C. B. BARTEE.

PERFORATING MACHINE.

APPLICATION FILED JUNE 24, 1918.

1,304,441.

Patented May 20, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

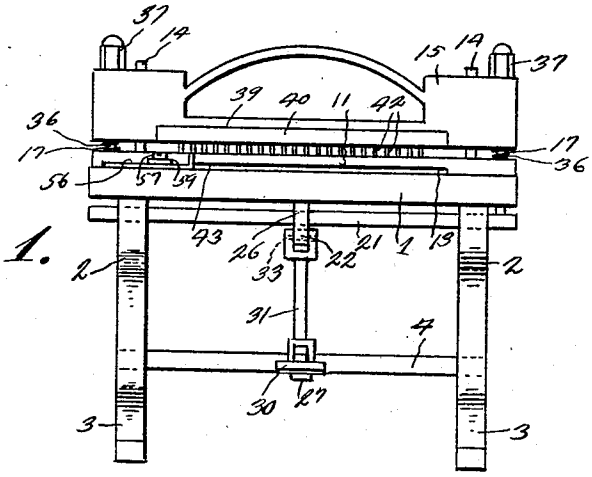


Fig. 2.

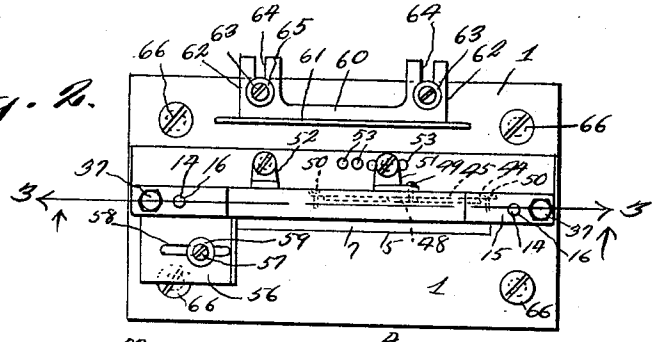
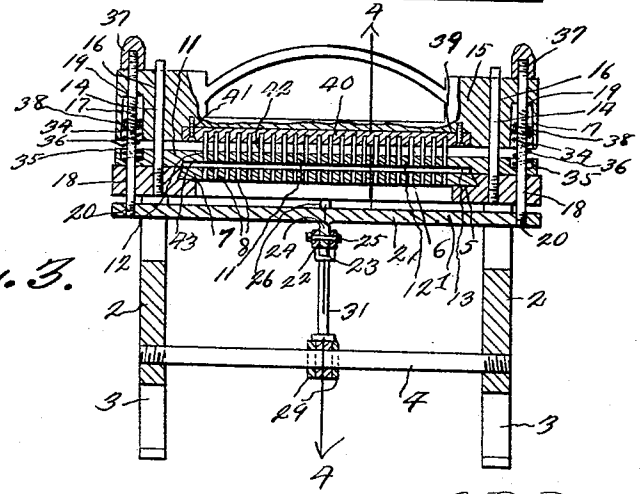


Fig. 3.



Witnesses

Philip Serell

H. Francis Y. Bowell

Inventor

C. B. Bartee

By D. Swift & Co

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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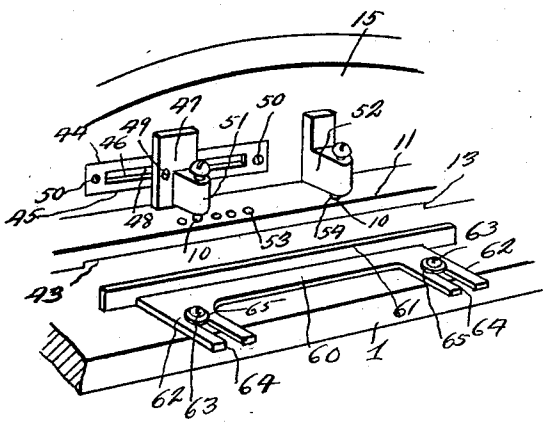
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2 SHEETS—SHEET 2.

Fig. 5.



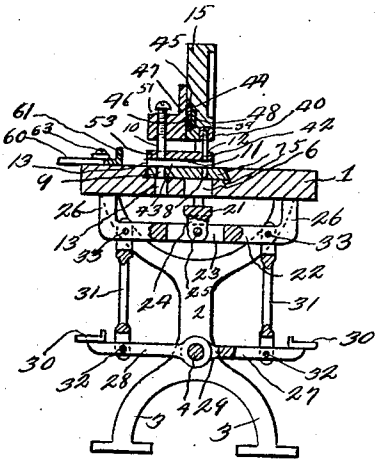


Fig. 4.

Witnesses

Inventor

C. B. Bartee

By D. Swift & Co

Attys Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES BURTON BARTEE, OF ALBANY, ALABAMA.

PERFORATING-MACHINE.

1,304,441. Specification of Letters Patent. Patented May 20, 1919.

Application filed June 24, 1918. Serial No. 241,604.

To all whom it may concern:

Be it known that I, CHARLES B. BARTEE, a citizen of the United States, residing at Albany, in the county of Morgan, State of Alabama, have invented a new and useful Perforating-Machine; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improved perforating machine.

One of the objects of the invention is to provide a machine of this kind, particularly adapted for perforating paper or the like simultaneously on a single operation of the bar carrying the perforating members.

A further object of the invention is to provide a machine of this kind, easily convertible, whereby perforating may be accomplished separately.

A further object of the invention is to provide a machine, with which different stripper and male die plates may be employed, whereby various forms of perforating may be accomplished, said plates being easily detachable.

A further object of the invention is the provision of means consisting of side and rear gage plates, whereby the positions of the perforations may be arranged in different locations in the paper.

A further object of the invention is to provide means, whereby the perforator carrying bar may be depressed or operated from either side of the machine.

In practical fields the details of construction may necessitate alterations falling within the scope of what is claimed.

The invention comprises further features and combination of parts as hereinafter set forth, shown in the drawings and claimed.

In the drawings:—

Figure 1 is a front elevation of the improved perforating machine constructed in accordance with the invention.

Fig. 2 is a plan view.

Fig. 3 is a vertical sectional view on line 3—3 of Fig. 2.

Fig. 4 is a sectional view on line 4—4 of Fig. 3.

Fig. 5 is an enlarged detail perspective view of the rear part of the machine, showing the punching members.

Referring more especially to the drawings 1 designates a bed plate, which is formed integral with the end supporting members 2, which are provided with legs 3, there being a brace rod 4, connecting the two supporting members. The bed plate 1 is provided with an elongated depression 5 in its upper face, and the bottom of this depression is open or slotted as shown at 6. The bed plate is designed to be constructed of any suitable metal preferably brass, and secured, or dovetailed or otherwise embedded in said depression 5 is a female die plate 7 which may be constructed of any suitable material preferably steel, preferably case hardened. This female die plate is provided with a series of perforations 8 arranged longitudinally thereof. This die plate 7 is also provided with a series of additional perforations 9, particularly adapted for the reception of punching die members 10, a detail description of which will appear later. Super-imposed on the bed plate and over the die plate 7 is a stripper or punch guiding plate 11, which is provided with a series of perforations 12, which are in registration with the perforations 8. The punch guiding plate also has an additional series of perforations, which also receive the punching members 10, consequently they are in registration with the perforations 9. Where the perforations 9 occurs, the bed plate is slotted as shown at 13. By means of the slots 6 and 13, the pieces or parts removed from the paper by means of the perforating die members and punching elements, may pass through the bed plate, and deposit or fall into a bag or other receptacle (not shown) which may be suspended in any suitable manner (not shown) under the bed plate. Rising upwardly from and threaded into the bed plate are guide rods or posts 14. A perforator carrying bar 15 is provided. The ends of this bar 15 are provided with guide openings 16 for the reception of the guide rods 14. Rods 17 pass through openings 18 of the bed plate and through the openings 19 of the bar 15, and have their lower ends threaded as at 20. An elongated bar 21 extends longitudinally of the under face of the bed plate, substantially immediately below the slot 6, and into the ends of which, the threaded ends 20 of the rods 17 are threaded. This elongated bar 21 carries a depending lug. A transversely disposed rocking or walking beam or bar 22 has its central slot 23 engaged by the depending lug 24, there being a pivot bolt

or the like 25 passing through the walking beam bar and the lug, thereby pivotally mounting the same. The end parts of the bar 22 have upstanding ends 26, either one of which is adapted to fulcrum on the under face of the bed plate, when one end or the other of the bar 22 is pulled downwardly. A pair of foot levers 27 and 28 are provided. The foot lever 27 is provided with forked ends 29, between which the adjacent end of the foot lever 28 engages. The forks of the foot lever 27 and the interengaging end of the foot lever 28 are fulcrumed upon the brace rod 4 of the end supports. The foot levers 27 and 28 are provided with foot engaging elements 30. Links 31 are pivotally connected at 32 to the foot levers 27 and 28 respectively. The upper end of the links 31 (which are forked) are pivotally connected at 33 to the walking beam bar 22. The adjacent faces of the perforator carrying bar 15 and the punch guiding plate are provided with registering depressions 34 and 35, which are engaged by the ends of the springs 36. In fact the depressions receive the springs, which are coiled in surrounding relation with the rods 17. The upper ends of the rods 17 have threaded thereon abutment nuts or members 37, to limit the bar 15 in its upward movement. Suitable nuts 38 are threaded on the rods 17 adjacent the upper ends of the coil springs 36, so as to adjust their tension. The bar 15 in its under face is provided with an elongated depression 39, for the reception of the male die perforating element carrying bar 40. This bar is secured in place by the screws 41. The bar 40 is provided with a series of perforating elements 42, which normally pass through the perforations 12 of the punch guiding plate 11. It is to be observed that by depressing the outer end of either one of the foot levers, a downward pull may be imparted to the elongated bar 21, pulling upon the rod 17, and through the medium of the nuts abutting against the upper edge of the bar 15, said bar 15 is depressed downwardly, causing the perforating elements 42 to pass through the female die plate 7, thereby perforating the paper (not shown) that may be inserted between said punch guiding and female die plates. It is to be noted that the punch guiding plate 11 is centrally and longitudinally cut away, as shown at 43 to permit the paper to be perforated to be inserted therebetween. One side face of the bar 15 is provided with an elongated depression 44, for the reception of the elongated plate 45, which is longitudinally slotted at 46. A slide 47 is provided with a rib engaging the slot 46, there being a plate 48 secured to the rib, to hold the slide in place. It is to be noted that the plate 48 overlaps the longitudinal side portions of the slot 46. A screw 49 passes through a side extension of the slide 47, and into the plate 48, to hold the parts together. The plate 45 is secured in the depression 50. The slide 47 has a lateral projection 51, and the face of the bar 15 carrying the plate 45 is provided with an integral projection 52. The projections 51 and 52 carry the punching elements 10. It is to be observed that the slide 47 may be adjusted in different positions, by loosening and tightening the screw 49, so that the punching element carried by the slide may be received in any one of the punch receiving openings or apertures 53 of the punch guiding plate 11. The aperture 54 of the punch guiding plate 11 that receives one of the punching elements 10 is remote from the apertures 53. However, the apertures 53 and 54 may be arranged in any manner as may be desired, and may be of any suitable diameter. In fact all the apertures or perforations of the various dies may be made or constructed in different diameters. For instance there may be several sets of dies, to accommodate different kinds of perforating, and such dies may be interchanged. A slotted side gage plate 56 is mounted on the bed plate on the front side of the machine. A screw 57 passes through the slot 58 of said plate and into the bed plate, so as to hold the gage in different adjusted positions, according to the size or dimensions of the paper being perforated, and according to where it is desired that the perforation be made. A washer is interposed under the head of the screw 57 to clamp against the gage plate. The gage plate 56 may be guided in its lateral adjustment by reason of its engagement with one edge of the punch guiding plate 11. A back gage member 60 is mounted upon the bed plate at the rear of the machine and is provided with an upstanding flange 61, against which the rear edge of the paper may contact, whereby the paper may be limited in its proper position to receive the perforations and punchings. The plate 60 is provided with rearwardly extending slotted lugs 62. Screws 63 pass through the slots 64, and into the bed plate, to hold the paper gage element 60 in different adjusted positions. Washers 65 engage under the head of the screws 63, and on the upper faces of the lugs 62. By loosening the screws the gage plate 60 may be adjusted. Screws 66 are used to pass through the bed plate and to thread into the end supports 2 to secure them to the bed plate.

The invention having been set forth what is claimed as new and useful is:—

1. The combination with a frame, of a bed plate mounted thereon, a female die having a row of perforations countersunk in the bed plate, a punch guiding plate superimposed and spaced from the female die and having a row of perforations registering with the first perforations, a pair of guides

mounted on the bed plate, a depressible bar mounted on said guides and provided with a row of projections, adapted to pass through the perforations of the punch guiding plate and female die, spring tensioning means between the depressible bar and the punch guiding plate, and means carried by the frame and connected to the depressible bar and adapted to be operated from either side of the bed plate for depressing the bar against the action of spring means, said operating means comprising a bar underneath the bed plate and connected to the depressible bar, said connections carrying the spring means, a pair of foot levers mounted upon the frame, an oscillatory bar connected to the bar beneath the bed plate, and links connecting the foot levers and said oscillatory bar.

2. The combination with a frame, of a bed plate mounted thereon, a female die having a row of perforations countersunk in the bed plate, a punch guiding plate super-imposed and spaced from the female die and having a row of perforations registering with the first perforations, a pair of guides mounted on the bed plate, a depressible bar mounted on said guides and provided with a row of projections, adapted to pass through the perforations of the punch guiding plate and female die, spring tensioning means between the depressible bar and the punch guiding plate, and means carried by the frame and connected to the depressible bar and adapted to be operated from either side of the bed plate for depressing the bar against the action of spring means, said operating means comprising a bar underneath the bed plate and connected to the depressible bar, said connections carrying the spring means, means carried by the connections between the depressible bar and the bar beneath the bed plate for regulating the tension of the spring means, and means for actuating the bar beneath the bed plate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES BURTON BARTEE.

Witnesses:

A. B. CODRINGTON,

H. D. HARKREADER.

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