July 31, 1934. W. T. GOLLWITZER 1,968,292

PRINTING MACHINE

Filed July 14, 1930 2 Sheets-Sheet 1

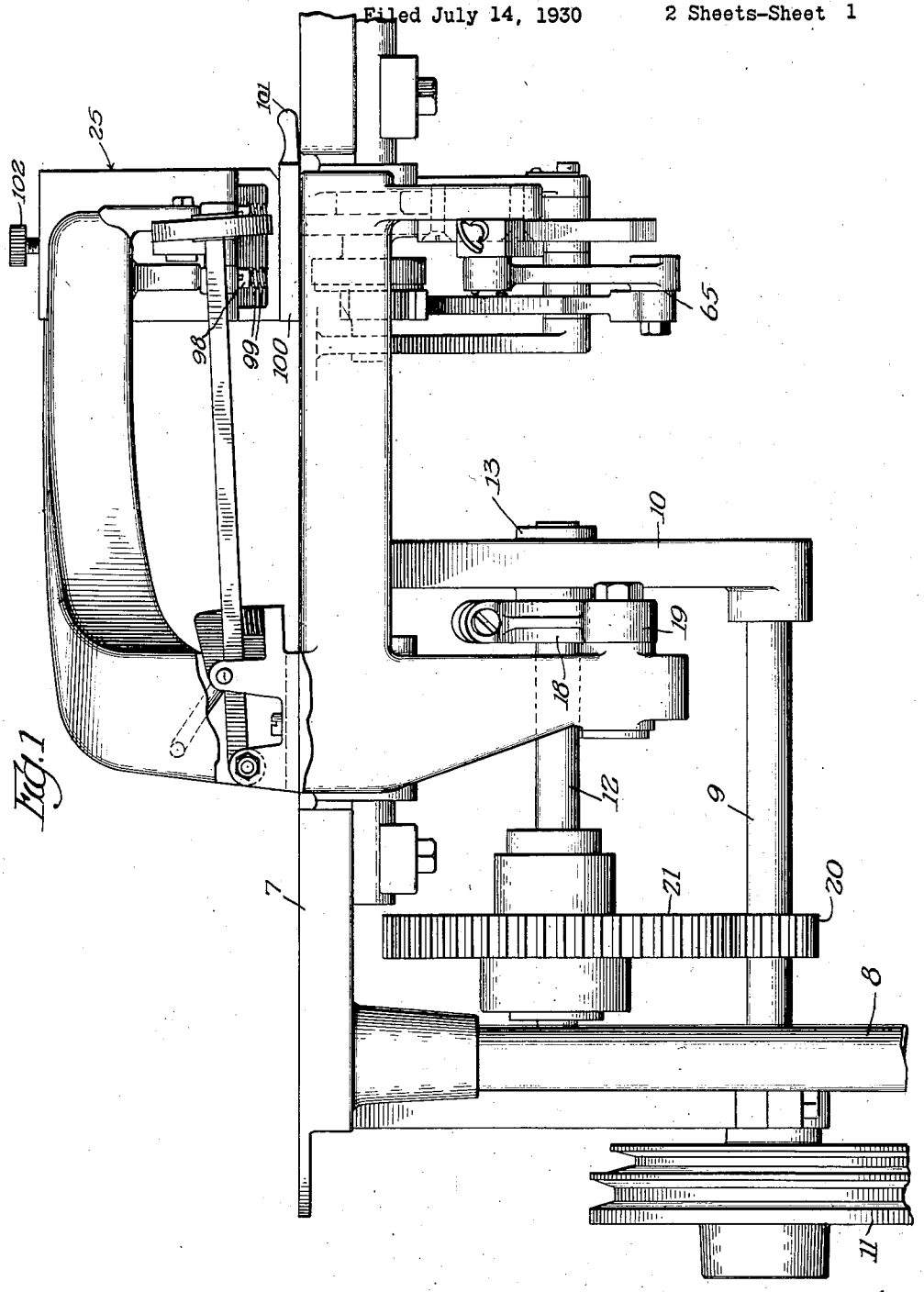


Fig. 1

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Fig. 2

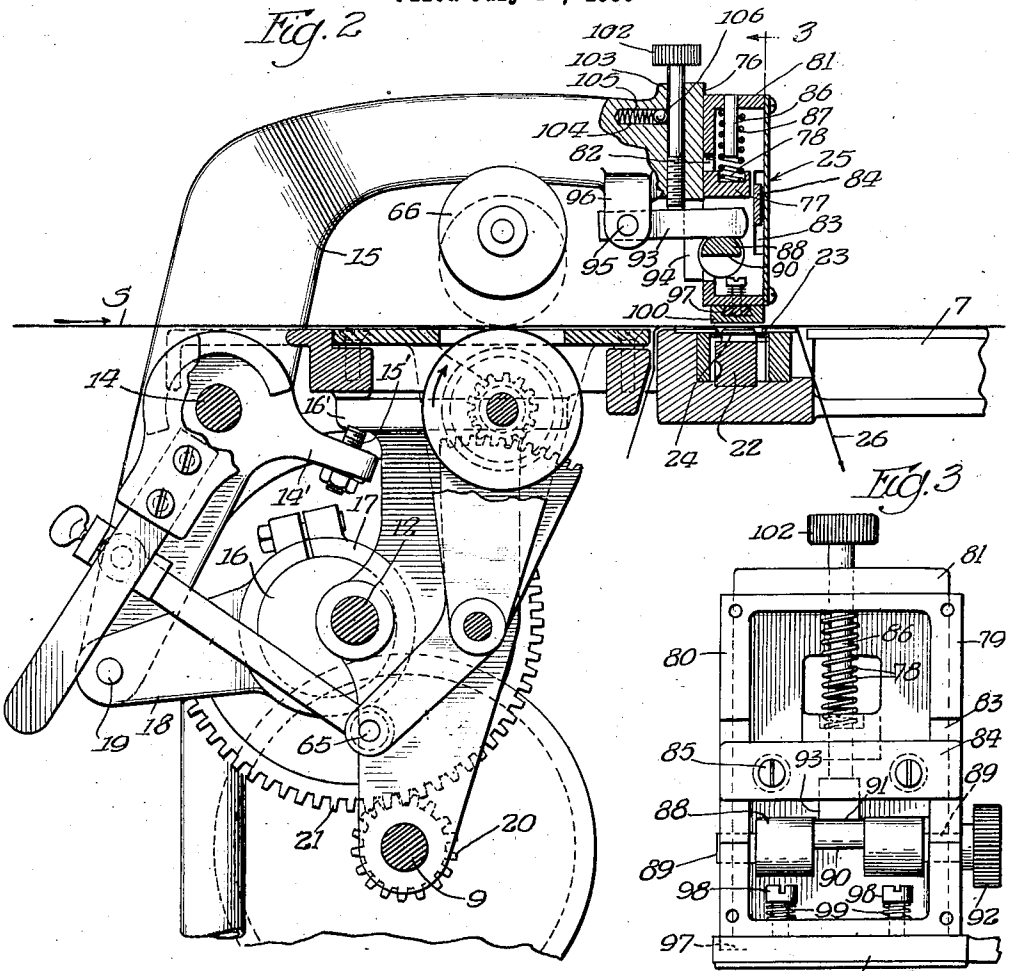


Fig. 3

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1,968,292

UNITED STATES PATENT OFFICE

1,968,292

PRINTING MACHINE

Walter T. Gollwitzer, Chicago, Ill., assignor to Speedaumat Manufacturing Company, Chicago, Ill., a corporation of Delaware

Application July 14, 1930, Serial No. 467,784

5 Claims. (Cl. 101—297)

This invention relates to printing machines and, more particularly to a platen adapted for use with such machines.

The objects of the invention are to provide a platen which may be readily adjusted to operate on predetermined thicknesses of sheets or the like to be printed, and in which the printing pressure thereof may be easily varied.

A selected embodiment of the invention is illustrated in the accompanying drawings and therein:

Fig. 1 is a fragmental elevation of one end of a printing machine with which my improved listing device is associated;

Fig. 2 is a vertical section view illustrating the operating mechanisms of my improved listing device; and

Fig. 3 is a section view taken substantially on the line 3—3 on Fig. 2.

Referring to the drawings wherein a selected embodiment of my invention is illustrated, 7 indicates the bed of a printing machine that is carried by a suitable supporting structure or frame 8. The main driving shaft 9 is suitably journaled in the supporting frame 8 and a bracket 10 carried by the bed 7. Mounted on the driving shaft 9 outwardly of the supporting frame 8 is the driving pulley 11, power being supplied thereto through a belt from an electric motor or the like. An auxiliary drive shaft 12 is provided, which is journaled in the bearing 13 in the bracket 10 and in a suitable bearing in the supporting frame. Suitably journaled below the bed 7 is a stub shaft 14 and the stamper or platen arm 15 is pivotally mounted thereon. On the shaft 12 is an eccentric 16 and the bearing portion 17 of the driving arm 18 embraces this eccentric 16, the free end of the driving arm 18 being pivotally connected to the lower end of the stamper arm 15, as indicated at 19. On the shaft 9 there is a pinion 20 which meshes with the gear 21 on the shaft 12, and when power is supplied to the main driving shaft 9 rotation of said shaft is transmitted through the pinion 20 to the gear 21, to the shaft 12 and eccentric 16 and arm 18 which acts to pivot stamper arm 15 about the shaft 14, and in this manner reciprocatory movement is imparted to the stamper arm 15. A stop arm 14' carries an adjustable screw 15' that engages a stop portion 16' on the bed 7 to limit and determine the upper position of the platen arm 15. In the bed 7 there is an anvil 22 and a guideway 23 is directed thereover, in which guideway 23 printing devices 24 are arranged, which printing devices 24 are moved in a step-by-step manner into position below the platen structure, generally indicated by 25, mounted at the outer end of the stamper arm 15, a ribbon 26 being directed over the printing devices 24 on the anvil 22 so that when a sheet of paper or the like is arranged between the platen 25 and the ribbon 16 an impression will be made on said sheet from the printing devices 24 on the anvil 22. A machine of the above described character is disclosed in my co-pending application, Serial No. 469,953, filed July 23, 1930.

While I have disclosed my invention in association with printing machines of the above character, it is to be understood that the invention is not limited to use with such a printing machine but may be used in connection with a machine of any desired construction.

In the platen structure shown the printing pressure may be expeditiously varied and, further, the platen may be quickly arranged to print on relatively thick articles or to print on relatively thin articles. Thus when the machine is used to address magazines or the like, which are relatively thick, the platen is arranged in one position and when the machine is adapted to print on thin material, such as envelopes, the platen is arranged in another position. To accomplish the foregoing the following arrangement is provided. At the outer end of the stamper arm 15 a flat face 76 is provided. Extending outwardly from said flat face there is a lip 77 having a well 78 therein. Flanges 79 and 80 extend out from the sides of the flat face 76 and arranged between these flanges there is a casting 81 having an opening 82 in the rear wall thereof through which opening the lip 77 is extended when the casting 81 is engaged with the face 76 between the flanges 79 and 80. In the side walls of the casting 81 there are slots such as 83, through which a plate 84 is extended, said plate 84 being retained in position by the screws 85 that are run into the end of the stamper arm 15. In this manner the casting 81 is arranged in position on the end of the stamper arm 15. A pin 86 depends from the upper wall of the casting 81 and a spring 87 is disposed therearound, the lower end of said spring being arranged in the well 78. The spring 87 acts to urge the casting 81 upwardly. A shaft 88 has reduced studs 89 at the ends thereof which are journaled in the side members of the casting 81. At the medial portions of the shaft 88 said shaft is cut to provide opposed flat faces 90 and 91, said flat faces being parallel to each other and to the axis of the shaft 88. The flat face 90 is arranged inwardly of the periphery of the shaft

88, as for example, it may extend diametrically across such shaft or adjacent said diameter. The flat face 91 is arranged inwardly of the periphery of the shaft 88 in but a small amount. A knob 92 is provided on one of the stud sections 89 outwardly of the flange 79. A tongue 93 extends into the casting 81 through the opening 82 and through a cut-away portion 94 in the portion of the stamper arm providing the flat face 76. The tongue 93 is pivotally mounted at 95 on a lug 96 depending from the stamper arm. The inner end of the tongue 93 rests on either the flat face 90 or 91 and limits the upward movement of the casting 81 as caused by the spring 87. By gripping the knob 92 the shaft 88 may be rotated to move either the face 90 or 91 into engagement with the tongue 93. Therefore, the lower end of the casting 81 may be disposed in different initial positions with respect to the printing device 24 on the anvil 22 and, therefore, different thicknesses of material to be printed may be disposed between the ribbon and the impression portion of the platen. On the outer flat face of the lower wall of the casting 81 a substantially keystone-shaped strip 97 is provided. Two screws 98 are freely extended through the lower wall of the casting 81 and are fixed in the strip 97. Springs 99 are disposed between the heads of the screws 98 and the lower wall of the casting 81, and these springs urge the strip 97 into engagement with the lower wall of the casting 81. The keystone-shaped strip is disposed with a narrower portion thereof toward the casting 81. The impression member 100 of the platen structure has in the upper wall thereof a keystone-shaped slot and by gripping the handle 101, Fig. 1, of the impression member 100, said impression member may be slid onto the lower end of the casting and the keystone-shaped strip 97 will be disposed in the keystone-shaped slot in the impression member, the springs 99 being expanded during this connecting of the impression member to the casting and after the impression member is in position the springs contract to securely lock the impression member in position. In order to vary the pressure of the impression member 100 a thumb screw 102 is provided which is extended through an opening 103 in the stamper arm, the lower end of this opening being threaded to receive the lower threaded end of the thumb screw. To retain the thumb screw 102 in various adjusted positions a horizontally extending opening 104 is provided in the stamper arm in which a spring 105 is arranged, said spring 105 acting on a ball 106, said ball in turn bearing on the stem of the thumb screw 102, and the friction created thereby prevents undesired rotation of the screw. The lower end of the screw engages the upper surface of the tongue 93 and by moving the screw downwardly the tongue 93 will be moved downwardly against the action of the spring 87. Consequently, the impression member 100 will be moved downwardly which will vary the initial position thereof and also the printing pressure.

From the foregoing description it is apparent that I have provided a platen structure which can be quickly shifted to operate either on relatively thick material or thin material, the differences in these thicknesses being determined by the disposition of the faces 90 and 91. In connection with the above adjustment I have also provided another adjustment which can be readily positioned and which will be retained in position after adjustment, and inasmuch as this last device cooperates with pivotally mounted tongue or lever it is apparent that very fine adjustments can be made.

While I have illustrated and described a selected embodiment of my invention it is 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 the modifications and variations within the purview of the following claims.

I claim:

1. A platen structure for a printing machine and including a platen arm having a grooved face at the outer end thereof, a housing reciprocally mounted in said grooved face and having an opening in the rear wall thereof, a ledge on the grooved face and extending into said housing through said opening, yieldable means interposed between said ledge and the top of said housing and urging said housing upwardly, an impression member at the lower end of said housing, a stop member extending into said housing through said opening, and a cylindrical member rotatably mounted in said housing and having flat faces thereon spaced from the axis thereof in varied amounts and adapted to be engaged with said stop member to limit the upward movement of said housing as induced by said yieldable means whereby the impression member may be spaced initially in varied amounts from a printing device with which said platen structure is adapted to cooperate when said stop member is engaged with different of said flat faces.

2. A platen structure for a printing machine and including a platen arm having a grooved face at the outer end thereof, a housing reciprocally mounted in said grooved face and having an opening in the rear wall thereof, a ledge on the grooved face and extending into said housing through said opening, yieldable means interposed between said ledge and the top of said housing and urging said housing upwardly, an impression member at the lower end of said housing, a stop member extending into said housing through said opening, a cylindrical member rotatably mounted in said housing and having flat faces thereon spaced from the axis thereof in varied amounts and adapted to be engaged with said stop member to limit the upward movement of said housing as induced by said yieldable means whereby the impression member may be spaced initially in varied amounts from a printing device with which said platen structure is adapted to cooperate when said stop member is engaged with different of said flat faces, and means on said platen arm and engageable with said stop member for varying the position thereof to alter the initial position of said impression member as determined by the engagement of said stop member with said flat faces.

3. A platen structure for a printing machine and including a platen arm having spaced flanges at the outer end thereof, a housing slidably mounted between said flanges, said housing having a recess in the front face thereof, means secured to said flanges and disposed in said recess for retaining said housing in position, yieldable means urging said housing upwardly, said housing having an opening in the rear wall thereof, an impression member at the lower end of said housing, a stop member pivotally mounted on said platen arm and extending into said housing through said opening, and a cylindrical member rotatably mounted in said housing and having flat faces thereon spaced from the axis thereof in varied amounts and adapted to be engaged with

said stop member to limit the upward movement of said housing as induced by said yieldable means whereby the impression member may be spaced initially in varied amounts from a printing device with which said platen structure is adapted to cooperate when said stop member is engaged with different of said flat faces.

4. A platen structure for a printing machine and including a platen arm having spaced flanges at the outer end thereof, a housing slidably mounted between said flanges, said housing having a recess in the front face thereof, means secured to said flanges and disposed in said recess for retaining said housing in position, said housing having an opening in the rear wall thereof, a ledge on said platen arm intermediate said flanges and extending into said housing through said opening, yieldable means interposed between said ledge and the top of the housing and urging said housing upwardly, an impression member at the lower end of said housing, a stop member extending into said housing through said opening, and a cylindrical member rotatably mounted in said housing and having flat faces thereon spaced from the axis thereof in varied amounts and adapted to be engaged with said stop member to limit the upward movement of said housing as induced by said yieldable means whereby the impression member may be spaced initially in varied amounts from a printing device with which said platen structure is adapted to cooperate when said stop member is engaged with different of said flat faces.

5. A platen structure for a printing machine and including a platen arm having spaced flanges at the outer end thereof, a housing slidably mounted between said flanges, said housing having a recess in the front face thereof, means secured to said flanges and disposed in said recess for retaining said housing in position, said housing having an opening in the rear wall thereof, a ledge on said platen arm intermediate said flanges and extending into said housing through said opening, yieldable means interposed between said ledge and the top of the housing and urging said housing upwardly, an impression member at the lower end of said housing, a stop member extending into said housing through said opening, a cylindrical member rotatably mounted in said housing and having flat faces thereon spaced from the axis thereof in varied amounts and adapted to be engaged with said stop member to limit the upward movement of said housing as induced by said yieldable means whereby the impression member may be spaced initially in varied amounts from a printing device with which said platen structure is adapted to cooperate when said stop member is engaged with different of said flat faces, and means on said platen arm and engageable with said stop member for varying the position thereof to alter the initial position of said impression member as determined by the engagement of said stop member with said flat faces.

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