Nov. 13, 1923. 1,473,650

E. P. SHELDON

LATE NEWS PRINTING DEVICE

Filed Sept. 3, 1921 2 Sheets-Sheet 1

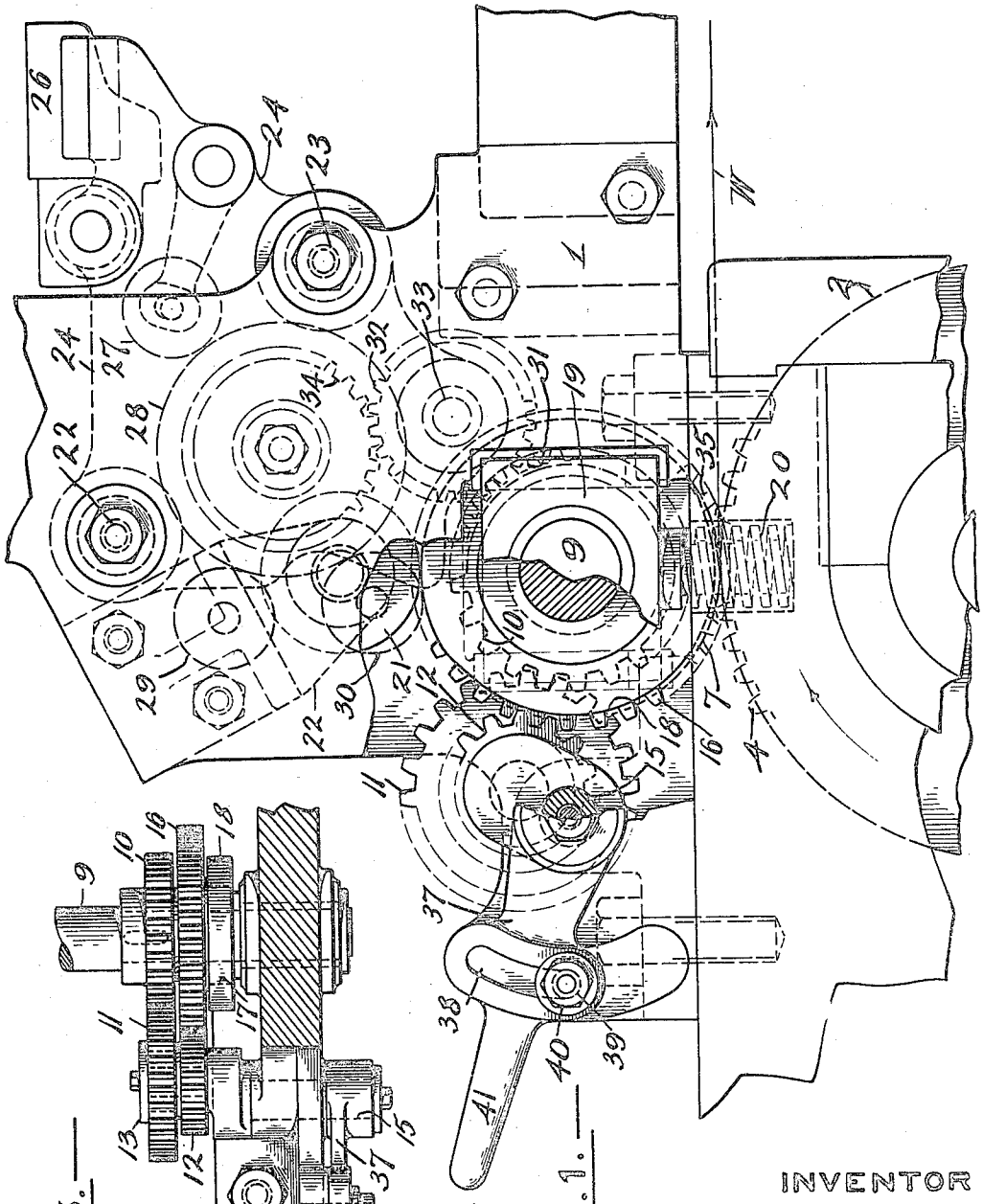


FIG. 1.

FIG. 3.

INVENTOR

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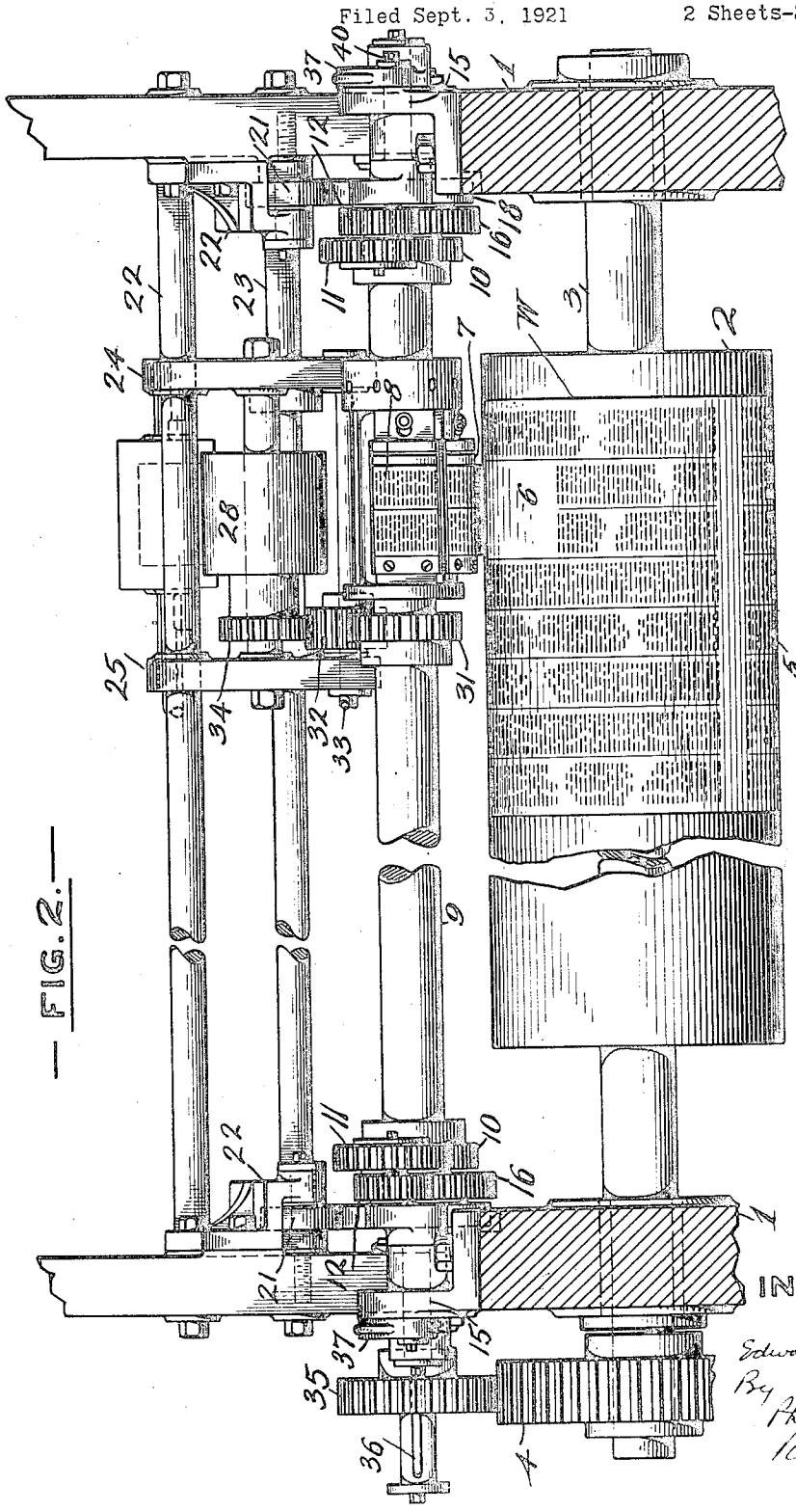


FIG. 2.

INVENTOR

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Patented Nov. 13, 1923. 1,473,650

UNITED STATES PATENT OFFICE.

EDWARD P. SHELDON, OF BROOKLYN, NEW YORK, ASSIGNOR TO R. HOE AND CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

LATE-NEWS-PRINTING DEVICE.

Application filed September 3, 1921. Serial No. 498,375.

To all whom it may concern:

Be it known that I, EDWARD P. SHELDON, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Late-News-Printing Devices, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in printing machines.

In printing newspapers or the like it is frequently desirable to print what is generally termed in the art late news, this late news being printed on a web or sheet which has already been printed with certain matter forming the main body of the news, suitable space being left unprinted on the web to receive this late news. In printing this late news, only a comparatively small amount of matter is printed whether the columns run with or across the web and consequently the late news printer is in printing relation with the web but a short period of time, being in printing relation only when the sheet which is to receive the late news is being printed upon. Furthermore when a product of several successive sheets, only one of which is to carry late news, or when collecting, the late news printer must be out of printing relation while the sheets or portions of the web not to be printed upon are passing the printer.

It is the especial object of the present invention to produce an attachment for printing machines for printing late news which shall be so constructed and arranged in a printing machine in relation to an impression member that the late news printer shall be held normally out of printing relation, and thrown into printing relation and held in such printing relation only when it is desired to print.

A further object of the invention is to provide such an attachment which shall be easy of access so as to make the placing of late news forms in position easy and quick, which shall be easily and quickly adjustable so as to print on any portion of the web or sheet where such printing may be desired, and which can be permanently thrown out of action when no late news is to be printed in a particular product running through the machine.

With these and other objects not specifically referred to in view, the invention consists in certain novel parts and constructions, a preferred form of which is shown in the drawings, and which will be fully described in connection with such drawings, and the novel features then pointed out in the claims hereunto annexed.

In the drawings:

Figure 1 is a side elevation, partly broken away and partly in section, illustrating so much of the printing machine as is necessary for an understanding of the invention;

Figure 2 is an end view on a somewhat enlarged scale of the parts shown in Fig. 1; and

Figure 3 is a detail, partly sectional, plan view illustrating certain driving mechanism for actuating the late news printer.

Referring now to the drawings, 1 indicates the side frames of a printing machine which may be of any usual or suitable construction for supporting the parts hereinafter referred to, these side frames rising from a suitable base, not illustrated.

Mounted in these side frames is the impression member of a printing couple, the form member not being illustrated, this impression member in the particular instance shown being a cylinder 2 mounted on a shaft 3 journalled in the frames of the machine, this shaft being driven from a gear 4 fast to one end thereof and operated from any suitable moving part of the machine. The web W is shown as passing over this impression cylinder, the main portion indicated at 5 having been printed, with a space indicated at 6 left unprinted for the reception of the late news.

In accordance with the invention, a late news printer is provided for printing in the unprinted portions of the web. While this late news printer may take various forms it will be of such character that an intermittent printing relation between the late news printer will be established in an automatic manner so that only the blank space in the web will be printed. Furthermore this printer will be so constructed and arranged that printing relation can be established at any desired point on the cylinder, and a preferred construction for effecting this is illustrated.

As shown the late printer consists of a small cylinder 7 carrying the late news

forms, illustrated at 8. This cylinder is mounted on a shaft 9 extending across the machine and journalled in the side frames before referred to. The shaft 9 is provided at each end with a gear 10 fast on the shaft, and this gear in turn is in mesh (see Figure 3) with one of a pair of gears 11, 12 secured together on a common hub 13 and loosely mounted upon a stud 15 eccentrically mounted in one of the side frames of the machine, this construction being duplicated at each side. The other gear 12 meshes with a gear 16 on a hub 17 on which hub is also carried a cam 18, this gear 16 and the cam 18 with the hub being loosely mounted on the shaft 9 before referred to. In the particular construction illustrated these gears are so proportioned as to give the cam one full turn to half a turn of the impression cylinder 2, so that in the particular construction shown the printer will print on each succeeding sheet.

The shaft 9 is mounted in journal boxes 19 which have a slight movement in the frames 1, these journals being seated on springs 20 suitably secured in the frame so that the springs bear directly on the journal boxes and act to normally hold the printing cylinder out of printing relation with the impression cylinder 2, this arrangement being preferably adapted for securing the non-printing relation of the late news printer and the impression cylinder.

To effect printing relation of the parts automatically at the times desired there is provided an abutment in the form of a roll 21 carried in brackets 22 in the side frames of the machine, this roll being fixedly journalled and lying in the path of the cams. When the low part of the cam is bearing on the roll the parts are held separated in non-printing position through the medium of the springs. When, however, the high part of the cam runs into contact with the roll the printer shaft is forced downwardly against the springs and the printing relation established between the printer and its cooperating impression cylinder, the cam, of course, being formed to cause this printing contact to be maintained long enough to effect the printing desired. The frequency with which this relation is thus automatically established depends on the proportion of the gearing, which determines the frequency with which the high part of the cam comes in contact with its cooperating roll.

In the late printer's construction of the best form and so that a small printing cylinder may be used for the late news printing, this cylinder and its inking mechanism will be so mounted in the machine that the printer can be moved across the impression cylinder and effect a printing at any desired part of the web widthwise. While various constructions may be employed for effecting this, in the particular construction illustrated, there are provided a pair of rods 22, 23 extending across the machine and supported in the side frames 1 before referred to. These rods slidably support a pair of brackets 24, 25 in which are mounted the ink fountain 26, ductor 27 and distributing rolls 28, 29, 30, for inking the forms on the printing cylinder, and the printing cylinder itself is slidably mounted on the shaft 9 so as to be movable lengthwise thereon. The inking rolls may be driven in any suitable manner as from a gear 31 slidable on the shaft 9 which meshes with a gear 32 on a shaft 33 carried on the brackets 24, 25 before referred to, the gear 32 engaging with the gear 34 on the shaft of the inking roll 28.

While but one printer is shown and described, it will be understood that, particularly with wide cylinders, where it is desired to simultaneously print at a plurality of places across the web, any desired number of printers and inking mechanisms may be provided.

The shaft 9 carrying the printing cylinder may be driven in any suitable manner. In the particular construction illustrated, there is provided a gear 35 slidingly secured on the end of the shaft as by a key 36, this gear 35 meshing with the gear 4 on the impression cylinder shaft 3 before referred to. By slipping this gear 35 out of mesh with the gear 4, the printer may be permanently put out of action. In some circumstances it may be desirable to stop the printer without disconnecting these gears and this may be very simply accomplished by throwing the gears 11, 12 out of mesh with the gears 10 and 16 by which cam 8 is driven, the cam being thus silenced and the operation of the printer stopped. Various means may be employed for effecting the disengagement of these gears. In the particular construction illustrated the eccentric stud 15 before referred to is provided with an arm 37 in which is formed a slot 38 taking over a stud 39 suitably mounted in the frame, the arm being held in position on the stud by means of a lock nut 40. The arm 37 is extended beyond the grooved portion to form an operating handle 41 by which the arm may be rocked and through the eccentricity of the stud the gears disengaged.

With the construction shown and described a very simple and effective late news printer has been provided, one which may be readily installed in an old as well as a new machine, one which is quick and easy of access for securing late news forms in place, and one which may be used on any part of a web.

While the mechanism has been shown in its preferred form, it will be understood that various changes may be made in the specific

construction and arrangement of the parts without departing from the invention, and that suitable gearing may be employed to permit printing on any page or sheet of the web desired, and that the invention is not to be limited to the gears proportioned as described.

What is claimed is:

1. The combination of an impression cylinder, a late news form cylinder, connections for driving the form cylinder from the impression cylinder, means for normally holding the cylinders out of printing contact, a cam, gearing for driving the cam to cause it to intermittently move the form cylinder in contact with the impression cylinder, and connections for rendering the gearing inoperative to drive the cam.

2. The combination of an impression cylinder, a late news form cylinder, connections for driving the form cylinder from the impression cylinder, springs for normally holding the cylinders out of printing contact, a cam, gearing including pivoted members and fixed members for driving the cam to cause it to intermittently move the form cylinder in contact with the impression cylinder, and means for rocking the pivoted members of the gearing out of engagement with the fixed members to silence the cam.

3. The combination of a frame, an impression cylinder mounted therein, a late news form cylinder, a shaft therefor on which the form cylinder is slidable longitudinally, a support mounted in the frame, inking mechanism slidable on the support, means for effecting an intermittent printing contact between the form cylinder and impression cylinder, and means for permanently holding the form cylinder out of contact with the impression cylinder and stopping the operation of the inking mechanism.

4. The combination of an impression cylinder, a late news form cylinder, connections for driving the form cylinder, means for normally holding the cylinders out of printing contact, a cam, gearing for driving the cam to cause it to intermittently move the form cylinder in contact with the impression cylinder, and connections for rendering the gearing inoperative without disturbing the form cylinder driving connections.

5. The combination of an impression cylinder, a late news form cylinder, a shaft therefor, connections for driving the shaft, means for normally holding the cylinders out of printing contact, a gear fast on the shaft, a cam loose on the shaft, and gearing co-operating with the fast gear and movable into and out of driving relation therewith for driving the cam to intermittently move the form cylinder into contact with the impression cylinder.

6. The combination of a frame, an impression cylinder mounted therein, a late news form cylinder, a shaft therefor on which the form cylinder is slidable longitudinally, a pair of rods mounted in the frame, an inking mechanism slidable on the rods, a gear on one member of the inking mechanism driving the same, a gear slidable on the shaft into and out of mesh with the inking mechanism driving gear, and means for effecting an intermittent printing contact between the form cylinder and impression cylinder and between the form cylinder and the inking mechanism.

7. The combination of an impression cylinder, a shaft therefor, a gear on the shaft, a late news form cylinder, a shaft therefor, a gear slidably mounted on the shaft into and out of mesh with the impression cylinder gear, means for normally holding the cylinders out of printing contact, a cam on the late news cylinder shaft, gearing for driving the cam to cause it to intermittently move the form cylinder in contact with the impression cylinder, connections for rendering the gearing inoperative without moving the gear on the form cylinder shaft, an inking mechanism, and a sliding gear on the form cylinder shaft for driving the inking mechanism.

In testimony whereof, I have hereunto set my hand.

EDWARD P. SHELDON.