H. A. W. WOOD AND J. A. ISBELL.

INKING DEVICE FOR LATE NEWS AND OTHER PRINTING MACHINES.

APPLICATION FILED JAN. 31, 1919. RENEWED FEB. 3, 1922.

1,428,310. Patented Sept. 5, 1922.

Fig. 1.

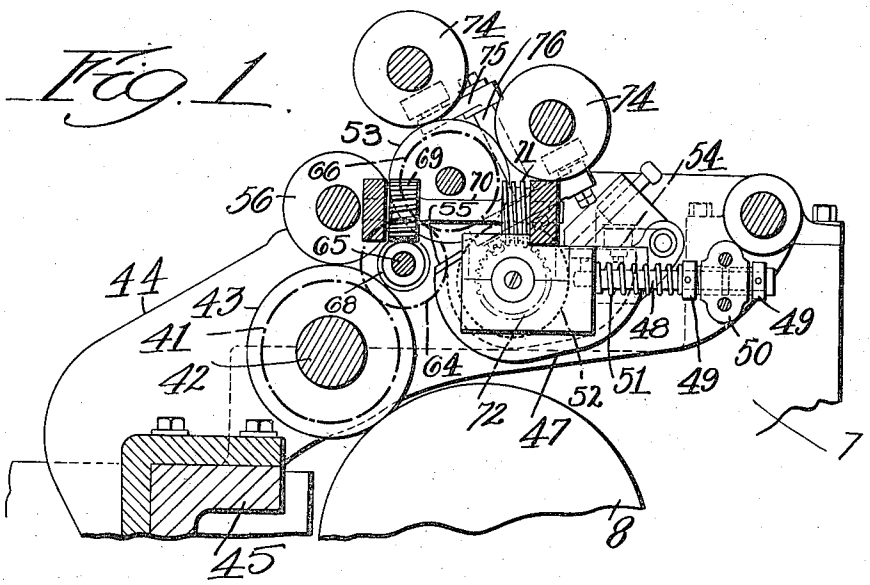


Fig. 2.

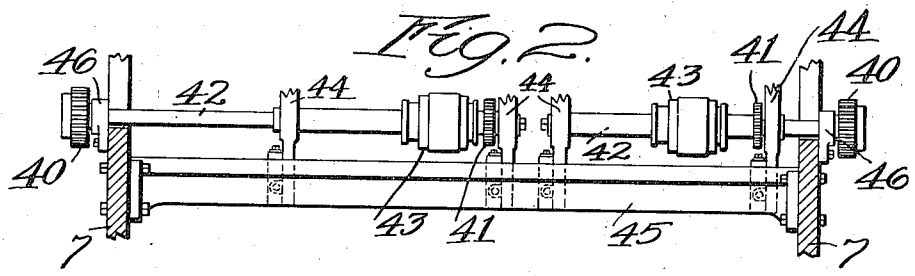
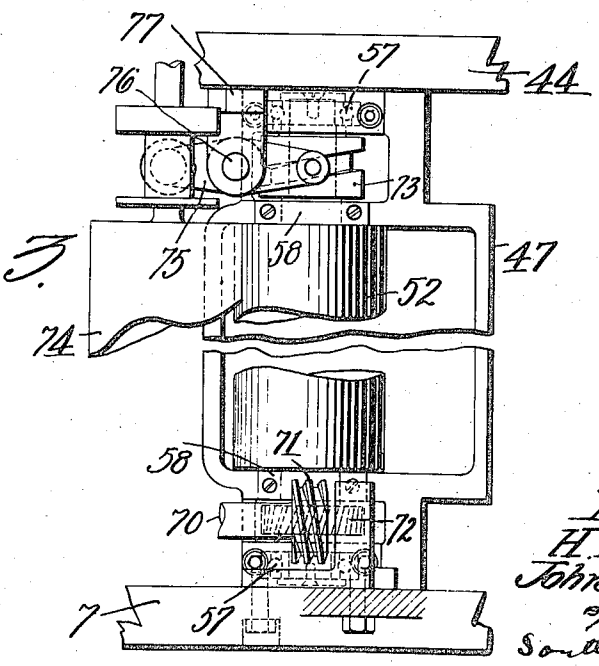


Fig. 3.



Witness
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Patented Sept. 5, 1922. 1,428,310

UNITED STATES PATENT OFFICE.

HENRY A. WISE WOOD, OF NEW YORK, N. Y., AND JOHN A. ISBELL, OF MIDDLETOWN, NEW YORK, ASSIGNORS TO WOOD NEWSPAPER MACHINERY CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF VIRGINIA.

INKING DEVICE FOR LATE-NEWS AND OTHER PRINTING MACHINES.

Substitute for abandoned application Serial No. 42,483, filed July 29, 1915. This application filed January 31, 1919, Serial No. 274,165. Renewed February 3, 1922. Serial No. 533,962.

To all whom it may concern:

Be it known that we, HENRY A. WISE WOOD and JOHN A. ISBELL, citizens of the United States, said WOOD residing at the city, county, and State of New York, said ISBELL residing at Middletown, in the county of Orange and State of New York, have invented a new and useful Inking Device for Late-News and Other Printing Machines, of which the following is a specification.

This invention relates to an inking mechanism especially adapted for late news or fudge devices, but capable of use on other web printing machines.

The principal objects of the invention are to provide an inking device adapted to be run by the fudge cylinder shaft; to provide an improved arrangement of bearings for the fountain roll in which an inner pair serve to prevent leakage from the fountain and an outer pair of ball bearings serve to support the roll; to provide an improved drive for the fountain roll, and to provide effective means for preventing trouble in case of a paper choke.

Reference is to be had to the accompanying drawings in which—

Fig. 1 is a longitudinal section of a preferred form of the invention, showing the ink fountain in side elevation;

Fig. 2 is a transverse section of the press on a smaller scale showing the fudge device in elevation, and

Fig. 3 is a plan of the fudge and inking mechanism on enlarged scale.

In this case the two main side frames 7 of the printing press support as usual the printing couple. The impression cylinder 8 is provided with gears (not shown) driving the gears 40 on two shafts 42 which carry the fudge printing cylinders 43. These are constructed as usual, carry printing plates or types, and are journalled in side frames 44 mounted on a brace 45 extending between the two main frames 7. Brackets 46 on the main frames of the press serve as outboard bearings for the shafts 42. It will be understood that by means of the usual adjustable gears 40 on the two fudge cylinder shafts, it is possible to turn the cylinders so as to register with the previously printed page. The side frames also support the inking device for the fudge cylinders and these devices are constructed to cover the width of a newspaper page, as for example, seven columns, eight columns, or the like. The fudge boxes are filled with linotype slugs, one or two columns wide, and fastened on the fudge cylinders by the usual means. It will be understood that these fudge cylinders can be moved along their respective shafts so as to print in any column of the paper, or two adjacent ones.

This inking device comprises an ink fountain 47 slidably mounted on the frames 44 and it carries shouldered pins 48 adjacent to the inside of each frame. These pins slide in hollow nuts 49 which are threaded inside brackets 50 on each frame. A helical spring 51 is interposed between the fountain and each inner nut 49 which serves to regulate the tension of the spring. These springs permit the fountain with its roll to move away from the pick up roll 53 in case of a paper choke. The outer nut constitutes means for adjusting the fountain roll 52 toward and from the pick up roller 53. The fountain is shown as equipped with the usual knife 54 and screw adjustment therefor, but it is provided at the rear side with an additional scraper 55 for preventing portions of a torn web from being wound around the fountain roll. The fountain roll 52 itself is supported on ball bearings 57 in the frames but close up to the shoulders are additional capped bearings 58 which serve to prevent the ink in the fountain from leaking out into the press.

Each of the fudge shaft gears 41 meshes with a gear 64 on a shaft 65 which in turn meshes with a gear 66 on the pick-up roll 53. The roll 53 distributes ink to the form roller 56. Attached to one end of the shaft 65 is a worm 68 which transmits motion to a worm wheel 69 on a shaft 70. At the other end of this shaft is a worm 71 which drives a worm wheel 72. This worm wheel is fastened to the end of the fountain roll 52 in the pocket between the capped and ball bearings, thus driving the fountain roll.

In the pocket between the ball bearing and the capped bearing on the other side is a roller vibrating or wabble cam 73 fastened to the end of the fountain roll shaft. This operates the two vibrating distributor rollers 74 through a lever 75 pivoted to the shaft

76 which is journalled in brackets 77. The vibrating rollers and form rollers are mounted in the usual ball bearing sockets.

It will be understood, of course, that the late news device may be placed in any suitable space on the printing press, but as close to the second printing couple as may be practicable.

It will be seen that by having the spring seated sliding ink fountain arranged as described, it can be adjusted to a working contact with the pick up roll 53 in a very convenient way. The pick up roll revolves at press speed while the fountain roll revolves continuously but slower and in the opposite direction to the pick-up roll 53. The surface of the pick-up roll and the fountain roll are absolutely parallel but do not come into actual contact with each other, a very small space, approximately one-thousandth of an inch, intervening. In this way the ink is transferred from the ink fountain roll direct to the pick-up roll with its usual vibrating rollers and form rollers. The two sets of bearings with which the ink fountain roll is provided constitute an important feature because the outer ones hold up the weight of the roller while the inner ones serve to prevent leakage from the fountain proper. The method of driving the fountain roll by means located between the inner and outer bearing is important, as well as the location of the ink roller vibrating means in a corresponding space.

Although we have illustrated and described only one form of the invention, we are aware of the fact that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, we do not wish to be limited to the details of construction herein shown and described or to the particular combinations of parts set forth, but what we do claim is:—

1. The combination with a fountain roll and its adjustable knife, of an additional scraper on the rear side for preventing portions of a torn web from winding on the fountain roll.

2. The combination with a fountain roll, a cylinder, and a form roller, of means for positively driving said fountain roll, spring seated means for forcing the fountain roll against the cylinder, and means for adjusting it to working contact with the cylinder.

3. In a fudge device, the combination of a fudge cylinder, means for rotating it, an ink fountain having an inner pair of bearings for preventing the escape of ink, a fountain roll journalled in said bearings its end studs projecting beyond them, and additional bearings engaging said studs for supporting the weight of said roll.

4. In a fudge device, the combination of a fudge cylinder, means for rotating it, an ink fountain having an inner pair of bearings for preventing the escape of ink, a fountain roll journalled in said bearings, a pair of outside bearings for supporting the weight of said roll, a worm shaft driven from said fudge cylinder and extending between the two bearings on one side of the fountain, and means for driving the fountain roll from said worm shaft.

5. In an inking mechanism, the combination of a fountain roll, ink-tight bearings at the sides of said fountain for said roll, supporting bearings spaced from the first bearing for supporting the weight of the fountain roll, and means for driving said fountain roll comprising worm gearing located between one of said ink-tight bearings and the corresponding supporting bearing.

6. In an inking mechanism, the combination of a fountain roll, ink-tight bearings on the sides of said fountain for said roll, and supporting bearings beyond the first named bearings directly supporting the fountain roll.

7. In an inking mechanism, the combination of a fountain roll, ink-tight bearings at the sides of said fountain for said roll, ball bearings spaced from the first named bearings for supporting the weight of the fountain roll, a vibrating ink roller, and means mounted between one of said ink-tight bearings and one of the ball bearings for vibrating said roller.

In testimony whereof we have hereunto affixed our signatures.

HENRY A. WISE WOOD.
JOHN A. ISBELL.