Feb. 22, 1938. F. W. DAHLBERG 2,109,104

CHECK WRITER

Filed Feb. 19, 1936 2 Sheets-Sheet 1

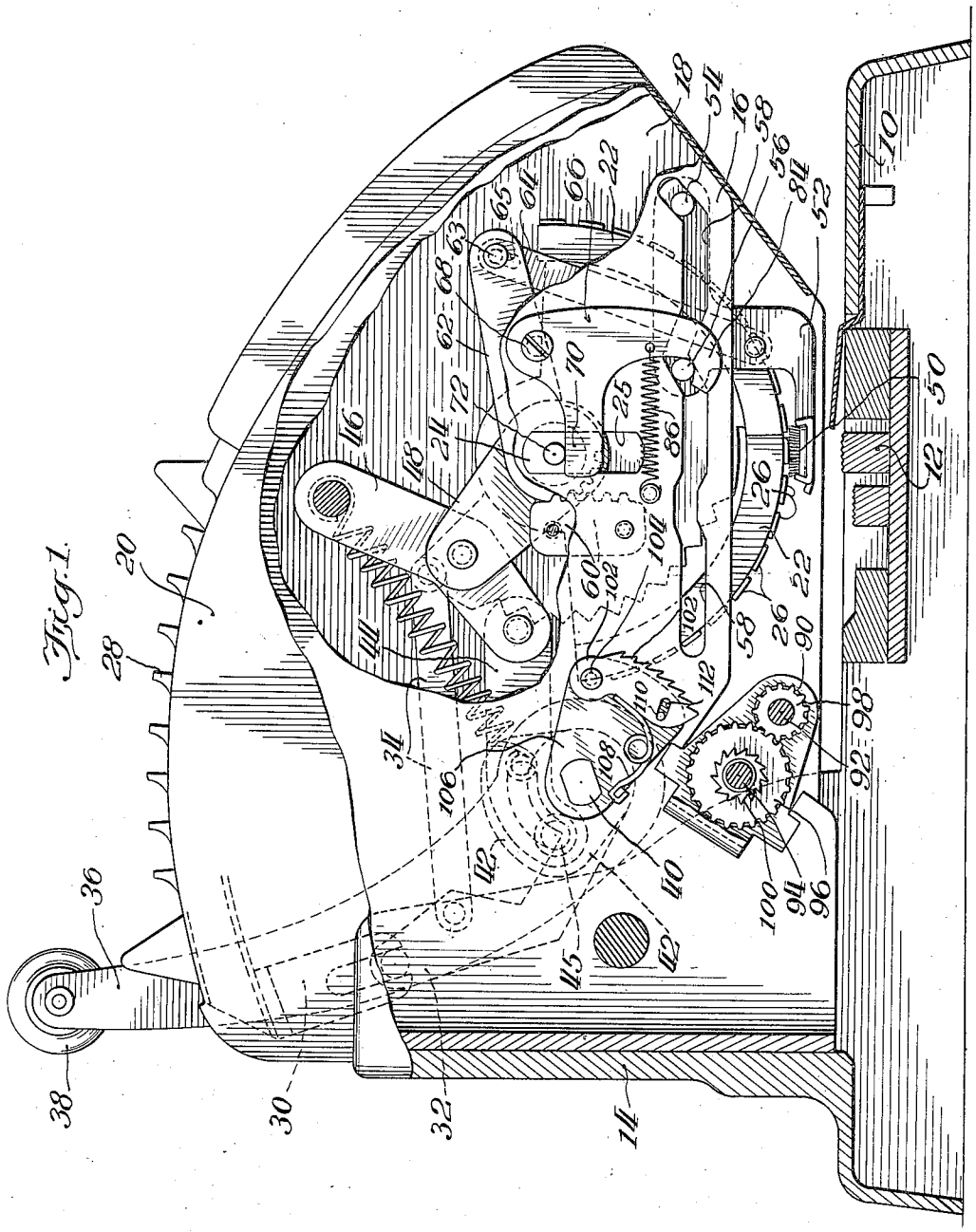


Fig. 1.

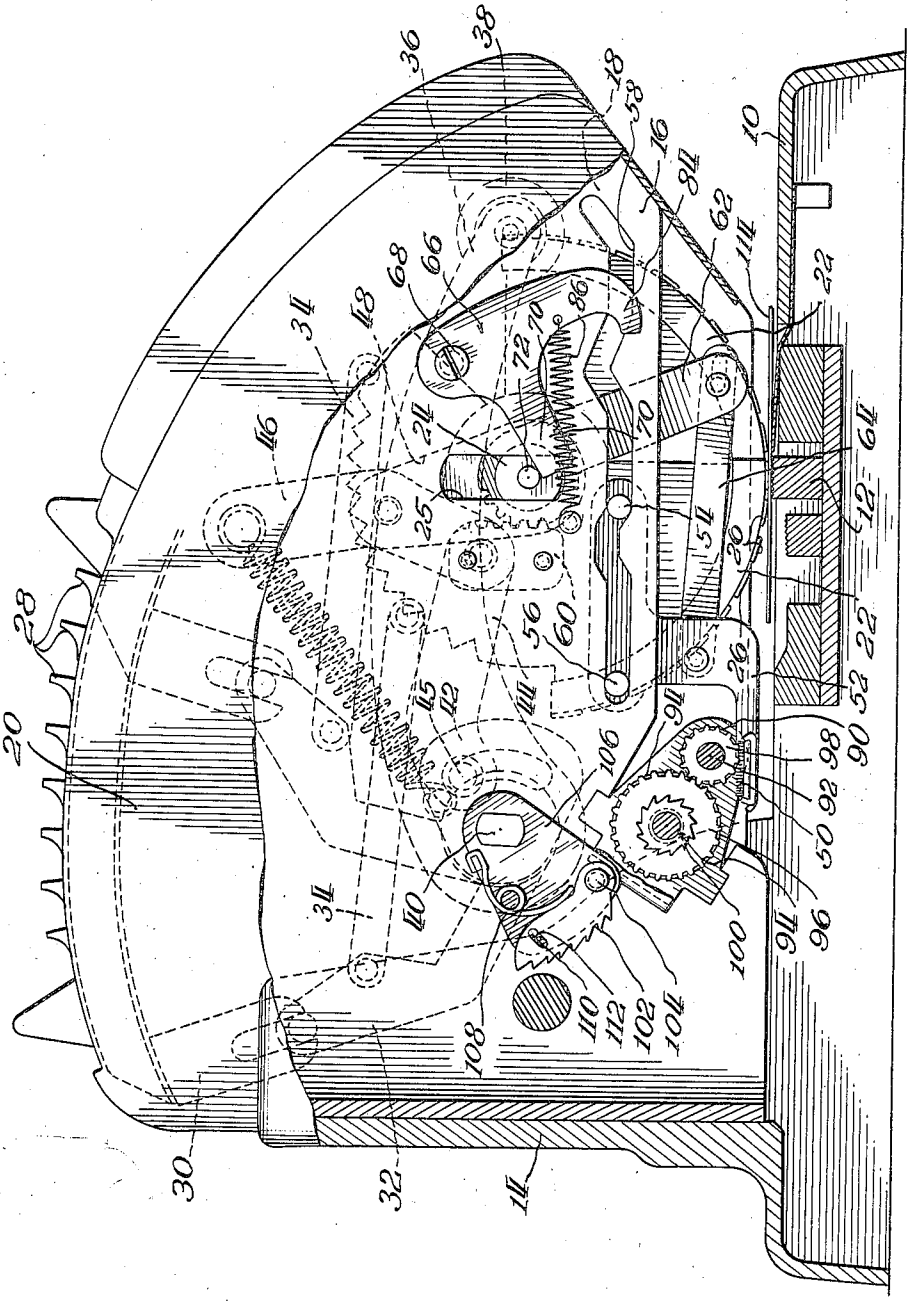
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Fig. 2.



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UNITED STATES PATENT OFFICE

2,109,104

CHECK WRITER

Fred W. Dahlberg, Chicago, Ill., assignor to The Hedman Manufacturing Company, Chicago, Ill., a corporation of Illinois

Application February 19, 1936, Serial No. 64,625

6 Claims. (Cl. 101—97)

My invention relates generally to check writers, and more particularly to improvements in inking mechanism for machines of this type.

In the past great difficulty has been experienced in securing a uniform and sufficient application of ink to the printing type of check writers. Check writers are subjected to very adverse conditions insofar as the inking mechanism is concerned, because of the fact that they are not used regularly and because of the fact that certain type, those of the lower denominational orders, are used much more frequently than the type in the higher denominational orders. These adverse conditions result in check writers equipped with ordinary inking mechanisms in supplying a surplus of ink to the type in the higher denominational orders and supplying less than the required amount to the type in the lower denominational orders. The resulting impression is therefore non-uniform and presents a poor appearance. While a suitable ink which does not dry upon the ink pad even when the pad is exposed to air for lengthy periods of time has been developed, it frequently happens that the first impression made from a check writer after a lengthy period of disuse is not clear and therefore not readily legible.

In most check writers at present in use, the inking pad used in applying the ink to the type brushes past the face of the type. The ink applied to the type is thus partially removed by the wiping action of the pad. As a result, the type face will have insufficient ink applied thereto unless the pad is soaked with an excess quantity of ink so that a sufficient excess will be initially applied to the type face that a relatively large proportion of the ink may be removed by the wiping action of the pad and yet leave sufficient ink for producing a clear, legible impression.

It is of course a desideratum of check writing machines that the impressions made upon the negotiable instruments be of utmost clarity and legibility compatible with the necessity that the impression be very difficult to alter.

It is therefore one of the primary objects of my invention to provide an improved inking mechanism for check writers which will uniformly and regularly apply the required amount of ink to the impression type.

A further object is to provide an improved mechanism for controlling the operation of the ink pad carrier to secure adequate and uniform application of ink to the type.

A further object is to provide a check writer having means for inking the type faces in which the inking pad and type faces are first brought together and then the parts separated by relative movement which does not result in wiping the applied ink from the type faces.

Other objects will appear from the following description, reference being had to the accompanying drawings, in which:

Fig. 1 is a fragmentary sectional view of a check writer showing particularly the inking mechanism thereof, showing the parts in normal position;

Fig. 2 is a similar view showing the inking mechanism in operating position.

The inking mechanism of my invention is herein illustrated as applied to a check writer of the type shown in the application of Ole Slettevold and Clarence W. Johnson, Serial No. 711,299, filed February 15, 1934, which check writer comprises generally a base casting **10** which forms a support for a platen **12** and has an upwardly extending bracket **14** to which similar frame plates **16** and **18** are secured. The machine is enclosed in a suitable casing **20**.

The plurality of type segments **22** are pivotally mounted upon a shaft **24** which is mounted for vertical sliding movement in a pair of slots **25** formed in the side frame plates **16** and **18**. The segments may be pivoted to select any one of the type **26** thereof into printing position by means of manually engageable slides **28** which have depending slotted fingers **30** and are operatively connected to the respective type segments by arms **32** and links **34**. An operating crank **36** having a handle **38** is secured to the end of an operating shaft **40** which is mounted for oscillation in the frame plates **16** and **18**.

The shaft **40** has a slotted arm **42** rigidly secured thereto to form a lost motion connection with a link **44** which has a shouldered pin **45** projecting through the slot in the arm **42**. The end of the link **44** is pivoted to the end of a toggle link **46** which, together with the link **48** pivoted on the shaft **24**, forms a toggle mechanism for vertically reciprocating the shaft **24** to effect impressions of the type **26** against the platen **12**. The mechanism thus far described is not novel, being more fully illustrated in the aforesaid application of Ole Slettevold and Clarence W. Johnson.

An inking pad **50** of a suitable pile fabric or similar material is secured to an ink pad carrier **52** which is guided for reciprocatory movement by a pair of pins **54**, **56** which are slidable in an irregularly shaped slot **58** formed in the side frame plate **16**. It will be understood that the

ink pad carrier 52 has pins similar to pins 54 and 56 upon its opposite end, these pins being guided in a slot similar to slot 58 but formed in the side frame plate 18.

A short rack 60 is secured inside the frame plate 16 and a similar rack is secured in the inside surface of the frame plate 18. A pair of arms 62 are pivoted upon the shaft 24, each of the arms having a gear segment formed thereon to mesh with the racks 60 respectively. A pair of links 64 each has its upper end connected to the free end of one of the arms 62 by a pin and slot lost motion connection, and their lower ends pivotally connected to the ink pad carrier 52. Thus upon downward movement of the shaft 24 the arm 62 will be swung clockwise and after taking up the lost motion in their connection with the links 64, will through the links move the ink pad carrier to the left (Fig. 1), and upon the upward movement of the shaft 24 will return the ink pad carrier to the position in which it is shown in Fig. 1.

In order to secure positive pressure between the faces of the type 26 and the pad 50 the leftward movement of the pad is delayed during the moment that ink is being transferred to the type, and the pad is thereafter moved downwardly and away from the type before being moved leftward, thus preventing the pad from brushing the ink from the type. This is accomplished by means of a latch 66 which is pivotally mounted to the frame plate 16 by a suitable shouldered screw 68, the latch having a rearwardly extending arm 70 which lies beneath a reduced diameter projection 72 formed on the extremity of the shaft 24. The downwardly extending arm of the latch member 66 has a hook portion 84 which in normal position is in engagement with the pin 56 of the ink pad carrier 52.

A tension spring 86 normally holds the latch 66 in the position shown in Fig. 1 with its hook portion 84 in engagement with the pin 56. Thus during the first portion of the downward stroke of the shaft 24 the latch 66 will hold the ink pad stationary, the lost motion connection between the arm 62 and link 64 permitting such temporary restraint of the ink pad carrier. During this initial portion of the downward movement of the shaft 24 the type 26 will be forcibly pressed against the ink pad.

After the shaft 24 has moved downwardly a short distance its projecting end portion 72 will engage the arm 70 and swing the latch member 66 counterclockwise (Fig. 1), thus removing the hook portion 84 of the latch from beneath the pin 56 and permitting the ink pad carrier to move downwardly, being guided by the inclined portions of the slots 58. Due to the dimensions of the linkage which operates the ink pad carrier the downward movement of the ink pad will be more rapid than the downward movement of the type segments so that the ink pad will drop away from the type before it is moved appreciably in the leftward direction. Thus the pad will not tend to wipe from the type the ink which has been deposited thereon.

Ink is applied to the pad 50 by means of a spreading roller 90 carried on a shaft 92. The roller 90 may have a metal surface which rolls in contact with an ink absorbent surface of a reservoir 94 which is in the form of a hollow cylindrical reservoir and is rotatably mounted in a frame 94 which is removable from the machine when it is desired to replenish the supply of ink. The cylindrical reservoir 94 has a gear 96 at one end thereof which meshes with a pinion 98 carried by the roller 90. The cylindrical reservoir 94 also has a ratchet wheel 100 fixed thereto, this ratchet wheel being adapted to mesh with a ratchet toothed segment 102 pivoted at 104 to an arm 106 carried by the shaft 40. The ratchet toothed segment 102 is normally pressed radially outward from the shaft 40 by a spring 108 anchored to the arm 106. Outward movement of the segment 102 is limited by a pin 110 secured to the arm 106 and which projects through a slot 112 formed in the segment 102. This means for inking the pad 50 is more fully disclosed and is claimed in the copending application of Herbert R. Hedman and Clarence W. Johnson, Serial No. 64,618, filed February 19, 1936.

The check writer is operated in the following manner: The operator will set the slides 28 to the desired position, thus bringing selected type 26 in position above the platen 12 to print the desired amount upon a check (114, Fig. 2). After the amount has thus been set up upon the type segments 22, the operator will swing the operating handle 38 from the position in which it is shown in Fig. 1 to the position shown in Fig. 2, whereupon the shaft 24 upon which the type segments 22 are pivotally mounted will be moved downwardly by the operating toggle linkage, which includes the arm 42, the pin 45, links 44 and 46, and arm 48. During the initial portion of the downward movement of the shaft 24, the arm 62 will commence swinging clockwise and will take up the lost motion afforded between the arm 62 and link 64 by the movement of the pin 63 in the slot 65. During this initial movement of the arm 62, the hook portion 84 of the latch 66 will restrain the ink pad carrier 52, due to its engagement with the pin 56. During this initial movement, the selected type 26 will be moved downwardly firmly into contact with the then stationary ink pad 50. The ink pad 50 will thus transfer an adequate supply of ink to the faces of the type.

After all of the lost motion between the arm 62 and link 64 has been taken up, the arm 62 will apply a downwardly directed force upon the link 64, tending to move the ink pad carrier diagonally downward in the direction of the inclined portions of the guide slots 58. At the exact instant that all of the lost motion between the arm 62 and link 64 has been taken up, the reduced diameter projection 72 of the shaft 24 will have swung the latch 66 counterclockwise sufficiently to disengage the hook portion 84 from the pin 56. As soon as the ink pad carrier is thus released, it will move away from the type carrier at a rapid rate. Although the type carriers are moving downwardly at the same time that the ink pad carrier is moved diagonally downwardly, the movement of the latter will, due to the relative sizes of the operating parts, move at a much more rapid rate, so that the ink pad 50 will be moved downwardly with respect to the downwardly moving type carriers. The ink which has been applied to the type faces will therefore not be brushed therefrom, but will remain evenly distributed on the type faces and cause a uniform impression upon the check being printed. It will be understood that the type faces are serrated or consist of a plurality of minute pointed projections which are cooperable with the serrated surface of the platen 12. Due to the fact that the type faces are brought firmly into contact with the upstanding pile fabric of the pad 50, the ink on the fabric will be applied to all of

the minute projections and interstices of the type.

After the inking pad has been moved downwardly and away from the type faces, the carrier **52** will be moved rearwardly into contact with the ink spreading roller **90**, to receive a new supply of ink for the next operation of the platen. At about the time that the ink pad carrier **50** is in contact with the ink spreading roller **90**, the ratchet segment **102** will be in engagement with the ratchet wheel **100** and the latter will thus rotate the ink reservoir **94** and through the gear **96** and pinion **98** will rotate the ink spreading roller **90**, thereby assuring an adequate and uniform application of ink to the pad **50**.

While I have illustrated and described a preferred embodiment of my invention, many modifications may be made without departing from the spirit of the invention, and I do not wish to be limited to the precise details set forth but desire to avail myself of all changes within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a check writer, the combination of a platen, selectively set type movable toward and away from the platen to print and scarify amount designations upon the negotiable instrument placed between the platen and type, means for applying ink to the faces of said type comprising an inking pad, means for positively holding said pad stationary during the initial portion of the movement of said segments toward said platen, and means for releasing said holding means after said type have been pressed against said pad.

2. In a check writer, the combination of type carriers, means for selectively setting said type carriers to bring selected type into printing position, a platen, means for moving said carriers toward said platen to impress amount indicia upon an instrument inserted between the carriers and said platen, and means to ink the selected type of said carrier during the initial portion of the movement of said carriers toward said platen, said last named means comprising a pad normally adjacent the selected type, a latch for holding said pad stationary during the initial portion of the movement of said type carriers, and means for moving said pad in the general direction of the movement of said carriers but at a more rapid rate after the type of said type carriers have been pressed against said pad.

3. In a check writer, the combination of movable type, a platen, means to move said type into engagement with said platen, and means to ink said type, said means comprising an absorbent pad impregnated with ink, and means for positively holding said pad stationary during the initial movement of said type to cause the pad firmly to press against the type, and means for thereafter rapidly moving said pad away from said type in the general direction of movement of the type.

4. In a check writer, the combination of a shaft, type carriers rotatable on said shaft, means for selectively setting said type carriers to bring selected type into printing position, a platen, means for moving said carriers toward said platen to impress amount indicia upon an instrument inserted between the carriers and said platen, and means to ink the selected type of said carrier during the initial portion of the movement of said carriers toward said platen, said last named means comprising a pad normally positioned adjacent the selected type, a latch for holding said pad stationary during the initial portion of the movement of said type carriers, and a lost motion driving connection between said shaft and said pad for moving said pad in the general direction of the movement of said carriers but at a more rapid rate after the type of said type carriers have been pressed against said pad.

5. In a check writer, the combination of a platen, selectively set type movable toward and away from the platen to print and scarify amount designations upon the negotiable instrument placed between the platen and type segments, means for applying ink to the type faces of said segments comprising an inking pad, a latch for holding said pad stationary during the initial portion of the movement of said segments toward said platen, means for releasing said latch after said type have been pressed against said pad, and means for moving said pad away from said type in a direction generally perpendicular to the faces of said type.

6. In a check writer, the combination of a shaft, movable type carried thereby, a platen, means to move said type into engagement with said platen, and means to ink said type, said means comprising an absorbent pad impregnated with ink, and means for positively holding said pad stationary during the initial movement of said type to cause the pad firmly to press against the type, and means operated by said shaft thereafter rapidly to move said pad away from said type in the general direction of movement of the type.

FRED W. DAHLBERG.