end 30 adapted to engage any one of a series of ratchet teeth 31 formed in the bottom 4, whereby the plate may be held in any of its positions of adjustment.

Arranged within the holder between the head 5 and the clamping plate 23 for adjustment toward and from the latter is a cooperating clamping plate or follower 32 to which are swiveled the inner ends of a series of adjusting screws 33 which extend through and work in threaded openings 34 in the head 5 and disk 10. Four of these adjusting screws are preferably provided, as shown, and swiveled to the adjustable follower at or near the corners thereof, so as to guide the follower evenly in its movements and impart substantially uniform pressure thereto throughout the full area thereof. Fixed to the outer ends of the respective screws are pinions 35, and meshing with these pinions is an interposed elongated operating gear 36 having a crank handle 37 by which it may be turned, said gear being journaled upon the disk so that by imparting rotary motion thereto in one direction or the other all of the screws may be simultaneously advanced or retracted to adjust the follower or movable clamping plate 32 toward or from the relatively stationary clamping plate 23.

In the use of the device, and assuming the holder to be in the position shown in Fig. 2, the locking keys are released to free the holder for rotary movement, and the holder is tilted forwardly to the filling or receiving position shown in Fig. 1. Prior to or after having been adjusted to this position the board 18 is applied to close the front of the holder. The relatively stationary clamping plate 23 is then adjusted to the desired position according to the number of sheets which are to be bound into a pad or tablet, and the operating gear is then actuated to adjust the follower to a position short of its estimated clamping position in order that the bundle of sheets to be bound may be inserted between the same

and the clamping plate. The sheet so inserted will be adjusted in the space between the clamping members so that selected edges thereof will bear against the bottom board and the board 18, thus disposing the sheets so that their edges will lie evenly with relation to each other or in common planes, after which the follower is adjusted to tightly clamp the sheets against the stationary clamping plate. The holder is then swung back to the position shown in Fig. 2 and the board 18 removed, thus exposing and bringing the edges of the sheets formerly engaging said board to lie on a plane above and at an oblique angle to a horizontal line at the front of the machine, so that the glue, paste or other binding medium employed may be readily and conveniently applied thereto to unite the sheets together to form a pad or tablet. After the binder has dried, the follower may be retracted to release the pad and permit of its removal, as will be readily understood.

Owing to the fact that the machine is simple in construction it may be manufactured and sold at a comparatively low cost, and, as but few adjustments are required in each operation, a large number of pads or tablets may be made within a given period of time.

The invention will be found of great convenience in printing and other establishments where it is necessary to make different lots or sizes of pads or tablets at different periods and in greater or less quantities, as occasion demands, the machine enabling a wide range of different sizes of tablets within reasonable limits to be manufactured in an easy and expeditious manner.

Having thus described my invention, I claim:—

1. A machine of the character described comprising a supporting frame, a holder mounted to tilt upon the frame and consisting of a bottom and end walls, a board arranged at the front of the holder and detachably connected with said end walls, an adjustable clamping member carried by said bottom wall, a follower cooperating therewith, and means carried by one of the end walls for securing the holder in its positions of adjustment.

2. A machine of the character described comprising a supporting frame, a tilting holder carried by the frame, said holder embodying a bottom wall provided with longitudinal guideways and rack teeth, a board removably mounted upon the front of the holder, means for securing the holder in its tilted position, a relatively stationary clamping member within the holder, bolts carried thereby and movable in said guideways, nuts upon the bolts to clamp said member in adjusted position, a bracing element carried by the clamping member to

engage said ratchet teeth, a coöperating clamping follower within the holder, and means for adjusting the same.

3. A machine of the character described  
5 comprising a frame, a holder having a removable side and journaled at one end upon the frame, a bracket at the other end of the frame provided with a bearing ring, a disk  
10 upon the adjacent end of the holder journaled in said bearing ring, fastening means for connecting the disk with the bearing ring to hold said disk from rotation and secure the holder in different tilted posi-

tions, a clamping member within the holder, means adjustably connecting the same there- 15 with, a follower within the holder for co-operation with said clamping member, adjusting screws extending through said disk for operating said follower, and gearing for simultaneously adjusting said screws. 20

In testimony whereof I affix my signature in presence of two witnesses.

ELBRIDGE BIGGS.

Witnesses:

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J. F. TARPLEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."