

March 12, 1929.

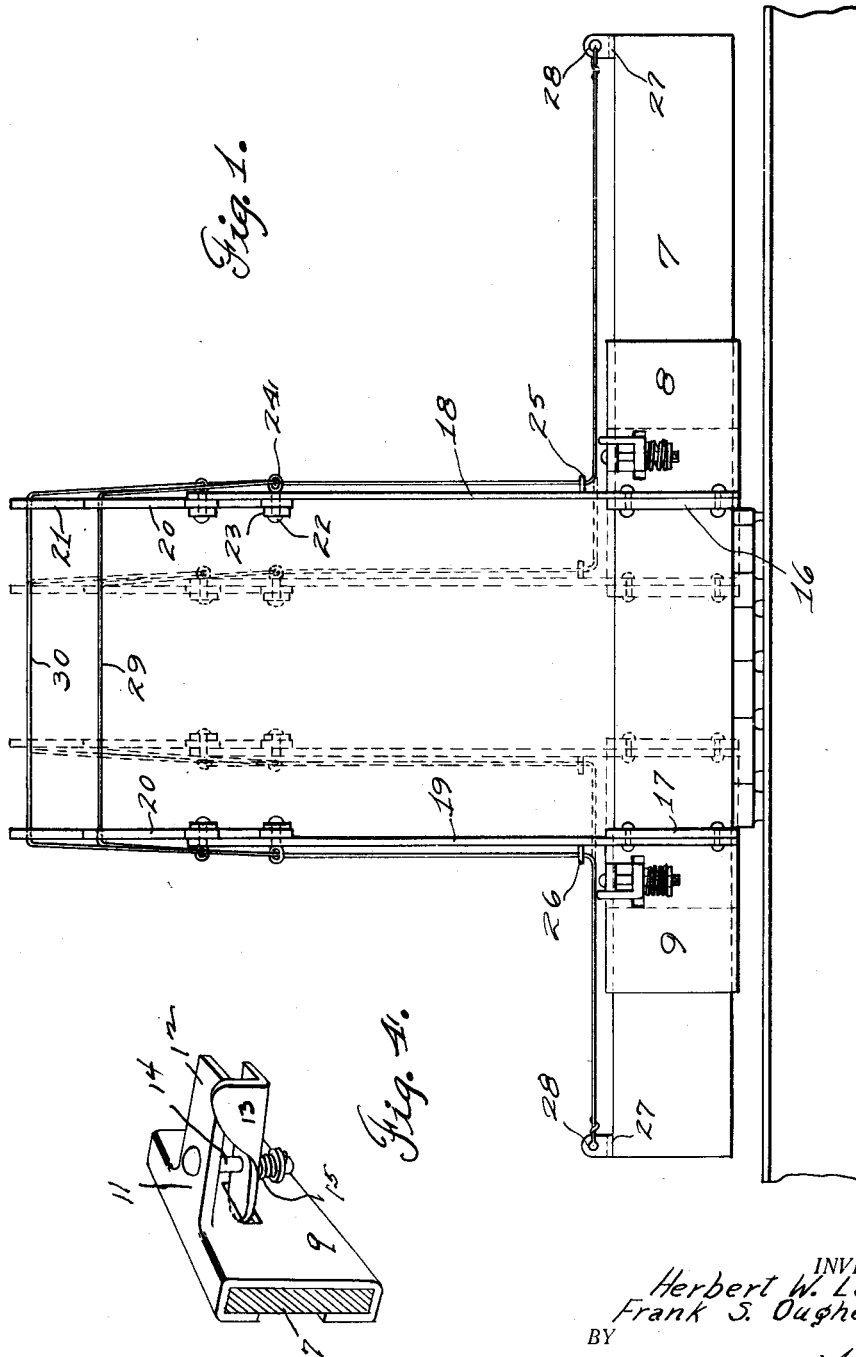
H. W. LAMB ET AL

1,704,749

PRINTING MACHINE

Filed April 2, 1927.

3 Sheets-Sheet 1



INVENTOR.
Herbert W. Lamb
Frank S. Oughellree
BY
Charles E. Harris
ATTORNEY.

March 12, 1929.

H. W. LAMB ET AL

1,704,749

PRINTING MACHINE

Filed April 2, 1927

3 Sheets-Sheet 2

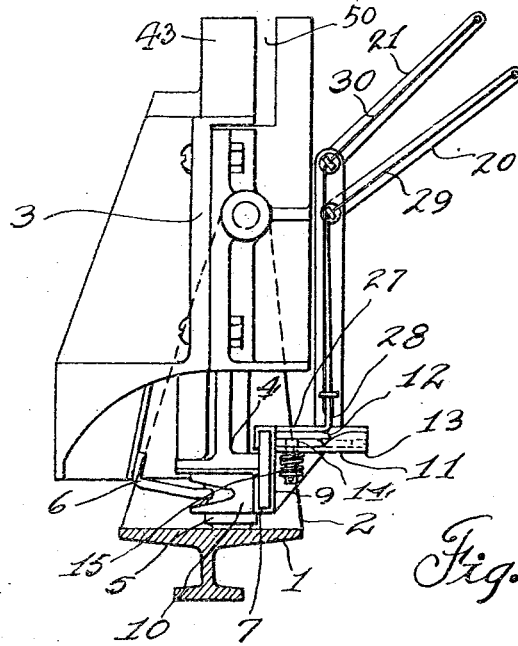


Fig. 2.

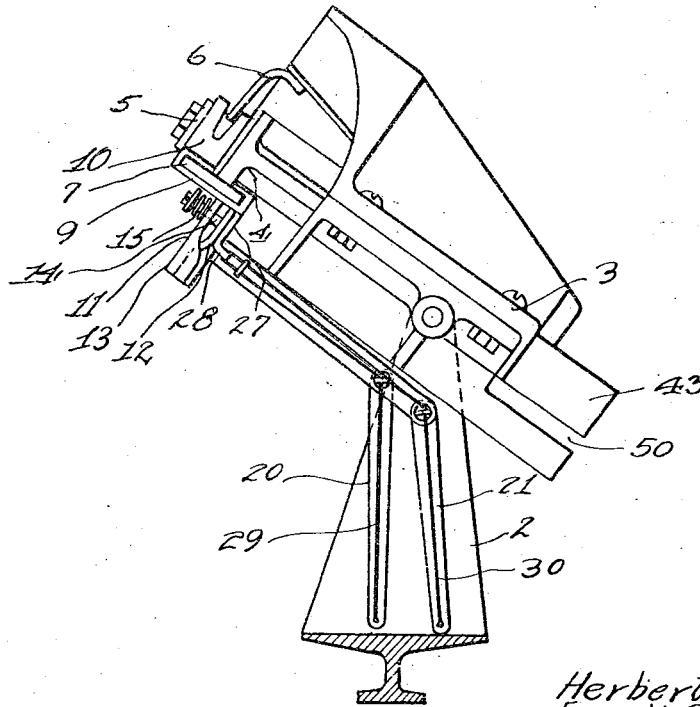


Fig. 3.

INVENTOR.
Herbert W. Lamb
Frank S. Oupheltree
BY
Wm. E. Mann
ATTORNEY.

March 12, 1929.

H. W. LAMB ET AL

1,704,749

PRINTING MACHINE

Filed April 2, 1927

3 Sheets-Sheet 3

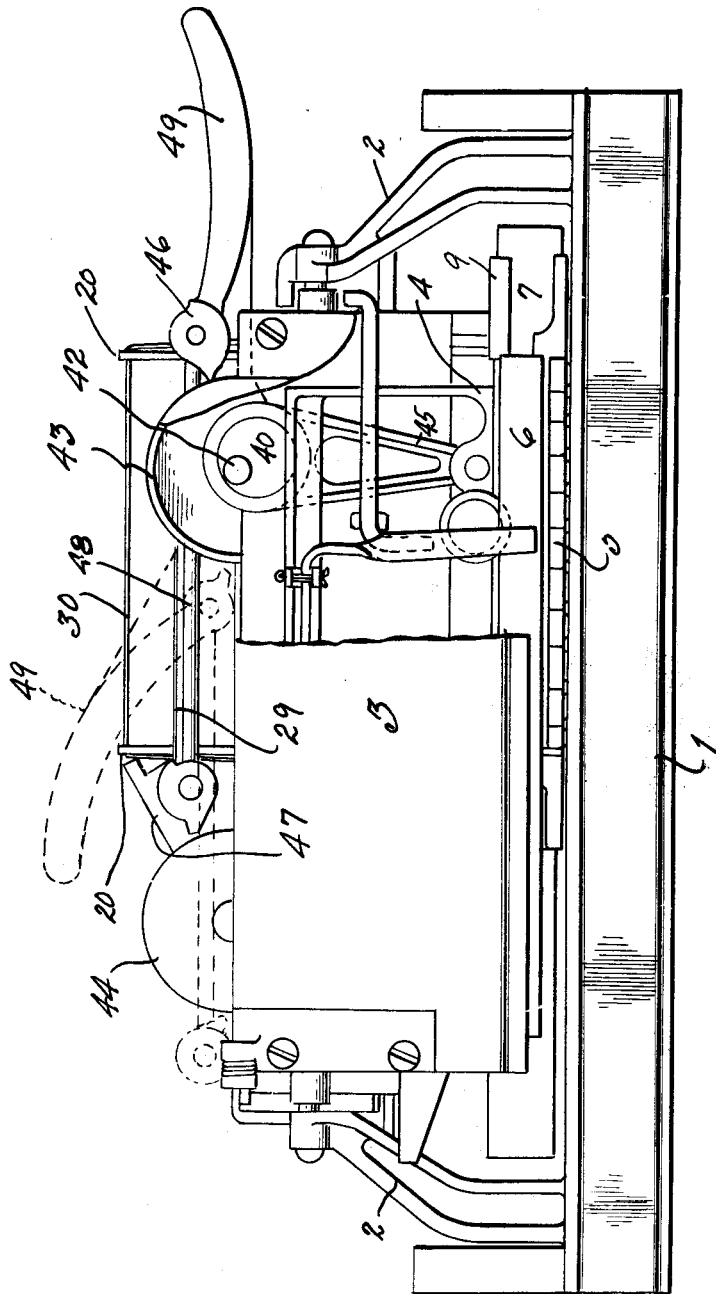


Fig. 5

INVENTORS
HERBERT W. LAMB
FRANK J. OUSHELTRIE

BY

Charles E. Wiley
ATTORNEY.

UNITED STATES PATENT OFFICE.

HERBERT W. LAMB AND FRANK S. OUGHELTRIE, OF ADRIAN, MICHIGAN.

PRINTING MACHINE.

Application filed April 2, 1927. Serial No. 180,393.

This invention relates to printing machines of a character in which the type are set in a form or way with which the machine is provided which form is supported in a head pivoted to swing on a horizontal axis from the printing to non-printing position as is set forth and described in our pending application for Letters Patent of the United States, Serial No. 149,335.

The object of this invention is to provide a new and improved type impression indicator brought to position over the sheet to be printed when the head has been moved to non-printing position for the setting of the type and thus automatically indicate to the operator while setting the type the position that the subsequent type impression will occupy on the sheet.

A feature of this invention is in the provision of a pair of slides movable on a part of the type carrier and to engage opposite ends of a set line of type and carrying arms practically in alignment with the opposite ends of the line of type and the provision of threads or cords extending between the arms in parallel relation which in conjunction with the arms indicate the space the type impression will occupy on the sheet.

Another feature of the invention is in the provision of cords and movable arms in such an arrangement and relationship that the arms may be moved to any position longitudinally of the type holder or way with the cords running freely through the arm ends and eliminating necessity of changing of the cords or length of the cord for the various distances apart the arms may be placed.

These objects and the various novel features of the invention are hereinafter more fully described and the preferred form of construction of a printing machine embodying our invention is shown in the accompanying drawings in which—

Fig. 1 is an elevation of a part of the machine showing our improved indicator arms and cords.

Fig. 2 is an end view of our improved printing machine partly broken away showing the type holder and swinging head in position to make a type impression.

Fig. 3 is a similar view with the head turned to position for the setting of the type and with the indicator in position over the bed or platen of the machine.

Fig. 4 is a detail of a clutch device for releasably holding the slides in position.

Fig. 5 is an elevation partly in section taken from the left side of Fig. 2.

The machine consists of a bed or platen 1 at opposite ends of which are standards 2. Between the standards is pivotally mounted a head 3 permitting the head to swing from printing position in Fig. 2 to non-printing position shown in Fig. 3. The head 3 includes a way 4 for type 5 and a spring-pressed member 6 is provided which engages against the type to hold the same when the parts are in the position shown in Fig. 2 as is fully described in our pending application Serial No. 149,335. This type way includes not only the part 4 but also a bar 7 extending along the back of the casting 4 providing therewith a way the walls of which are at a right angle one to the other. On this bar 7 are mounted the slides 8 and 9 which, as will be understood from Figs. 1 and 2, have a base or body preferably of sheet metal that engages over the upper and lower edges of the bar 7 and slidable thereon. Each slide is provided with a finger 10 lying in the type space against the respective ends of the set line of type. On the back of each member 8 and 9 is a latch device 11 which consists of a stationary portion 12 and a member 13 pivoted on a rod 14 connected with the stationary member. On this rod is a coiled spring 15 which turns the member 13, when it is released. The forward end of the member 13 extends through a slot in the member 9 to engagement with the bar 7 frictionally holding the member 9 in place but readily releasable by the operator grasping the same between the thumb and finger and sliding the member 9 to any desired position. Any approved means may be provided, however, to releasably hold the members 8 and 9 in place. On the back of the members 8 and 9, as will be understood from Fig. 1, is an outwardly projecting rib or flange 15 and 17 respectively to which are fastened standards 18 and 19 respectively which extend upwardly along the back of the machine.

In Fig. 1 is shown a set line of type as it appears from the rear of the machine, with the parts 8 and 9 in position thereon. It will be understood from Figs. 1 and 2 that the fingers 10 engage the end type of the line. Such fingers are on the opposite side

of the member 7 in looking at Fig. 1 and the dotted lines in Fig. 1 show the position the bars 18 and 19 may assume when a shorter line of type is in the type way. It is also to be understood that these two members 8 and 9 and arms 18 and 19 attached thereto may be moved in any spaced relation to any position along the said bar 7 depending upon the position the impression is to be made on the sheet not here shown but to be understood as being supported upon the bed 1. Thus, it will be evident that the bars 18 and 19 are spaced a distance apart approximately equal to the length of the line of set type.

Each of the bars 18 and 19 has a pair of arms 20 and 21 pivotally supported thereon and the specific character of this pivotal member is not material. Preferably, however, the pivotal member is formed by a headed pin 22 having a washer 23 thereon and extending through an aperture in the end of the bar and on the opposite side is provided with an eye 24. This is the construction at each of the joints and, on the parts being assembled, pivot pin is drawn sufficiently tight to hold the arms in any position to which they may be turned by hand. In addition to the eyes for each of the pivot pins of the arms 21 and 22 there are also provided eyes 25 and 26 on the fixed arms 18 and 19. Also to each end of the member 7 is secured a bar 27 which, as is shown in Fig. 2, extends to the rear of the member 7 and has an upturned end 28 in alignment longitudinally with the eyes 25 and 26 at the lower end of the upright fixed arms 18 and 19.

A pair of cords 29 and 30 have one end fixedly secured to one member 28 and the opposite ends secured to the other member 28 at opposite end of the bar 7. These two cords each extend upwardly through the respective eyes 25 and 26 and the cord 29 only extends through the eye for the arm 20 on each of the members 18 and 19 and the cord 30 extends through the upper eye on each of the members 18 and 19. These arms 20 and 21, of which there are a pair on each member 18 and 19, have apertures at their ends through which their respective cords 29 and 30 pass as will be understood from Fig. 1. These cords lie in parallel relation between the pairs of arms 20 and 21 and when the printing head is turned to the position shown in Fig. 3, the movable arms 20 and 21 lie close to the surface of the sheet to be printed which is supported on the base 1. The two cords extending between the two movable arms of the members 18 and 19 define the upper and lower line of type impression while the ends of the arms themselves serve to generally define the opposite ends of the impression of the line of type. This, as will be understood from the fore-

going, results from the fact that the members 8 and 9 which carry the arms 18 and 19 respectively also carry the fingers 10 which engage the end type of the line and the movable arms 20 and 21 are practically in alignment with these fingers which extend forwardly into the type space from the members 8 and 9 in about the same plane as the flanges 16 and 17 of the members 8 and 9 shown in Fig. 1.

It is also to be noted that, by making the members 8 and 9 slidable on the bar 7 defining one wall of the type way, they may be made to occupy any position on the said member 7 so that the type may be set in any desired position longitudinally of the way and with the arms defining that position. As shown by dotted lines in Fig. 3 it is evident that the movable arms 20 and 21 may be turned on their pivots as previously described to greater or less distance apart so that the cords extending between the ends of the movable arms may be spaced to correspond to the width of the type from which the impression is to be made.

From the foregoing description it will be understood that the casting 4 with which the type holder is associated is reciprocable in the head 3 in order to make a type impression when the holder has been brought to vertical position shown in Fig. 2. To secure this reciprocable movement of the member 4, I provide a pair of eccentrics one of which is indicated at 40 in Fig. 5 as being attached to the shaft 41. An eccentric band 42 engages the eccentric which is housed in a portion 43 of the frame member. There are two such housings, the other of which is indicated at 44 and in which there is a similar eccentric and band to each of which an arm 45 is connected and pivoted at its lower end to the casting 4. The shaft 41 and like shaft for the eccentric in the housing 44 are respectively connected to levers 46 and 47, and these levers are connected by the rod 48. The lever 46 includes a handhold 49 and, by turning the handle from the position shown in full lines in Fig. 5 to the position shown by dotted lines, the shafts for the eccentric are turned thus raising the casting 4 and the type holder from the impression position to a position permitting the head 3 to be turned on its pivot as indicated in Fig. 3 for the removal and the resetting of the type in the holder. After the return of the head to the position shown the lever 49 is turned to the position shown by full lines in Fig. 5 causing the type 5 to make an impression upon the paper supported by the bed. These operating levers and eccentrics are not shown in Figs. 2 and 3 but are to be understood as riding in the slot indicated at 50 in the said figures.

It is evident from the foregoing descrip-

tion that this device for indicating the space on the sheet which the type impression will occupy functions particularly with that type of printing machine in which the printing head is moved from printing to non-printing position for the setting of the type and thus the operator in setting the type has clearly before him the space on the sheet that the type impression will subsequently be made and thus the labor of the operator is facilitated.

It is also evident that the device is of simple character and that the various objects of the invention are secured by the construction shown.

Having thus briefly described our invention, what we claim and desire to secure by Letters Patent of the United States is—

1. In a printing machine, a bed on which a sheet to be printed may be positioned, a head pivotally supported thereover to swing on a horizontal axis, a type holder, carried by the head, said holder including a way in which type may be set, a bar providing one side of the said way, a pair of slidable members on the said bar, said members including fingers extending into the way for the type and engaging the respective opposite ends of a set line of type positioning the same longitudinally of the way, a fixed arm extending from each of the said members, a pair of movable arms pivotally supported on each of the said fixed arms, a pair of cords having the opposite ends thereof fixedly attached at opposite ends of the bar on which the said members slide, eyed members on the fixed arms through which the cords pass, one of the said cords extending through the terminal portions of one of the movable arms of each fixed arm and the other of the cords passing through the ends of the other pair of movable arms, the construction providing that when the head is turned to non-printing position the cords and the terminal portions of the movable arms are brought close to the sheet outlining the space that the type impression will occupy thereon.

2. In a printing machine, a bed on which a sheet to be printed may be positioned, a head thereover and movable from a printing to a non-printing position, a way for the type including a bar, a pair of members slidable on the bar, fingers on the said members extending into the way for the type and engaging opposite ends of a set line of type, a pair of arms for each of the said members and movable therewith, the arms being pivotally supported and frictionally held from turning on their pivots permitting manual positioning thereof, a pair of cords having the opposite ends fixedly secured relative to the respective ends of the bar, each of the arms having eyed terminal portions, one of the cords extending

through the eyes of one of each pair of arms and the other cord extending through the eyes of the other of said movable arms, the arrangement permitting movement of the members longitudinally of the bar with the cords freely running through the eyes of the arms, the said arms and cords extending therebetween being brought over the sheet to be printed by turning the head to non-printing position.

3. In a printing machine, a bed, a type holding head supported thereon and adapted to swing from printing position over the sheet to non-printing position, a type way, slides mounted relative to the way and having fingers extending thereto to engage opposite ends of a line of set type, the said way being adapted to receive type of various widths, a fixed arm extending from each of the said slides, a pair of arms pivotally supported by each of the fixed arms and releasably held from turning, the terminal portion of the movable arms having eyes, a pair of cords one of which passes through the eyes of one of the said movable arms on each fixed arm and the other of which passes through the eyes of the other of the movable arms of each fixed arm and with the arm ends outlining a rectangular space over the sheet when the head is turned to non-printing position and indicating the position of the type impression will be made thereon, said cords extending along the said arms to the slidable members and thence parallel with the bar on which the said members are slidable, the threads running through the eyes of the said movable arms in the positioning of the sliding members relative to the type way.

4. In a printing machine having a type carrying head movable from non-printing position to printing position, a bed and an indicating device for visibly indicating to an operator, while the head is in non-printing position, the space on which a type impression will be made, said indicating device comprising two pairs of pivotally supported arms corresponding in spacing to the length of the line of type set while the head is in non-printing position, a pair of cords extending in parallel relation between the terminal ends of the pairs of arms, the said arms being pivotally supported and frictionally held from movement permitting the same to be manually turned to space the cords a distance apart corresponding to the width of the set type, the arms and cords therebetween being brought to close association with the sheet to be printed by running the head to non-printing position and indicating the space on the sheet on which the type impression will be made when the head is brought to printing position.

5. An impression indicator for printing machines having an impression surface and

a type holder member adapted to swing therefrom to a non-printing position, comprising in combination, a pair of arms slidably mounted in said press and having
5 means adapted to engage the ends of the line of type as set, and other means controlled hereby to indicate on the impression surface the extent of the impression in one direction, a pair of cords for indicating the
10 extent of the impression in the other direc-

tion, and means carried by said arms for adjustably supporting said cords, said last mentioned means being adjustable in planes perpendicular to the length of the line of type.

In testimony whereof we sign this specification. 15

HERBERT W. LAMB.
FRANK S. OUGHELTRIE.