W. L. McCARTY.

PRINTING DEVICE.

APPLICATION FILED MAY 9, 1908.

918,464.

Patented Apr. 13, 1909.

2 SHEETS—SHEET 1.

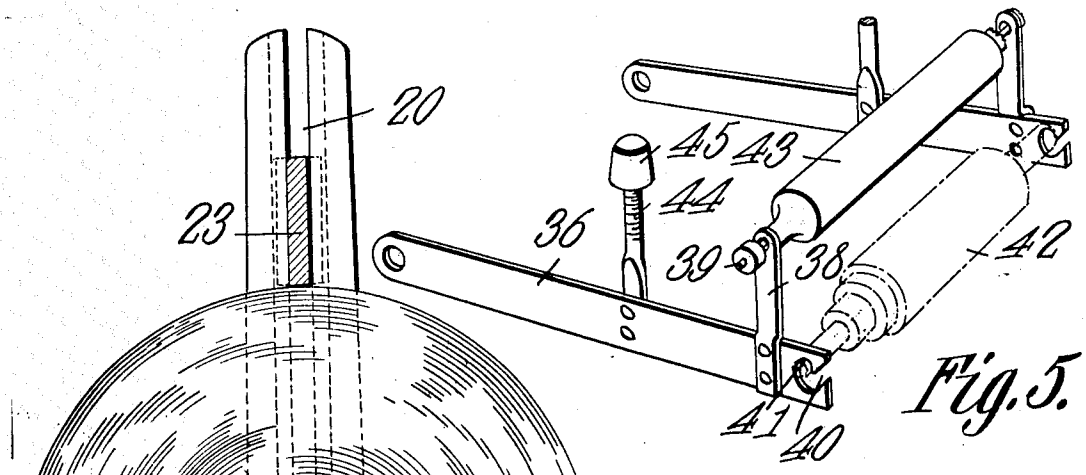

Fig. 5.

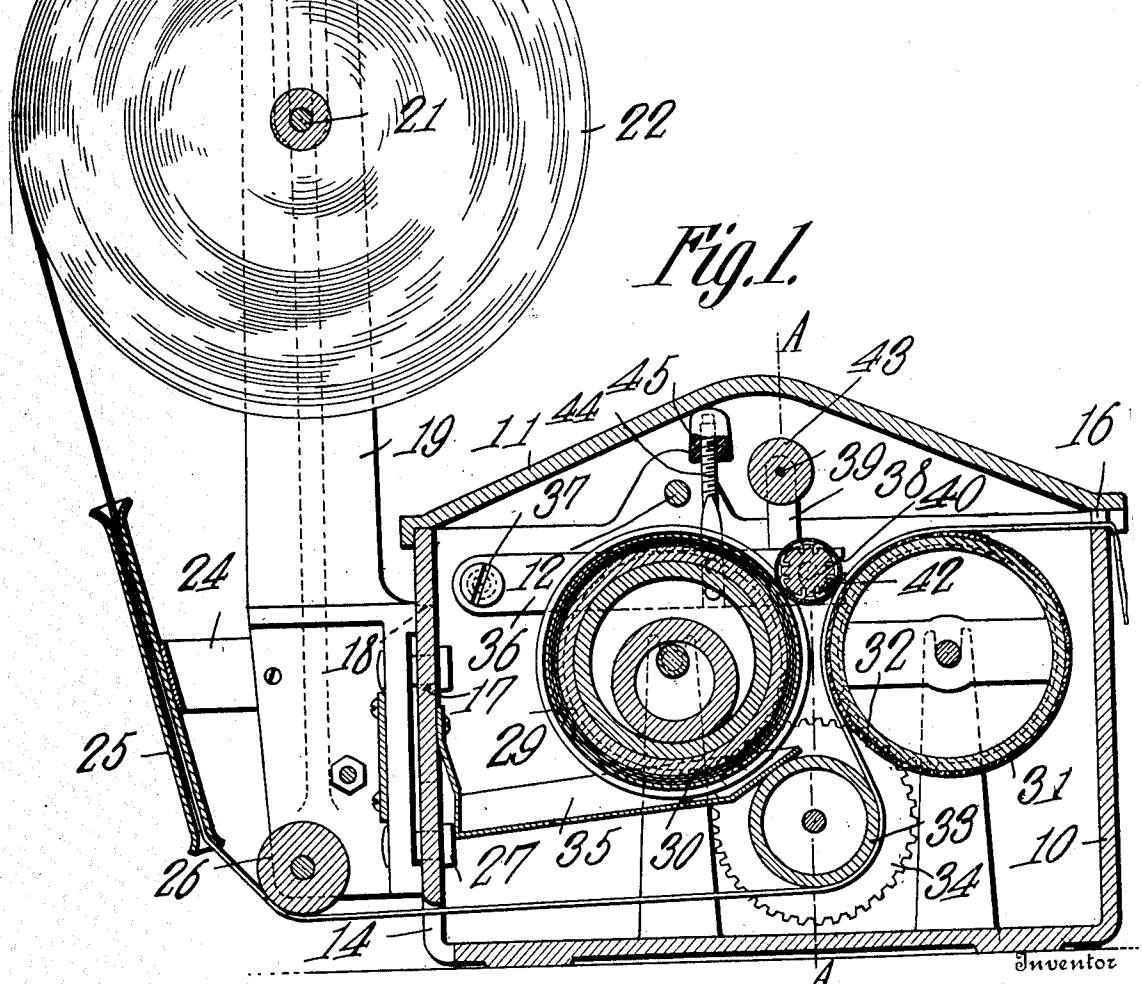

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

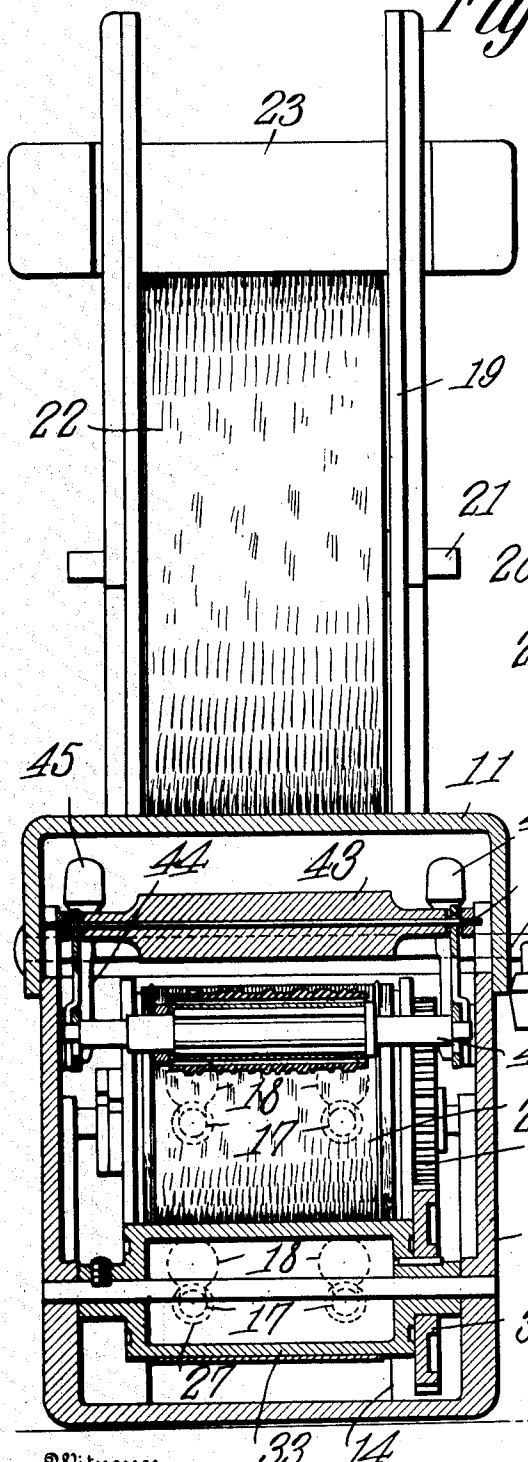


Fig. 3.

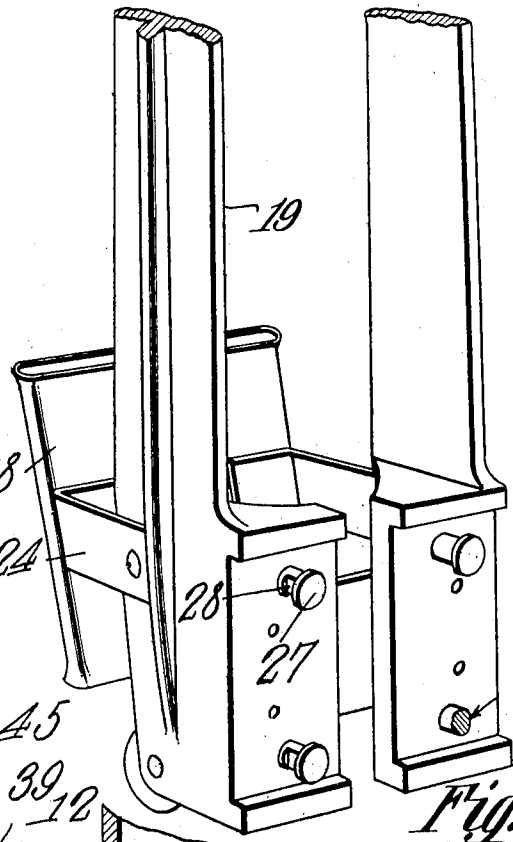
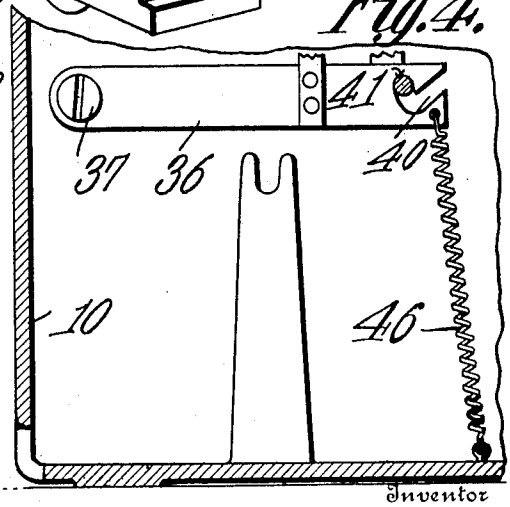


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

WREFORD L. McCARTY, OF MEMPHIS, TENNESSEE, ASSIGNOR TO AUTOMATIC MARKING COMPANY, OF AUGUSTA, GEORGIA.

PRINTING DEVICE.

No. 918,464. Specification of Letters Patent. Patented April 13, 1909.

Application filed May 9, 1908. Serial No. 431,896.

To all whom it may concern:

Be it known that I, WREFORD L. McCARTY, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Printing Device, (Case B,) of which the following is a specification.

This invention relates to printing devices, and has special reference to a device adapted to be used to repeatedly print the same arrangement of characters or words on a continuous web.

One object of the device is to provide an improved general construction of such mechanism.

Another object of the invention is to provide an improved form of contact between the printing roller and the web to be imprinted.

The invention consists in general in a web actuating printing mechanism including a platen of a cylindrical form having type thereon, an inking roller for said form together with certain improvements in the support for the inking roller.

The invention further consists in certain novel details of arrangement and combination of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings like characters of reference indicate like parts in the several views, and Figure 1 is a longitudinal section through the device. Fig. 2 is a transverse section on the line A—A of Fig. 1. Fig. 3 is a perspective view of the bottom portion of the web roll support. Fig. 4 shows a modified form of spring for pressing the printing roller against the inking roller and platen. Fig. 5 is a detail perspective view of the loose-jointed frame used in connection with this invention.

The device is contained within a casing 10 which is provided with a suitable cover 11 having perforations therein adapted to register with similar perforations in the casing 10 and receive a headed rod 12 having an eye at the small end to receive a lock 13. The casing is further provided with an opening 14 adapted to receive a web 15 and an exit opening 16 for said web. At one end of the casing there is provided a plurality of slots 17 having enlarged portions 18.

Standards 19 having slotted upper ends, as indicated at 20, are spaced apart and receive a rod 21 whereon is mounted a web roll 22. In the slot 20 above the web roll is a headed bar 23. This bar fits loosely in the slot 20 and at all times presses firmly against the web roll 22 so that it forms a tensioning device therefor. Below the web roll 22 is mounted an arm 24 whereon is supported a web-guiding tube 25. Adjacent the lower end of the tube 25 is a roller 26, this roller being mounted at the bottom of the web roll supports 19. The web roll supports are provided with headed lugs 27 having flattened portions 28. The heads 27 are somewhat smaller than the enlarged openings 18, but larger than the lower ends of said openings, as at 17. These lugs are disposed on the bottom of the standards in commensurate relation to the slotted openings 17 and the length of the lugs is such that when the heads 27 are inserted in the openings 18 and pushed down to the reduced portion 17, these heads will closely engage the inner side of the casing and thus lock the standards 19 firmly against the same.

Mounted in suitable bearings within the casing is an inking roller 29 provided with a fixedly attached gear 30. Adjacent this inking roller is a roller platen 31 provided with a similar gear 32, the platen being mounted for rotation in suitable bearings on the casing. Beneath the inking roller and platen is a tensioning roll 33 provided with a gear rigidly attached thereto, as at 34. The gear 34 meshes with the gears 32 and 30. The web 15 passing down through the tube 25 and under the roller 26, enters the casing through the opening 14, passes under the roller 33 over the platen 31 and out through the opening 16. The platen 31 and roller 32 are so arranged as to diameter and gear ratio, that the roller 33 revolves at a lower rate of speed than the platen 31. The web 15 is thus constantly tensioned so that it will lie snugly against the platen 31. Beneath the inking roller 29 is a drip pan 35 adapted to receive any surplus of ink that may escape from said roller.

A frame 36 is pivoted to the casing, as at 37. The pivotal connection 37 is so arranged that the pivot pin is of slightly smaller diameter than the hole through which it passes, and the space between the head of the pin and the casing is slightly greater than the thickness of the frame sides. The frame sides are extended upward, as at 38, and

these extensions are connected by a rod 39 loosely mounted therein. It will be observed that by means of the looseness of the various parts one end of the frame may be moved without affecting the other. At the outer end of the frame each of the sides is provided with a slot 40 extending downward from the end of the frame and angled upward, as at 41. The portion 41 of this slot forms bearings for a printing roller 42 arranged to receive suitable type characters. This roller 42 is positioned to contact with the inking roll 29 and the web 15 as it is drawn over the platen. Mounted on the rod 39 is a weight 43, and arms 44 having screw-threaded ends are attached to the sides of the frame 36. Upon the upper end of these arms, and bearing against the casing cover when the same is closed, is a rubber or other spring 45.

It will now be plain that any inequality in either the inking roller or the platen 31 will be met by the yieldable loose frame mounting for the roller 42 and that this roller will be kept constantly and firmly in contact both with the inking roller and the platen or web thereon without regard to the inequality of the surface or irregularity of movement.

In the form shown in Fig. 4 the spring 45 of Fig. 1 is replaced with a spring 46 attached to the loose-jointed frame and the bottom of the casing, so that it acts in a manner precisely similar to the spring 45 of the preferred construction.

In the operation of this device the web is drawn through the printing mechanism by any suitable means, as by that shown in the patent to me, the application of which bears Serial No. 397,926, and which was filed October 17, 1907. This causes rotation of the platen 31 by reason of the friction of the web thereon, and thus in turn rotates the inking roller. The movement of the web and the rotation of the inking roller combine to rotate the printing roller and there is thus impressed on the web a repeated series of the characters or words of the type held on the inking roller.

It is obvious that changes may be made in the form and proportions of this device without departing from the principle thereof, and it is not desired therefore to confine the invention to the exact form herein shown and described, but it is wished to include all such that properly come within the scope of the invention.

What is claimed is:—

1. In a device of the kind described, a casing, an inking roller revolubly mounted therein, a cylindrical platen revolubly mounted therein, a loose jointed frame loosely pivoted to said casing, a type form carried in said frame and supported on and revolving with said inking roller and platen, and a spring mounted on said frame and bearing against the top of said casing.

2. In a device of the kind described, a casing, an inking roller, a cylindrical platen, a web guiding roller, intermeshing gears in fixed relation to each of said rollers, a loose jointed frame loosely pivoted to said casing, a type form carried in said frame and supported on and revolving with said inking roller and platen, and a spring mounted on said frame and bearing against the top of said casing.

3. In a device of the kind described, inking and platen rollers, said platen roller constituting a web supporting means, a floating type form, a loose-jointed frame loosely pivoted to said casing carrying said form, and yielding mechanism adapted to force said form against the web and inking roller.

4. In a device of the kind described, inking and platen rollers, said platen roller constituting a web supporting means, a floating type form, a loose jointed frame for said form, and mechanism connected to said frame to force said form against the web and inking roller.

5. In a device of the kind described, inking and platen rollers spaced to form a bottomless trough, said platen roller constituting a means to support a web held on the synclinal portion of the surface thereof, a floating type form held in said trough, a loose jointed frame for said form, and mechanism connected to said frame to force said form against the web and inking roller.

6. In a device of the kind described, inking and platen rollers, said platen roller constituting a web supporting means, a floating type form, a loose jointed frame for said form, and springs connected to said frame to force said form against the web and inking roller.

7. In a device of the kind described, inking and platen rollers spaced to form a bottomless trough, said platen roller being arranged to support a web on the synclinal portion thereof, a floating type form held in said trough, a loose jointed frame for said form, and springs connected to said frame adapted to force said form against the web and inking roller.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WREFORD L. McCARTY.

Witnesses:

J. W. WESTMOREHEAD,

JNO. J. SUMNER.