Nov. 28, 1933. B. FASSMANN 1,937,144

PRINTING MACHINE

Filed Jan. 24, 1931 2 Sheets-Sheet 1

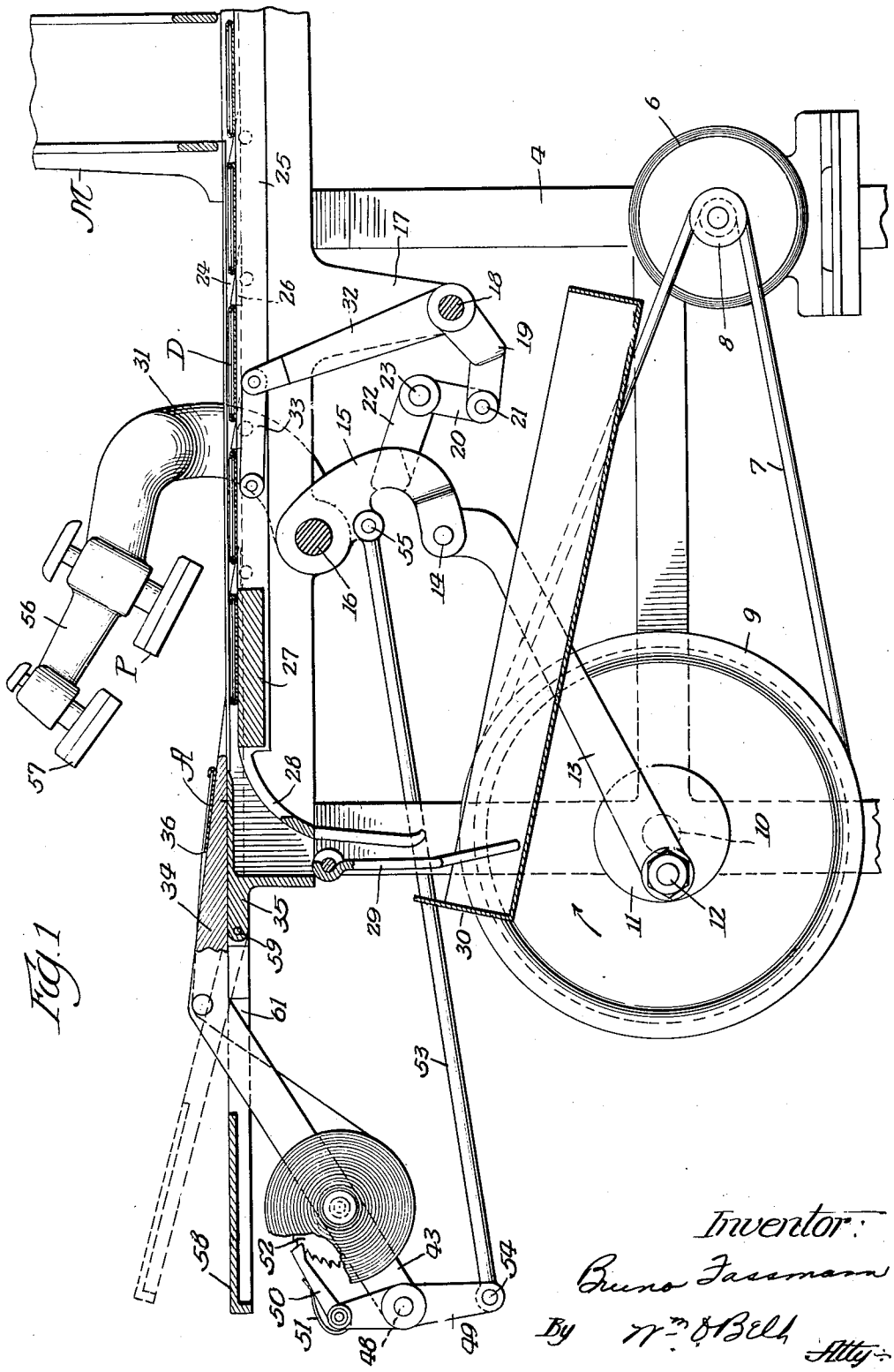


Fig. 1

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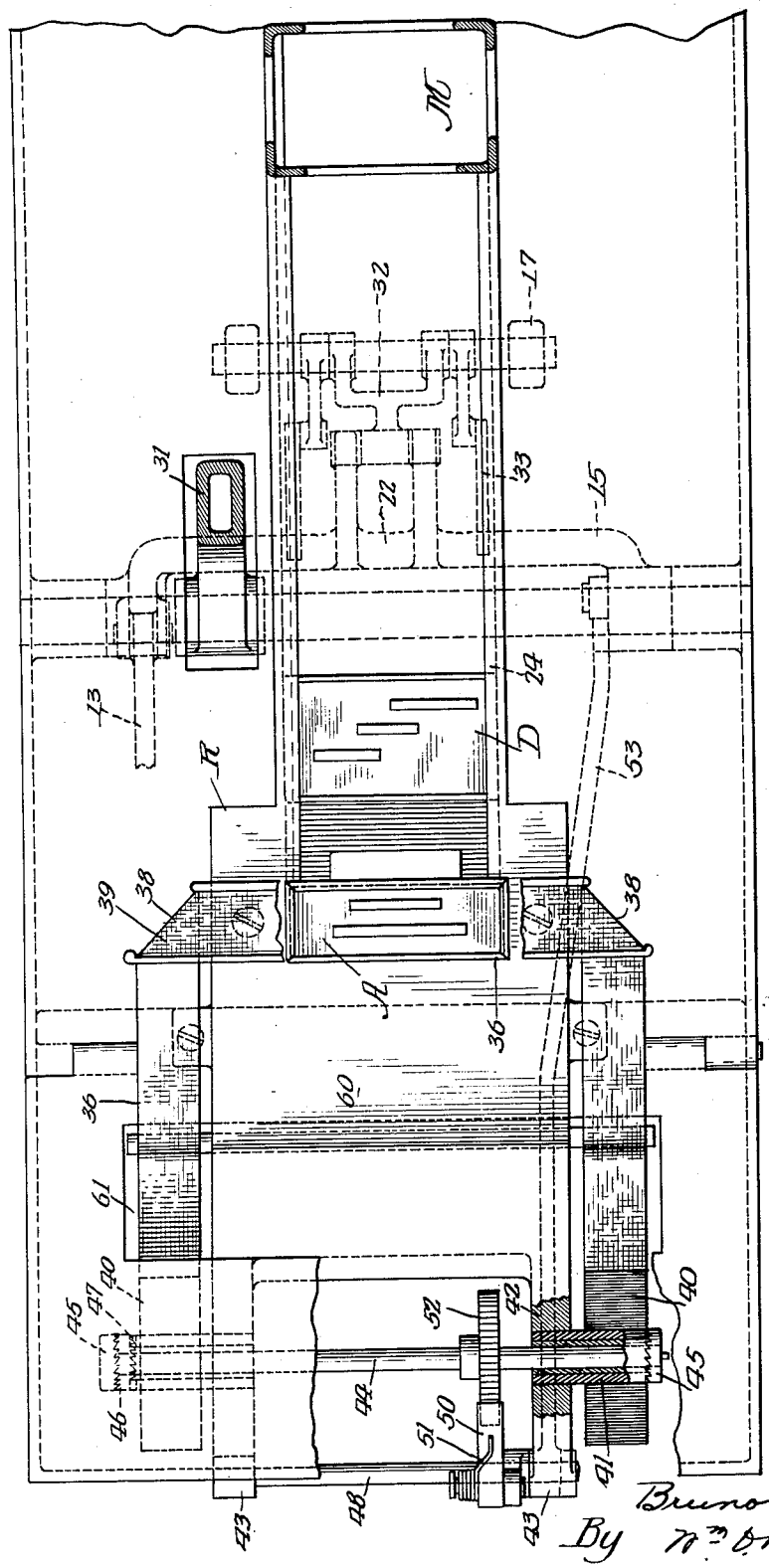


Fig. 2

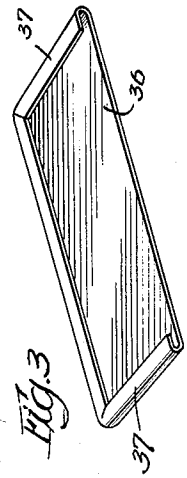


Fig. 3

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UNITED STATES PATENT OFFICE

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PRINTING MACHINE

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7 Claims. (Cl. 101—65)

This invention relates to printing machines and more particularly to printing machines through which variable printing devices are sequentially passed from which printing impressions are made.

It is often desirable that an additional printing impression be made adjacent the printing impression made from the variable printing device as, for example, when it is desired to imprint a date or the like, and the salient object of my invention is to provide a novel printing machine in which such an additional printing impression may be made.

Another object of the invention is to provide a frame that may be mounted adjacent the usual printing position in the machine and in which frame the printing device for the auxiliary printing impression may be arranged.

Further objects of the invention are to provide an ink ribbon for the auxiliary printing device and to provide a winding device for this ink ribbon that may be mounted on the frame providing the mounting for the auxiliary printing device.

In the selected embodiment of the invention illustrated in the accompanying drawings

Fig. 1 is a longitudinal fragmentary sectional view of a printing machine embodying my invention;

Fig. 2 is a fragmentary plan view of the machine illustrated in Fig. 1; and

Fig. 3 is a perspective detail view of the auxiliary printing device receiving member.

In the accompanying drawings wherein a selected embodiment of my novel printing arrangement is illustrated, 4 indicates the frame of the machine and on a bracket 5 on the frame a motor 6 is supported. An endless belt 7 is directed around the driving pulley 8 of the motor and around the driving pulley 9 fixed on the drive shaft 10 journaled in the frame. Fixed on the shaft is a disc 11 and eccentrically secured thereto at 12 is one end of a driving link 13 having the other end connected at 14 to a rocker 15 fixed on the platen arm shaft 16 journaled in the frame. Depending from the frame is a bracket 17 and pivotally mounted thereon at 18 is a bell crank including an arm 19 to the free end of which a link 20 is pivotally connected at 21. An arm 22 is fixed to the rocker 15 and the link 20 is pivotally connected thereto at 23. The variable printing devices are introduced into a magazine M arranged in one end of the machine above the printing device guideway 24 in which the reciprocating printing device feed bar 25 is slidably mounted on which pawls 26 are provided which successively engage the rear edges of the printing devices D during reciprocation of the bar 25 to feed the printing devices along the guideway 24 in a step by step manner into printing position above the anvil 27. After the printing devices D have been positioned above the anvil 27 they are directed over the guide 28 past the packer 29 into the galley 30 wherein the devices are collected and stored in the same sequence as that in which they were arranged when introduced into the magazine M. The platen arm 31 is fixed on the platen arm shaft 16 and adjustably mounted thereon is the usual platen P. When power is supplied from the motor 6 to rotate the pulley 9, the disc 11 is rotated and a reciprocatory movement is imparted through the link 13 to the rocker 15, and this movement is transmitted through the arm 22 and link 20 to the arm 21 of the bell crank pivotally mounted at 18 and through the arm 22 of the bell crank to the link 33 pivotally connected to the free end of the arm 32 and the bar 25 to impart the reciprocatory movement to said bar. The movement imparted to the rocker 15 also rocks the platen arm 31 to move the platen P toward and away from the printing device D positioned on the anvil 27 whereby impressions are made from such printing device through the usual ink ribbon R. The printing machine thus far described is of the usual construction and is merely illustrative for my invention may be used in connection with printing machines constructed other than in the above described manner.

My improved device embodies a frame 34 having a portion thereof mounted on the bed 35 of the printing machine forwardly of the anvil 27. This frame includes an inclined upper surface on which a printing device receiving member 36 (Fig. 3) is mounted in alignment with the printing device guideway 24. Three edges of the printing device receiving member are folded over the body thereof as indicated at 37. An auxiliary printing device A may be slid into the member 36 past the edge not having a fold thereon to be retained therein by the folded edges 37. The inclination of the upper face of the frame 34 is such that the face of the auxiliary printing device A lies in a plane tangent to a circle to which the plane of the face of the printing device D on the anvil 27 is also tangent. The forwardly disposed corners of the frame 34 are bevelled as indicated at 39, preferably on an angle of substantially forty-five degrees. An auxiliary ribbon 39 is passed over the auxiliary printing de-

vice A mounted in the frame 36 and over the bevelled edges 38 to suitable ribbon receiving spools 40 which include sleeves 41 into which bushings 42 are extended. The bushings 42 are fixed in spaced arms 43 on the frame 34 and the sleeves 41 abut the outer faces of these arms. Journaled in the bushings 42 is a shaft 44 having at the outer ends thereof caps 45 which have ratchet teeth 46 on the inwardly disposed faces thereof. The outwardly disposed ends of the sleeves 41 have ratchet teeth 47 therein. The shaft 44 is slidable as well as rotatable in the bushings 42 whereby the ratchet teeth 46 on either one of the caps 45 may be selectively engaged with the ratchet teeth 47 on the end of the adjacent sleeve 42 so that the shaft 44 may be selectively connected to either of the sleeves 41 and consequently spools 40. The ribbon 39 is wound in opposite directions on the spools 40 and therefore as it is being unwound from one spool it will be wound on the other spool. In order to impart a step by step movement to the ribbon 39 to unwind it from one spool and wind it on the other and to successively bring fresh portions thereof into alignment with the auxiliary printing device A the following devices are provided: A shaft 48 is journaled in and extends between the arms 43 and mounted thereon is a lever 49. Pivotally mounted at one end of the lever 49 is a pawl 50 acted on by a spring 51 to be held in engagement with the teeth of the ratchet wheel 52 mounted on the shaft 44. One end of a link 53 is pivotally connected to the lever 49 at 54 and the other end thereof is pivotally connected to the rocker 15 at 55. Therefore, as the rocker 15 is rocked in the above described manner, the movement thereof will be transmitted through the link 53 to the lever 49 and through the pawl 50 to impart a step by step movement to the ratchet wheel 52 and shaft 44 to move the ribbon in the described manner. Extending forwardly from the platen arm 41 is an arm 56 at the outer end of which an auxiliary platen 57 is adjustably mounted. The platen P is positioned relative to the shaft 16 so that when the rocker 15 has moved the arm 31 to the limit of its movement toward the printing device D on the anvil 27, the platen P will be disposed parallel with this printing device, which will preferably be disposed in a substantially horizontal plane. It has been pointed out that the auxiliary printing device A is inclined from the horizontal and consequently the face plane of the auxiliary platen 57 will be correspondingly inclined to the horizontal when the platen arm 51 reaches the end of its movement toward the printing devices in the guideway 24. By so disposing the face planes of the platen smudging of the impression is prevented for if the face planes of the platens were not parallel with the face planes of the printing devices, there would be a slight relative movement between these two devices which would cause smudging that would not produce a clear impression. In order to cover the ribbon spools 40 and associated mechanisms, a protecting plate 58 is pivotally mounted at 59 at the forward end of the bed 35 of the frame 4 and this plate 58 may be pivoted to or from horizontal position and when pivoted from horizontal position access to the ribbon spools 40 and associated mechanisms may be readily obtained. The frame 34 includes a plate 60 on which a portion of the sheet receiving the impressions may be disposed and the plate 58 includes a clearance opening 61 to permit passage of the frame 58 past the plate 60 when pivoted from horizontal position.

It is apparent from the foregoing description that the auxiliary printing device A is so supported that it may be readily removed and another device substituted therefor and it is therefore apparent that any desired data may be arranged on this printing device and that this data will be printed on the sheet simultaneously with the impression made from the variable printing device positioned above the anvil 27.

While I have illustrated and described a selected embodiment of my invention it is to be understood that this is capable of variation and modification and I therefore do not wish to be limited to the precise details set forth but desire to avail myself of such changes and modifications as fall within the purview of the following claims:

I claim:

1. In a printing machine, means sequentially moving variable printing devices through the machine and into printing position on an anvil in the machine, a platen, means supporting said platen to position the printing face thereof when in printing position parallel with the printing face of the variable printing device cooperating therewith, means operating said printing device moving means and said platen, an auxiliary printing device, means supporting said auxiliary printing device in juxtaposition to and in a plane inclined to the plane of the variable printing device cooperating with said platen, the inclination of the auxiliary printing device being such that the plane of the face thereof lies in a plane tangent to a circle to which the plane of the face of a variable printing device disposed on the anvil is also tangent, an auxiliary platen adapted to cooperate with said auxiliary printing device, and means supporting said auxiliary platen with the printing face thereof inclined similarly to the inclination of the auxiliary printing device.

2. In a printing machine, a frame, a table on said frame, means sequentially moving variable printing devices through the machine, a platen, means supporting said platen, operating means carried by said frame below said table and operating said printing device moving means and said platen, an auxiliary frame mounted on said table, an auxiliary printing device mounted in said auxiliary frame, an auxiliary platen adapted to cooperate with said auxiliary printing device, means supporting said auxiliary platen from the supporting means for said first platen, said auxiliary frame including arms extending below said table, an ink ribbon for said auxiliary printing device, means carried by said arms and disposed below said table for storing and moving said ribbon, and means for operating the moving means for said ribbon and connected to said operating means and disposed below said table.

3. In a printing machine, a frame, a table on said frame, means sequentially moving variable printing devices through the machine, a platen, means supporting said platen, operating means carried by said frame below said table and operating said printing device moving means and said platen, an auxiliary frame mounted on said table, an auxiliary printing device mounted in said auxiliary frame, an auxiliary platen adapted to cooperate with said auxiliary printing device, means supporting said auxiliary platen from the supporting means for said first platen, said auxiliary frame including arms extending below said table, an ink ribbon for said auxiliary printing device, a shaft carried by said arms below said

table and having storing means for said ink ribbon mounted thereon, a ratchet on said shaft, means carried by said arms and supporting a pawl, actuating means for said pawl and connected to said operating means, means urging said pawl into engagement with said ratchet, and manually operable means associated with said shaft for reversing the direction of winding of the ribbon on the storing means therefor.

4. In a printing machine, a frame, means sequentially moving variable printing devices through the machine, a platen, means supporting said platen, means carried by said frame and operating said printing device moving means and said platen, an auxiliary frame including an inclined upper surface, an auxiliary printing device, means removably retaining said auxiliary printing device on said inclined surface, an auxiliary platen adapted to cooperate with said auxiliary printing device, and means supporting said auxiliary platen from the platen supporting means with the printing face of the auxiliary platen inclined similarly to the inclination of the upper surface of said auxiliary frame.

5. In a printing machine, a main frame, means sequentially moving variable printing devices through the machine, a main platen, means supporting said main platen, means carried by said main frame and operating said printing device moving means and said platen, an auxiliary frame mounted on the frame and including an inclined upper surface, an auxiliary printing device, means removably retaining said auxiliary printing device on said inclined surface, an auxiliary platen adapted to cooperate with said auxiliary printing device, means supporting said auxiliary platen from the main platen supporting means with the printing face thereof inclined similarly to the inclination of the upper surface of said frame, and means storing and moving a ribbon over said auxiliary printing device carried by said auxiliary frame and operable from the operating means.

6. In a printing machine, a main frame, means sequentially moving variable printing devices through the machine, a main platen, means supporting said main platen, means carried by said main frame and operating said printing device moving means and said platen, an auxiliary frame mounted on the frame and including an inclined upper surface, an auxiliary printing device, means removably retaining said auxiliary printing device on said inclined surface, an auxiliary platen adapted to cooperate with said auxiliary printing device, means supporting said auxiliary platen from the main platen supporting means with the printing face thereof inclined similarly to the inclination of the upper surface of said main frame, said auxiliary frame having tapered surfaces thereon whereby a ribbon may be directed transversely across said auxiliary frame over said auxiliary printing device and longitudinally of said auxiliary frame, and means for storing and moving said ribbon carried by said auxiliary frame and operable from the operating means.

7. In a printing machine, a printing device guideway extending through said machine, means sequentially moving printing devices through said printing device guideway, a platen, means supporting said platen to position the printing face thereof when in printing position parallel with the printing face of a printing device at printing position in said printing device guideway, an auxiliary frame mounted over said printing device guideway and having the upper face thereof inclined toward the face of a printing device at printing position in the printing device guideway, means retaining an auxiliary printing device on said inclined face, an auxiliary platen carried by the supporting means for the first platen and having the printing face thereof inclined similarly to the inclination of the upper face of said auxiliary frame, said auxiliary platen making an impression from the auxiliary printing device on said inclined face of said auxiliary frame at the time the first platen makes an impression from the printing device at printing position.

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