Aug. 20, 1940. J. KRELL 2,212,443

ADDRESS-PRINTING MACHINE

Filed Feb. 7, 1939 2 Sheets-Sheet 1

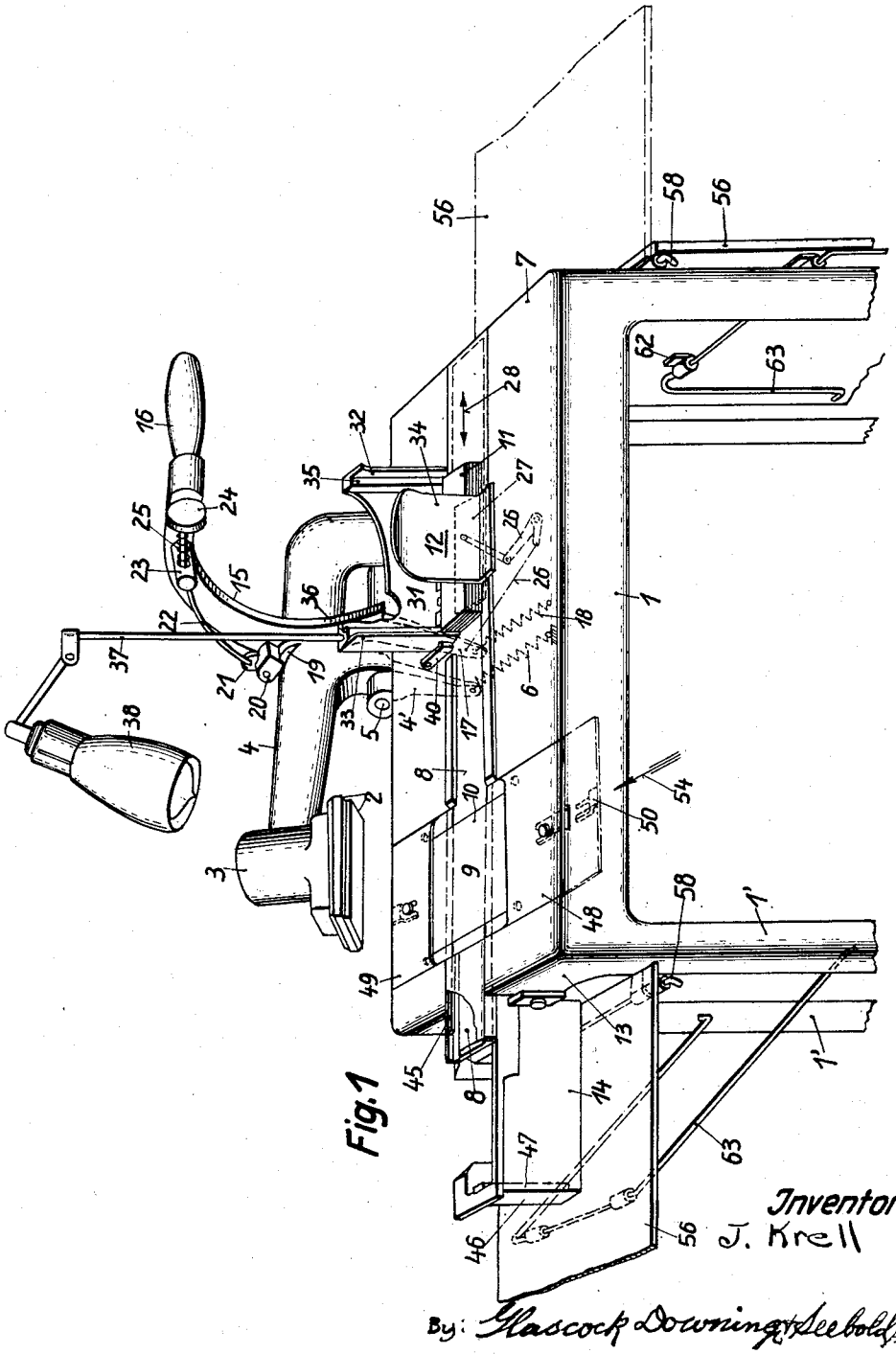

Fig. 1

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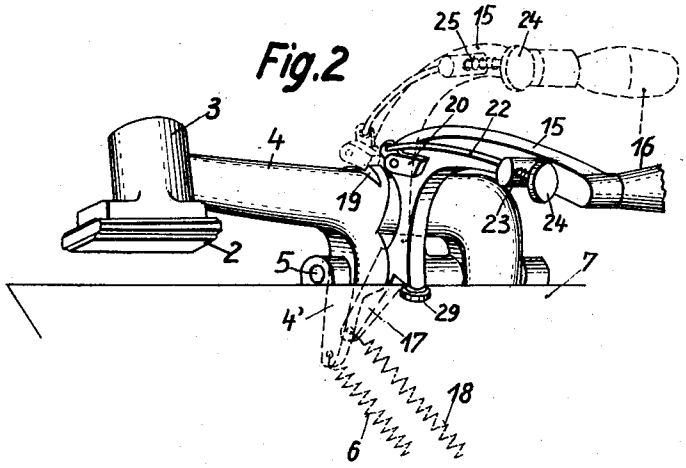
Fig.2



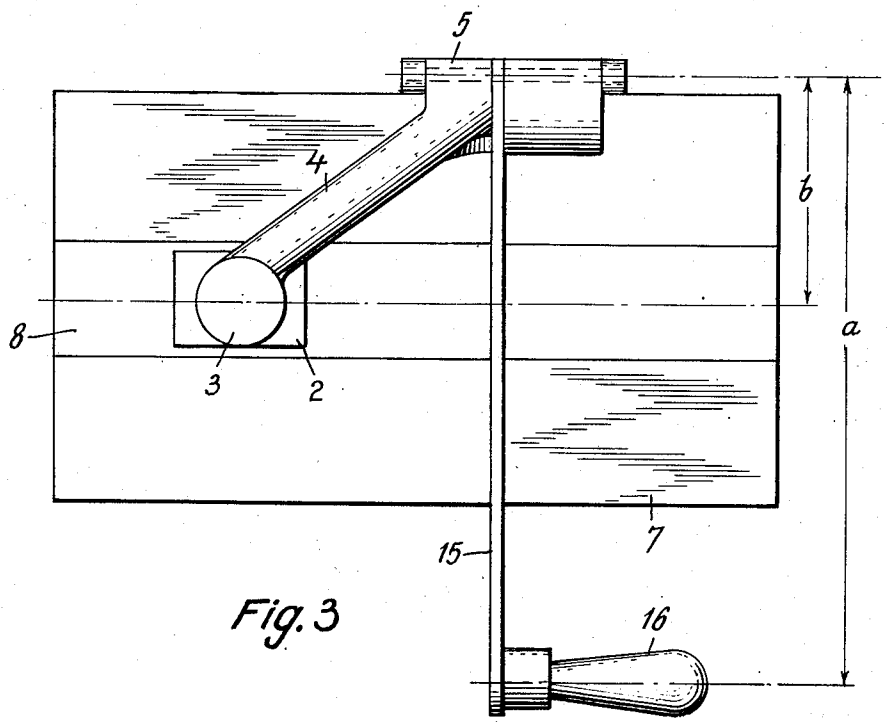


Fig. 3

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UNITED STATES PATENT OFFICE

2,212,443

ADDRESS-PRINTING MACHINE

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Application February 7, 1938, Serial No. 189,198
In France February 27, 1937

3 Claims. (Cl. 101—65)

My invention relates to printing machines, such as address-printing machines, for manual operation.

More particularly, my invention relates to that type of printing machines in which a printing arm is pivotally mounted to oscillate up and down, and means is provided for feeding printing plates along a track and past a printing station intermittently in sequence and in their longitudinal direction.

In machines of this kind, as designed heretofore, a handle is provided at the free end of the printing arm by which the operator lowers the printing head onto the printing plate. It is obvious that the momentum which can be imparted to the descending printing head in this way, is not great.

It is an object of my invention to improve a machine of the kind described, with a view to imparting a high momentum to the descending printing head with a minimum effort on the part of the operator.

To this end, in combination with a table and the usual printing arm which is pivoted on the table, I provide a manual operating lever which is also pivotally mounted on the table, and preferably fulcrumed on the same pivot with the printing arm, and arrange this lever so that its effective length is greater than the distance of the printing head at the free end of the printing arm from the axis of its pivot.

By these means, a leverage in the favor of the operator is produced who can, with a comparatively slight effort, exert a high momentum at the descending printing head.

In the accompanying drawings an address-printing machine equipped with my novel operating mechanism is illustrated in perspective by way of example.

In the drawings

Fig. 1 is an illustration of the complete machine, showing the hand lever in elevated position,

Fig. 2 is a detail illustration showing the hand lever in depressed position,

Fig. 3 is a diagrammatic plan view of the machine.

Referring now to the drawings, and first to Fig. 1, this shows the machine from its front end, i. e., as viewed from the operator's stand. 1 is the frame, and 7 is the table, of the machine. 4 is the printing arm which is mounted to oscillate up and down about a pivot 5 in the frame 1, and is equipped with a printing head 3 and a printing pad 2. The pivoted end of the printing arm is forked in known manner. 4' is a tail which depends from the printing arm, and 6 is a spring connected to the tail and anchored below the table 7. The spring tends to hold the printing arm 4 in the elevated position shown in Fig. 1, and to return it into such position when it has been lowered. 8 is a track in the table 7 along which the printing plates 11 from a supply in a magazine 12 are fed toward the printing station 9 intermittently by means operatively connected to the hand lever 15, as will be described. At the printing station 9, a ribbon 10 extends across the track 8. The plates which have been printed at 9, fall into a hopper 14 at the left side 13 of the frame 1 below which one of the tables 56 is arranged.

The hand lever 15 is arcuate, and preferably pivoted about the pivot 5, with its boss within the forked end of the printing arm 4. A handle 16 is secured to the free end of the lever 15. As shown in Fig. 3, the effective length a of the lever 15 is greater than the distance b of the printing head 3 from the axis of the pivot 5, and in this manner the desired leverage is produced and considerable momentum is imparted to the descending printing head 3. A tail 17, Fig. 2, extends downwardly from the boss of the lever 15, and a spring 18 tends to hold the lever 15 in its erected position, as shown in full lines in Fig. 1, and in dotted lines in Fig. 2, or to return the lever into such position. The hand lever 15 and the printing arm 4 are connected by a clutch, as follows: 19 is an abutment, or tooth, on the printing arm 4, and 20 is a pawl pivoted on the hand lever 15, for engaging the abutment 19. 22 is a curved rod which is pivotally connected to a tail 21 of the pawl 20 at one end. The other end of the rod slides in a block 23 on the hand lever 15 and is equipped with a press button 24. A spring 25 placed on the rod 22 between the block 23 and the button 24 tends to hold the pawl 20 in its normal or clutching position in which the pawl 20 is in contact with the abutment 19 on the printing arm 4.

The means operatively connected to the hand lever 15 for feeding the plates along the track includes a system designated by the numeral "26" and including a cable or rod 26 connected to the tail 17 at one end, and to a bellcrank pivoted below the table 7 at the other, and a link connecting the bellcrank to a slide 27 below the magazine 12 which is reciprocated in the directions of the arrow 28 when the hand lever 15 is oscillated. When the hand lever 15 returns into its normal position under the action of the spring 18 after hav-

ing been depressed by its handle 16, the slide 27 is advanced, i. e., moved toward the printing station 9, and carries along with it the lowermost plate 11 from the magazine 12, shifting the plates in the track 8 for the length of one plate, and throwing the plate at the left-hand end of the line into the hopper 14.

Normally, the printing arm and the hand lever are held in the elevated position, Fig. 1, by their respective return springs 6 and 18, and the clutch 19, 20 is thrown in by the spring 25 on the rod 22. When the hand lever 15 is depressed by its handle 16, the printing arm 4 is lowered by the clutch, and that plate 11 which is at the printing station 9 is printed on the envelope, sheet, or the like which has been placed on the ribbon 10. During the depression of the hand lever 15 and the descent of the printing arm 4, the slide 27 is retracted, i. e., moved to the right in Fig. 1, by the means described.

While the clutch is thrown in, i. e., while the pawl 20 is held against the abutment 19 by the spring 25, a printing plate 11 is printed at the station 9 upon every depression of the lever 15, and upon every return of the printing arm 4 and the hand lever 15 under the action of their springs, a fresh plate 11 is advanced toward the printing station 9 by the slide 27.

If it is desired to skip the plate at the station 9, pressure is exerted against the button 24, Fig. 2, the spring 25 is compressed and the rod 22 moves the pawl beyond reach of the abutment 19 at the printing arm. In consequence, the printing arm is not lowered when the hand lever 15 is depressed, and so the plate at the station 9 is skipped. However, the feed of the plates is continued and a fresh plate is presented at the station 9 upon every return of the lever 15 into its initial position by the means 26, 27.

By selective operation and non-operation of the button 24, definite plates from the supply are printed, and others skipped.

Preferably, a buffer 29, of leather or other material possessing little resiliency, is placed on, or inserted in, the table 7, as shown in Fig. 2. A projection on the descending hand lever 15 strikes the buffer when the lever is depressed. By these means, the sound of the blow the hand lever exerts against the table 7, is deadened, and so the machine operates without noise.

I claim:

1. A manually operated address-printing machine, comprising a table, a pivot on the table, a printing arm fulcrumed on the pivot, a printing head at the free end of the arm, a manual operating lever for the printing arm which lever is also pivoted on the table, means tending to hold the printing arm in its elevated position, and a one-way connection between the operating lever and the printing arm for throwing the arm into printing position against said holding means.

2. A manually operated address-printing machine, comprising a table, a pivot on the table, a printing arm fulcrumed on the pivot, a printing head at the free end of the arm, a manual operating lever for the printing arm which lever is also pivoted on the table, a track on the table, means for feeding printing plates along the track past a printing station, means connecting the lever with the plate feeding means, means tending to hold the printing arm in its elevated position, an abutment on the printing arm, a pawl pivoted on the lever and engageable behind one side of the abutment to couple the lever with the printing arm for throwing the arm into printing position against said holding means, and manually releasable means normally retaining the pawl against the side of the abutment.

3. A manually operated address-printing machine, comprising a table, a pivot on the table, a printing arm fulcrumed on the pivot, a printing head at the free end of the arm, a manual operating lever for the printing arm which lever is also pivoted on the table, a handle at the free end of the lever, a track on the table, means for feeding printing plates along the track past a printing station, means connecting the lever with the plate feeding means, means tending to hold the printing arm in its elevated position, an abutment on the printing arm, a pawl pivoted on the lever and engageable behind one side of the abutment to couple the lever with the printing arm for throwing the arm into printing position against said holding means, and manually releasable means including a link supported on the manual operating lever and connected at one end with the pawl, a manipulating member arranged on the other end of the link adjacent the handle, and spring means normally tending to move the link to hold the pawl against the side of the abutment, for controlling the one-way connection of the lever and the printing arm.

JOSEPH KRELL.