

No. 697,186.

Patented Apr. 8, 1902.

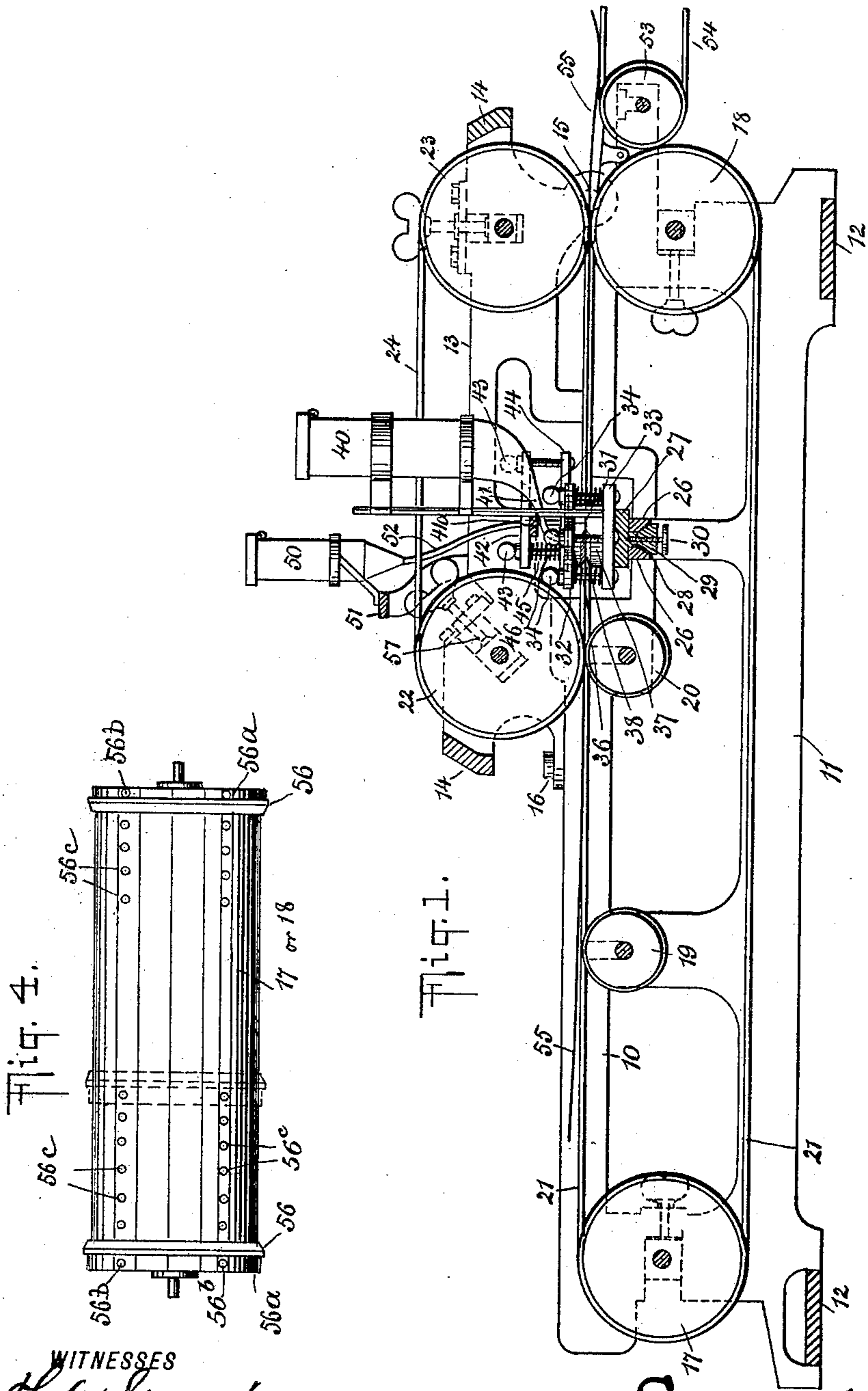
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MACHINE FOR BORDERING PAPER.

(Application filed Nov. 17, 1900.)

(No Model.)

3 Sheets—Sheet 1.



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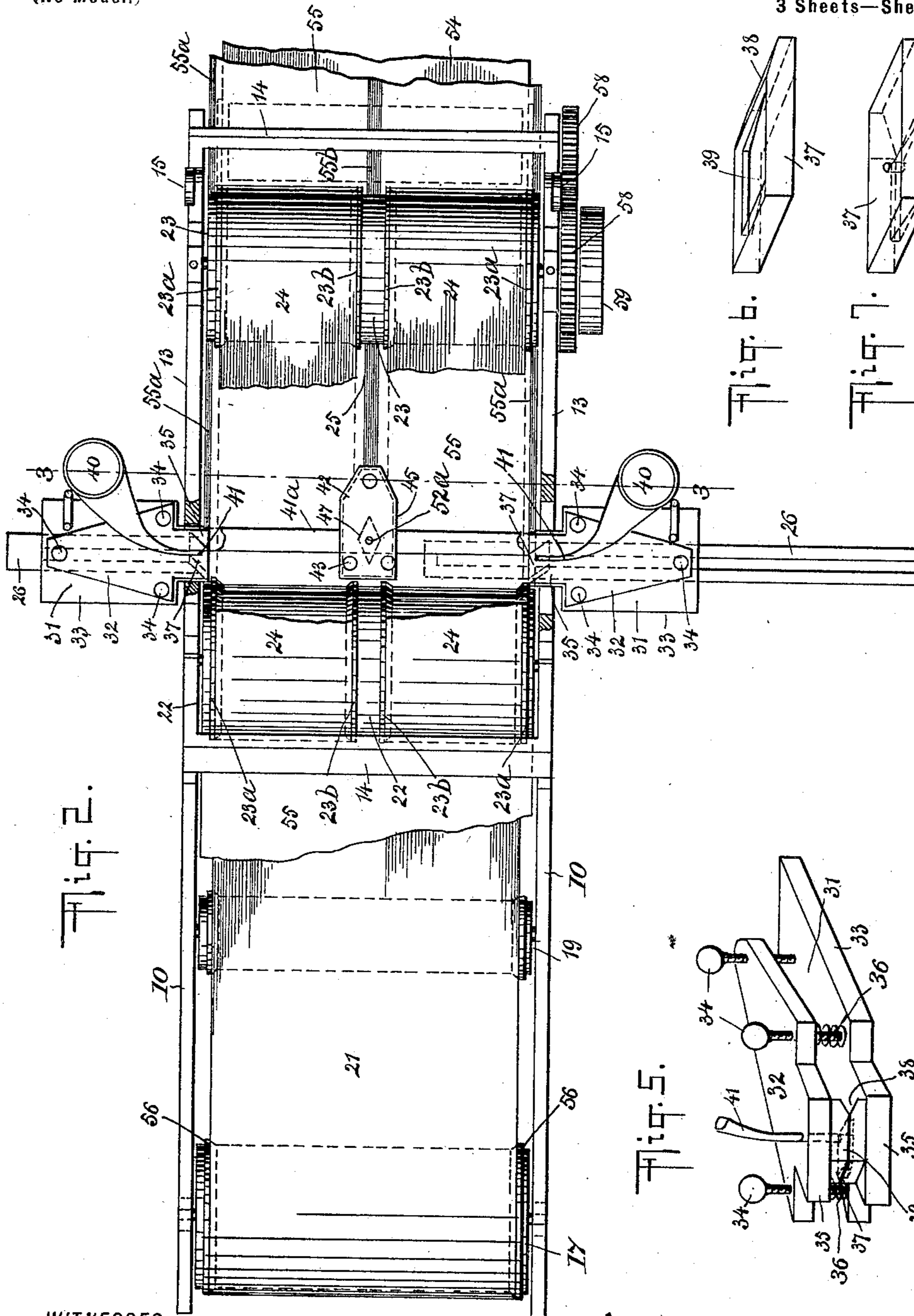


Fig. 2.

Fig. 5.

Fig. 6.

Fig. 7.

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3 Sheets—Sheet 3.

Fig. 3.

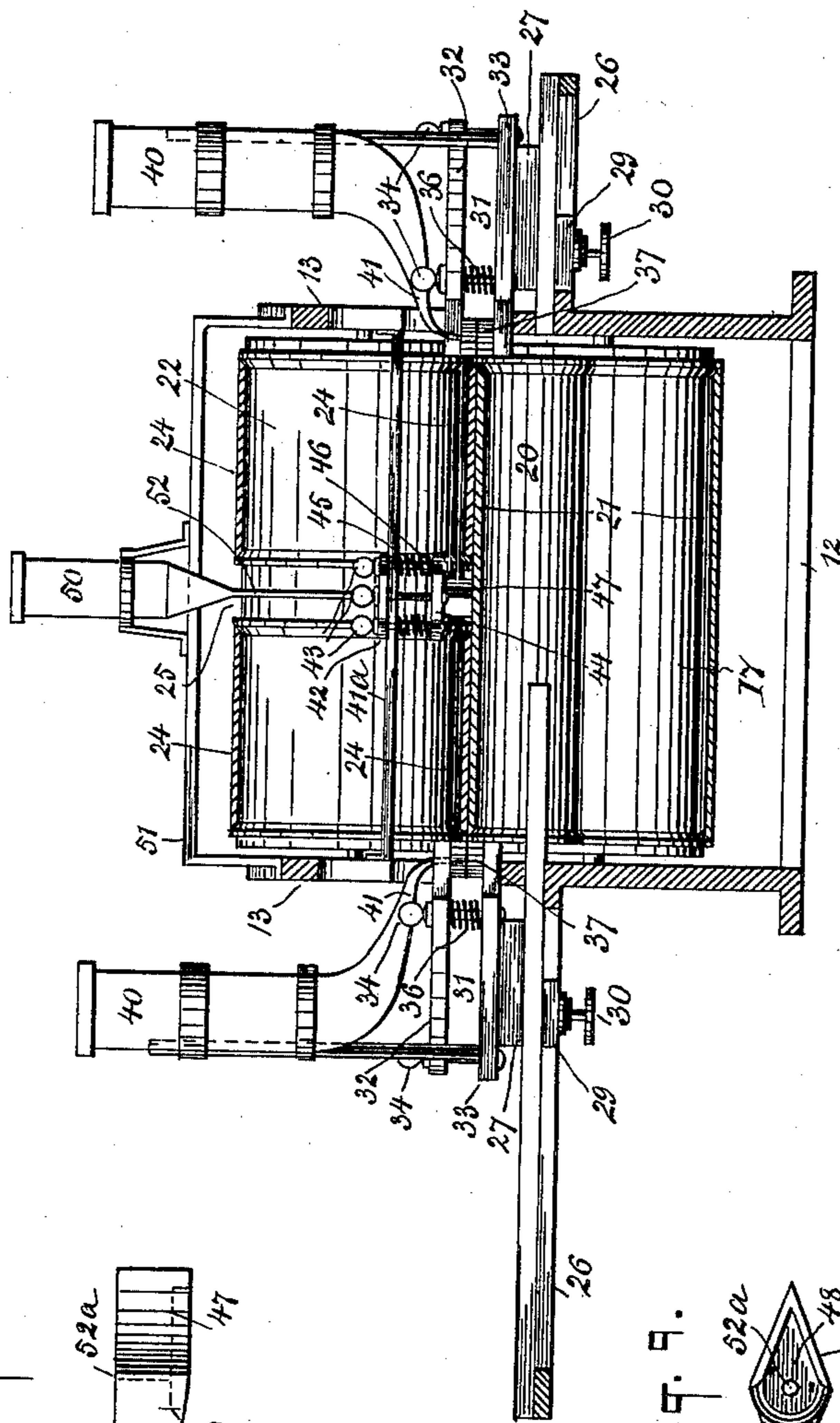


Fig. 4.

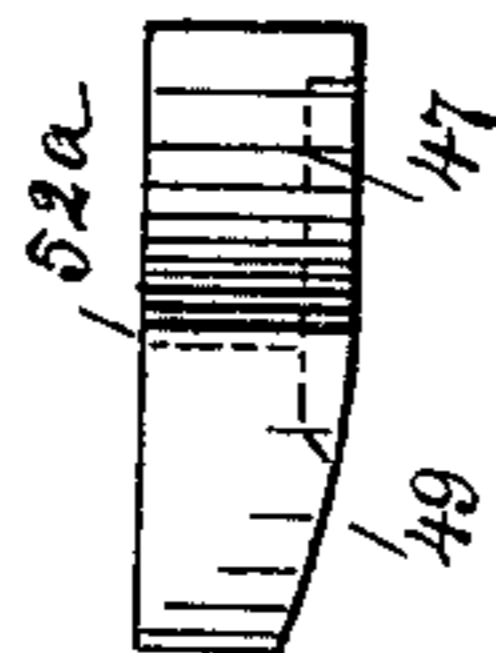
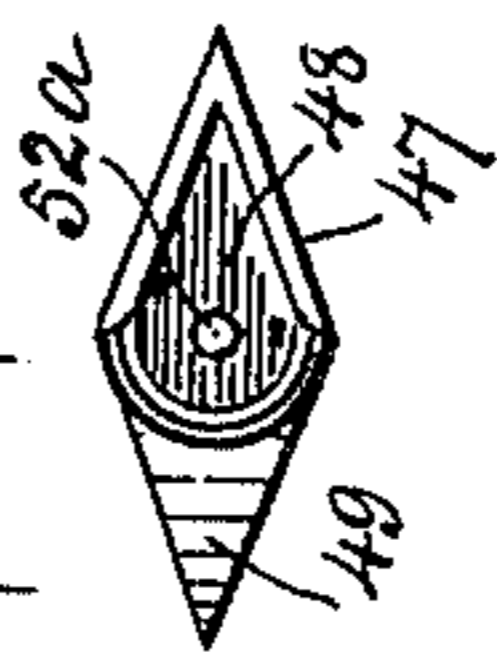


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDWARD A. WAYT, OF NEW YORK, N. Y.

MACHINE FOR BORDERING PAPER.

SPECIFICATION forming part of Letters Patent No. 697,186, dated April 8, 1902.

Application filed November 17, 1900. Serial No. 36,817. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. WAYT, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Machines for Bordering Paper, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to machines for bordering paper; and the object thereof is to provide an improved machine of this class for bordering stationery; and with this and other objects in view the invention consists in a machine of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same reference characters in each of the views, and in which—

Figure 1 is a side elevation of my improved paper-bordering machine, one side of the frame being removed and part of the construction being shown in section; Fig. 2, a plan view thereof, part of the construction being broken away; Fig. 3, a partial transverse sectional end view looking toward the front end of the machine, the parts which are shown in section being sectioned substantially on the line 3 3 of Fig. 2; Fig. 4, a side elevation of a detail of the construction which I employ and showing a modification thereof; Fig. 5, a perspective view of another detail of the construction; Fig. 6, a similar view of another detail; Fig. 7, a bottom perspective view of the device shown in Fig. 6; and Figs. 8 and 9, a side and bottom plan view, respectively, of another detail of the construction.

In the practice of my invention I provide a main frame consisting of separate side portions, each of which consists of a horizontal top member 10 and a horizontal bottom member 11, and the side portions of said frame are connected at their opposite ends by cross-plates 12, or said frame may be of any desired construction, and I also provide a supplemental frame consisting of parallel side portions 13, connected by transverse end portions or

bars 14, and the rear end of the supplemental frame is hinged to the rear of the main frame at 15 and adapted to be turned backwardly thereon, and the front end of the supplemental frame is adapted to be secured to the main frame at 16 by bolts or in any desired manner.

In the front end of the main frame is mounted a drum 17, and in the rear end thereof a corresponding drum 18, and between the drums 17 and 18 and arranged at predetermined intervals in the main frame are two rollers 19 and 20, and passed around the drums 17 and 18 and over the rollers 19 and 20 is an endless belt 21. Mounted in the opposite ends of the supplemental frame are two drums 22 and 23, the first of which is directly over the roller 20 and the latter preferably directly over the drum 18, and mounted on the drums 22 and 23 are two endless belts 24, between which is a space 25.

At each side of the main frame and slightly in rear of the roller 20 is arranged a projecting arm 26, on which is placed a slide 27, provided on its lower side with a rib 28, which fits in a corresponding slot in the arm 26, and the under side of said slot is beveled, and fitted therein is a block 29, through which is passed a screw 30, which holds the slide 27 to the arm 26. Placed on each of the slides 27 at each side of the machine and connected with said slides is a framework 31, (shown detached and on an enlarged scale in Fig. 5,) and this frame consists of a top plate 32 and a bottom plate 33, connected by screws 34, whereby they are adjustable toward and from each other, and the ends of both the plates 32 and 33 adjacent to the main frame are provided with an angular extension 35.

In practice the screws 34 adjacent to the main frame of the machine are each provided with a helical spring 36, placed between the plates 32 and 33, thus pressing them apart and against the shoulders of the screws 34, and placed between said ends of said plates 32 and 33 or the rectangular extensions 35 thereof and secured one to each of said plates, respectively, are two blocks 37, a top perspective view of one of which is given in Fig. 6 and a bottom perspective view thereof in Fig. 7. These blocks 37 are oblong and diamond-

shaped, or the sides are parallel and the ends inclined to the sides or diagonal and are placed between the ends of the plates 32 and 33, as indicated in dotted lines in Fig. 2, and the front ends thereof are beveled, as shown at 38, to form an open triangular space, as shown in Figs. 1 and 5, and the bottom of one block and the top of the other are provided with open recesses 39, the bottom of each of which is inclined upwardly toward one side and is flush with the edge of said block at said side, the position and form of these recesses 39 when the blocks are placed together being shown in dotted lines in Fig. 5.

The angular extension 35 of the plates 32 and 33 projects through the sides of the main frame adjacent to the ends of the drum 22, and over the frame, consisting of the plates 32 and 33, are supported ink-reservoirs 40, each of which is provided at its lower end with a curved discharge-pipe 41, which passes through the end of the top plate 32 of the frame 31 adjacent to the main frame of the machine and through the top block 37 into the space 39 between the blocks 37.

Arranged transversely of the main frame and in rear of the drum 22 is a bar 41^a, on which is formed or to which is secured a plate 42, which extends backwardly and forwardly thereof, and suspended beneath the plate 42 by means of screws 43, which pass there-through, is a similar plate 44, which together with the plate 42 compose a frame 45, similar to the frame 31, and between the plates 42 and 44 are placed springs 46. Connected with the bottom of the plate 44 of the frame 45 is an inking-block 47, side and bottom plan views of which are given in Figs. 8 and 9, and this block 47 is diamond shape in form, and in the bottom thereof is a recess 48 of somewhat similar form, and one corner of this block—that which is direct forwardly of the machine—is beveled on the under side, as shown at 49.

An ink-reservoir 50 is supported over and slightly at the rear of the drum 22 by means of a yoke-shaped frame 51, and said reservoir is provided at its lower end with a pipe 52, which extends downwardly through the frame 45 and into the inking-block 47, which is provided with a hole 52^a for this purpose.

In the drawings forming part of this specification the collars 23^a and 23^b on the drums 22 and 23 are shown slightly beveled, as are also the collars 56 on the drums 17 and 18, and the object of this invention is to prevent said collars from injuring or wearing the edges of the belts, which are also preferably beveled in the same manner, and also to make said belt run more truly and evenly. In the operation of this machine the belts and drums move comparatively slowly and the belt will not run off of the drums or over the collars; but the beveling of the collars on the drums and the beveling of the belts form no part of this invention, and said collars and belts may be made in any desired manner or may be of

any preferred form in cross-section. I also preferably place rearwardly of the drum 18 and of the main frame of the machine a roller 53, which forms part of the support of an endless belt 54, which acts as a table to receive the paper after it has been passed through the machine and bordered thereby, the other roller or support of the endless belt 54 being not shown.

The operation of the machine will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof. A sheet of paper 55 is placed on the belt 21, as shown in Fig. 1, in front of the drum 22, and the position thereof is regulated in any desired manner, and said sheet of paper is fed backwardly between the drum 22 and the roller 20 and between the belts 24 on the drums 22 and 23 and the belt 21. In this operation the opposite side edges of the sheet of paper pass between the blocks 37 at each side of the machine, the beveled spaces at 38 facilitating this operation, and in this operation the sides of the sheet of paper adjacent to the edges thereof are inked or bordered, as shown at 55^a in Fig. 2, by the blocks 37, and at the same time a border 55^b is formed through the central portion of the sheet by the inking-block 47, beneath which the paper passes. The blocks 37 border both sides of the sheet at the edges as the sheet passes through the machine, and the block 47 forms a longitudinal strip or border through the center of the sheet on one side thereof, and in folding the sheet it is folded through the center of this strip or border, and after the sheet has been passed through the machine and dried it may be reversed and passed through again, so as to form the borders on the ends of the sheet, and in this operation the block 47 may be raised by the screws 43, so that it will not touch the paper. The frames 31, which carry the inking-block 37, may be adjusted laterally to any desired extent, and a new belt of different width may be substituted for the belt 21 whenever desired, it being understood that the width of this belt must correspond with the size of the paper to be bordered.

The drums 17 and 18 are each provided with collars 56, between which the belt 21 moves, and the said belt is of the same transverse thickness as said collars, and said collars are provided with flanges 56^a, having holes 56^b, and the drums are provided with corresponding holes 56^c, through which pins or screws are passed, so as to adjust the collars 56 to belts of different widths.

The drums 22 and 23 are each provided with end collars 23^a and with two middle collars 23^b, which hold the belts 24 in position, and the end collars 23^a may be adjusted in the same manner as the collars on the drums 17 and 18, so as to accommodate said drums 22 and 23 to belts of different widths.

When the paper has passed between the belts 21 and 24 and between the drums 18 and 23, it is discharged onto the endless belt 54, by means of which it may be conveyed to any

5 desired point for drying or other purposes.

In the operation of this machine the paper to be bordered is always wider than the belt 21 and only sufficient ink is fed from the reservoirs 40 and 50 to form the necessary border on the paper as it passes through the machine, and a supplemental sheet or sheets of waste paper may be placed on the belt 21, in the middle thereof, if necessary, to prevent the said belt from being inked by the

15 inking-block 47 in the operation of the machine; but if the sheets to be bordered be placed close together and follow one another in proper order there will be no necessity for covering the belt 21.

20 The supplemental frame, in which the drums 22 and 23 are mounted, may be turned backwardly on its hinge or pivotal support at 15 whenever necessary or whenever desired either for cleaning the machine or for other

25 purposes, and the bearings of the drum 22 are adjustable toward and from the roller 20 and also slightly longitudinally of the main frame and of the supplemental frame, as shown in dotted lines at 57 in Fig. 1.

30 The drum 18 of the main frame and the drum 23 of the supplemental frame or the shafts of said drum and the shaft of the roller 53 are all geared in connection, as shown at 58 in Fig. 2, and in practice the shaft of one

35 of said drums is provided with a wheel 59, by means of which the machine is operated.

This machine is particularly adapted for use in making borders on what is known as "mourning stationery," and the said machine

40 is simple in construction and operation and is comparatively inexpensive, while being well adapted to accomplish the result for which it is intended, and it will be apparent that changes in and modifications of the construction herein described may be made without

45 departing from the spirit of my invention or sacrificing its advantages.

Having fully described my invention, what I claim as new, and desire to secure by Letters

50 Patent, is—

1. A machine of the class described, comprising a main frame, drums mounted therein, an endless belt mounted on said drums, a roller positioned between said drums and

55 over which said belt passes, two drums mounted above the main frame one of which is over said roller and the other over one of the drums in the main frame, two endless belts mounted on said last-named drums and separated by a narrow space, inking devices connected with the opposite sides of the main frame rearwardly of said roller and laterally

60 adjustable and another inking device mounted at the rear of said roller and above the same, substantially as shown and described.

65 2. A machine of the class described, the

frame of which is provided at its opposite sides with laterally-adjustable inking devices consisting of separate plates between the ends of which are placed inking-blocks, said blocks

70 being provided adjacent to the main frame of the machine with beveled edges which communicate with inking-spaces between said blocks, substantially as shown and described.

75 3. A machine of the class described, the frame of which is provided at its opposite sides with laterally-adjustable inking devices consisting of separate plates between the ends of which are placed inking-blocks said blocks

80 being provided adjacent to the main frame of the machine with beveled edges which communicate with inking-spaces between said blocks, and said machine being also provided midway between said first-named ink-

85 ing devices with another inking device, substantially as shown and described.

4. A machine of the class described comprising a main oblong frame, drums mounted in the opposite ends of said frame, a roller po-

90 sitioned in said frame between said drums, an endless belt mounted on said drums and passing over said roller, a supplemental frame positioned over the main frame and hinged thereto, two drums mounted in the supple-

95 mental frame one of which is over said roller, two endless bands mounted on said last-named drums, inking devices arranged at the opposite sides of the main frame and rear-

100 wardly of said roller and another inking device arranged centrally between the first-named inking devices and rearwardly of and above said roller, devices for supplying ink to said inking devices and means for operating said drums, substantially as shown and

105 described.

5. A machine of the class described comprising a main oblong frame having drums mounted in the opposite ends thereof and a roller positioned between said drums, an end-

110 less belt mounted on said drums and passing over said roller, a supplemental frame arranged over the main frame and at one end thereof, drums mounted in the opposite ends of the supplemental frame, one of which is

115 over said roller, two endless belts mounted on said last-named drums and separated by a narrow space, said supplemental frame being hinged to the rear end of the main frame, and devices for inking both sides of a sheet

120 of paper at the edges thereof as it is passed through the machine and also for inking one side of the paper at the longitudinal center thereof, substantially as shown and described.

6. A machine of the class described com-

125 prising a main oblong frame, drums mounted therein, a roller positioned between said drums, an endless belt mounted on said drums and the upper reach of which passes over said roller, two other drums one of which is mount-

130 ed over said roller and the other rearwardly thereof over one of the drums in the main

frame, two separate belts mounted on said last-named drums and separated longitudinally of the center of the machine, and devices for inking both sides of a sheet of paper at the opposite edges thereof and for inking the longitudinal center thereof on one side, as said sheet of paper is fed between said roller and the drum thereover, substantially as shown and described.

7. A machine of the class described comprising a main frame, an endless belt mounted therein, a roller over which the upper reach of said belt passes, a supplemental frame connected with the main frame and provided with two drums one of which is positioned over said roller, two endless belts mounted on said last-named drums and separated longitudinally of the center of the machine and inking devices mounted rearwardly of said roller and the drum thereover, and adapted to ink both sides of a sheet of paper at the edges thereof, and also the longitudinal center thereof on one side as said sheet is fed between said drum and said roller, substantially as shown and described.

8. In a machine of the class described, an inking device consisting of a frame composed of top and bottom plates, and inking-blocks secured between one end of said plates the adjacent surfaces thereof being beveled at one side, and said blocks being provided in their adjacent surfaces with recesses, and means for feeding ink thereto, substantially as shown and described.

9. In a machine of the class described, an inking device comprising a frame consisting of top and bottom plates connected by screws passing therethrough and provided with springs which separate said plates and inking-blocks placed between said plates at one end, the adjacent sides of said blocks being beveled at one edge and the inner faces thereof being provided with recesses and means for feeding ink to said recesses, substantially as shown and described.

10. A machine of the class described, the frame of which is provided at its opposite sides with projecting supports, longitudinally-adjustable slides mounted on said supports, inking devices mounted on said slides, an inking device mounted centrally of the frame, ink-reservoirs for feeding ink to said inking devices, and means for feeding sheets of paper through and between said side inking de-

vices and beneath the central inking device, substantially as shown and described.

11. A machine of the class described, comprising a main frame and a supplemental frame connected with the top thereof, rollers or drums mounted in the main frame and provided with adjustable collars, a belt mounted on said rollers or drums, rollers or drums mounted in the supplemental frame and provided with end and middle collars, two belts mounted on the rollers or drums in the supplemental frame, and inking devices supported in connection with the main and supplemental frames and adapted to border a sheet of paper as it is passed between the rollers or drums of the main and supplemental frames, substantially as shown and described.

12. A machine of the class described, provided with rollers or drums in the bottom portion thereof, a belt mounted thereon, other rollers or drums in the top thereof provided with two belts separated by a central space, all of said rollers or drums being provided with adjustable collars for holding the belts in proper position, and inking devices at the sides and top central portion of the machine for bordering a sheet of paper as it is passed between the belt on the bottom rollers and those in the upper portion of the machine, substantially as shown and described.

13. A machine of the class described, comprising a main frame provided at each of its opposite ends with a drum, a roller positioned between said drums, a supplemental frame connected with the main frame and provided with two drums, one of which is over said roller, laterally-adjustable inking devices mounted at the opposite sides of the main frame at the rear of said roller, and a central inking device mounted in the supplemental frame and at the rear of said roller and at the rear of the drum in the supplemental frame over said roller, and belts mounted on the drum in the main frame and on the drums in the supplemental frame.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 15th day of November, 1900.

EDWARD A. WAYT.

Witnesses:

F. A. STEWART,
M. K. LOWERRE.