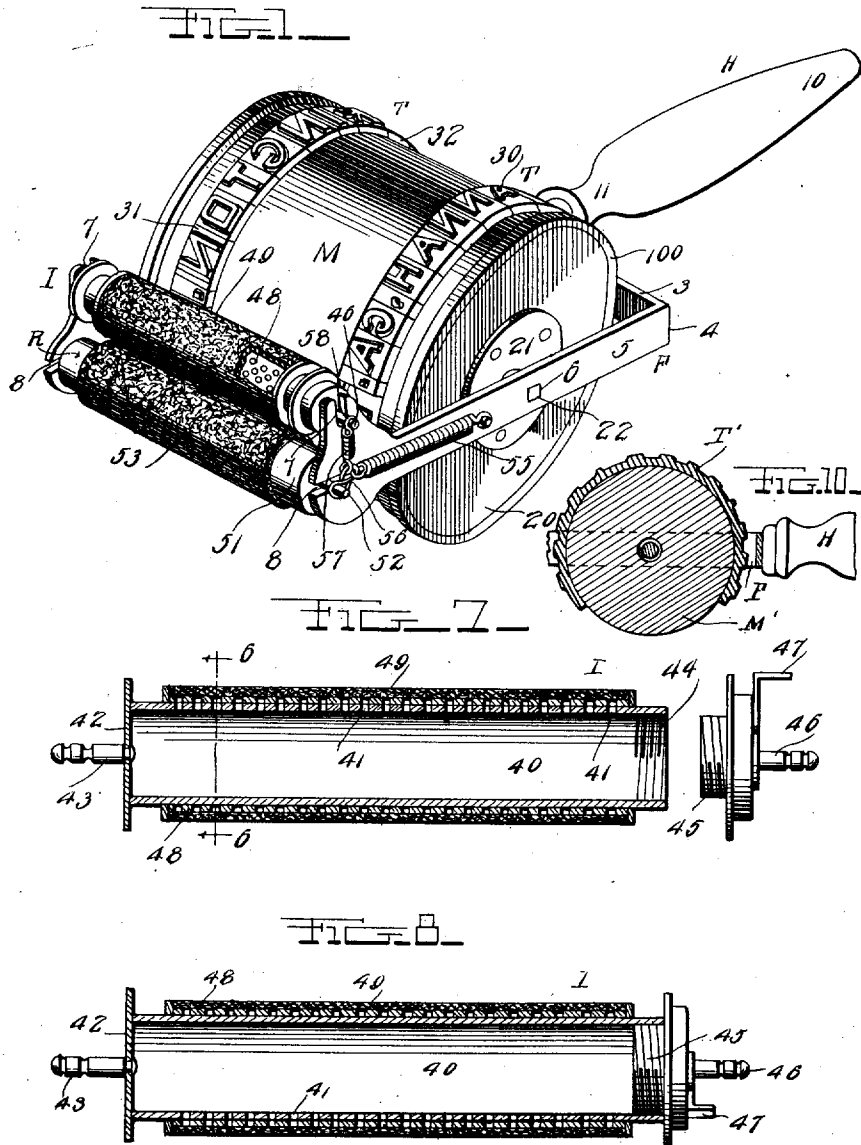


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PRINTING WHEEL AND INK FOUNTAINS.
APPLICATION FILED SEPT. 5, 1911.

1,018,886.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.



Witnesses
J. R. Pierce
O. M. Somers.

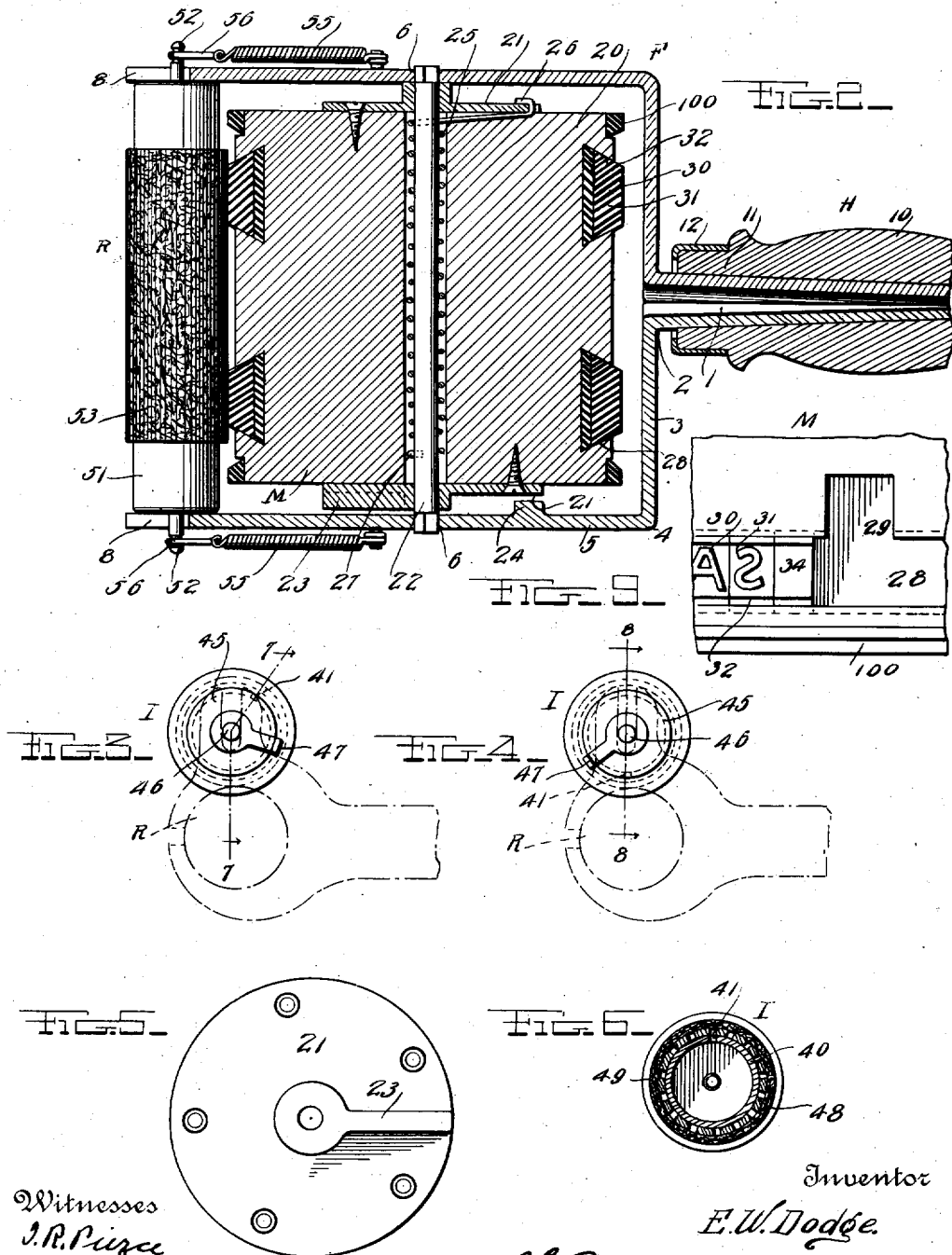
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Witnesses
 J. R. Pige
 E. W. Dodge

Inventor
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UNITED STATES PATENT OFFICE.

EDWARD W. DODGE, OF AUGUSTA, GEORGIA, ASSIGNOR OF ONE-HALF TO LOUIS L. CARRINGTON, OF SAVANNAH, GEORGIA.

PRINTING-WHEEL AND INK-FOUNTAINS.

1,018,886.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed September 5, 1911. Serial No. 647,652.

To all whom it may concern:

Be it known that I, EDWARD W. DODGE, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented certain new and useful Improvements in Printing-Wheels and Ink-Fountains; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the class of hand stamps, and more especially to the roller feed inking attachments therefor; and the object of the same is to construct a device of this character having a tubular ink reservoir and mechanism for holding its outlets at the top when the stamp is not in use. This and other objects are accomplished by the construction hereinafter more fully described and claimed and as shown in the drawings wherein—

Figure 1 is a perspective view of this improved device complete; Fig. 2 is a central horizontal section; Figs. 3 and 4 are end elevations of the inking roller in different positions; Fig. 5 is an elevation of one hub plate showing the stop; Fig. 6 is a cross section through the printing roller on the line 6—6 of Fig. 7; Fig. 7 is a section on the line 7—7 of Fig. 3, with the cap removed; Fig. 8 is a section on the line 8—8 of Fig. 4. Fig. 9 is a detail showing the manner of inserting the type. Fig. 10 is a detail showing that a roller might be employed in connection with my improved mechanism, whereon the die was not made up of movable type.

In the drawings the letter F designates a framework removably mounted within a handle H and pivotally supporting a roller M to which in the present instance are detachably attached two rows of type T, I is the inking roller containing an ink reservoir, and R is the transfer roller for carrying the ink from the inking roller to the main or type roller. These parts will now be described separately.

The framework F is made in two complementary members, each of which is of elbow or double-angle shape comprising a stem 1 which at its front end turns in a right angle

2 into an outwardly projecting arm 3, the latter at its outer end turning in a reverse right angle 4 into a side bar 5 having at about the center of its length an angular eye 6 for the axle of the main roller, and its front end is provided with a top fork 7 and an outer fork 8, these being for the uses set forth below.

The handle H may be of wood and comprises a hand-holding portion 10 of any suitable shape and length, and a tubular front end 11 surrounded by a ferrule 12, this end and the ferrule being adapted to receive the two stems 1—1 of the framework so that the latter and the handle become practically one piece. The purpose of this detail of construction is to permit the stems to be withdrawn from the handle, after which the two members of the framework may be separated from each other so that their angular eyes 6 disengage the angular ends of the main axle, and the parts can be readily separated as for cleansing and for repair.

The main roller M comprises a cylindrical body 20 upon each end of which is a hub-plate 21 journaled upon a shaft 22 which connects the side bars 5 of the framework and has angular ends mounted in the eyes 6 thereof in such manner that it may not rotate but may be withdrawn therefrom when the members of the framework are separated from each other. One hub-plate carries a stop 23 adapted to contact with a similar stop 24 within this side bar of the framework when the roller stands at rest in its normal position. On the shaft within the roller is mounted a coiled spring 25, one end of which is connected at 26 with the roller and the other at 27 with the shaft, and the normal tendency of this spring is to throw said stops into contact with each other. In the periphery of the roller are cut annular grooves 28 with undercut edges as shown, and at one point each groove opens into a recess 29 whose edges are not undercut and whose width is greater than the groove.

The type, although forming no essential part of the present invention, must be constructed so as to adapt them to the grooves just described. Each has a printing face 30

mounted on a body 31 whose edges are flared as at 32 so as to engage the undercut edges of the grooves within the periphery of the roller, and spacing blocks 34 are provided which are similar in construction as to their bases and edges but are minus the printing faces. The function of these blocks is obviously to hold a line of type in place within the grooves after it has been set therein, and it is quite clear that any type or block may be inserted into the recess in the roller, which is wide enough to permit, and then slid along longitudinally in the groove so as to set up a line and produce a word whose letters read around the cylinder. Obviously the latter may have any number of such grooves, and the type will be adapted thereto.

The inking roller I comprises a cylindrical body 40 having a row of perforations 41 along one side and a closed end 42 from which projects a stub-shaft 43 adapted to engage one of the forks 7; and the other or open end of the cylindrical body is provided with threads 44 engaged by similar threads on a screw cap 45 itself having a stub shaft 46 adapted to engage the other fork 7, this cap or closure having also a radially projecting finger 47 so disposed with reference to the perforations when the cap is in place that when the finger stands as seen in Figs. 1 and 3 the perforations are uppermost and no ink feeds from the internal reservoir, but when the finger stands as seen in Fig. 4 the perforations are adjacent the transfer roller next to be described. The reservoir within this roller is adapted to contain liquid stamp-ink, which is obviously inserted by removing the screw cap from its open end; and after filling the roller and replacing the cap, the stub shafts are reengaged with the forks 7 in the framework and held therein by springs which will be described. A perforated sleeve 48 surrounds the body 40, and forms a core for a soft surface 49 as of felt or the like which in turn surrounds the sleeve.

The transfer roller R has a solid body 51 with trunnions 52 projecting from its extremities and adapted to engage the forks 8 in the framework F, and around its body is a soft surface 53 as of felt or the like which is adapted to take up the liquid ink flowing from the inking roller I and transfer it to the face of the type T. Secured to the outer face of each side bar 5 of the framework is a spring 55 connected with a link 56 whereof one loop or eye engages the trunnion 52 of the transfer roller to hold it in the fork 8, and connected with the other loop or eye of this link is an upright spring 57 having an eye 58 in its outer convolution detachably engaged with the stub shaft at the extremity of the inking roller I to hold it within the fork 7. By this means

the single spring mechanism holds both rollers in place within their forks, and yet permits them to be detached therefrom at will. It is to be understood that the depth of the forks is such that the soft surface of the transfer roller will make contact with the printing surfaces of the type T before its trunnions reach the bottoms of the forks 8 under the impulse of the springs, and similarly the soft surface of the inking roller will make contact with that of the transfer roller before its stub shafts reach the bottoms of the forks 7 under the impulse of its springs. All parts of this device are of the desired sizes, shapes, proportions and materials; and such changes in details of construction may be made as do not depart from the principle of my invention.

In use the type T are set within the grooves of the main roller M in a manner which will be well understood by any printer or by those who have handled rubber stamps of this character, care being taken that the beginning of each line of letters is set by means of the blocks or spaces 34 at such point that when the main roller begins its forward rotation the line will first pass under the transfer roller and then strike the paper. The reservoir within the inking roller is then filled with liquid rubber stamp ink of the desired color and consistency, and the machine stands at rest as shown in Fig. 1. When it is desired to print upon paper from the type that has been set within the grooves in the periphery of the main roller M, the operator grasps the handle H and brings the machine into position over the paper to be printed. I should have said that the edges of the main roller are by preference provided with soft tracks 100, as of rubber, projecting therefrom almost or fully type-high and encircling its body completely, and when the operator brings the stamp into position for use these of course first strike the paper and no printing occurs because at this time there is an absence of type at what is then the bottom of the roller. Having found his place, he gives the machine a forward impulse and these tracks by clinging to the paper cause the roller to rotate against the tension of its internal spring so that the stops 23 and 24 move out of contact with each other. The type lines strike and pass beneath the transfer roller R which is thereby caused to rotate on its trunnions, and its rotary motion is imparted to the inking roller I with which it contacts; the result is that this roller also rotates on its stub shafts, and its finger moves from the position shown in Fig. 3 to that shown in Fig. 4 which brings its perforations 41 from a position near the top of the roller to one directly opposite the transfer roller. Especial attention is called to this detail of construction which I con-

sider an important feature of my invention. As above stated, the normal position of these perforations 41 is uppermost so that no ink flows out of them and the stamp may be laid aside as long as desired and liquid ink in the roller will not dry or evaporate, nor will dust get into it. But as soon as the inking roller has been rotated thus far by its contact with the transfer roller, the latter continues to rotate by its contact with the type-faces and its soft surface therefore slides across the soft surface of the ink roller exactly where the latter is moistened with ink flowing out of the perforations. The result is that there is a working contact between the two soft surfaces, and that on the transfer roller draws from that on the inking roller some of the ink which has oozed through its soft surface from said perforations, and immediately transfers it direct to the faces of the type. Continuous forward impulse upon the handle H causes the further rotation of the main roller M, and the inked type are therefore carried around to and moved across the surface of the paper being printed. This motion continues until the stop on the roller makes almost a complete revolution and strikes the under side of the stop on the framework, and if the operator should seek to move the machine too far this would check the rotation of the main roller. However, by that time he has printed the complete line upon the paper, when all that is necessary is for him to lift the machine from the paper and the spring instantly returns the main roller to its normal position for renewed use.

In Fig. 10 is illustrated a slight modification wherein the main roller M' is mounted within the same framework F and has the same handle H and inking mechanism, but in this case the printing is done by means of a die T' which is composed of a single sheet or block of rubber having the type all cast thereon or formed therewith instead of being movable as in the construction above described, and this sheet or block may be secured to the roller by any suitable means, not illustrated and forming no part of the present invention. If secured thereto detachably, it will be obvious without further description that the die may be removed and another substituted at will; but if the die be fastened upon the roller it will be necessary for the user to substitute a new roller having another die in case he desires to make a change in the subject matter being printed. This is but one of the various modifications or amplifications of which this invention is susceptible without departing from its spirit, and between the extreme of having all the type removable and having them all in one die it is clear that a die could be used having a mortise into which

type could be removably inserted, as for instance when it is desired to change the date line day after day. Other changes in details may suggest themselves and can be adopted by the manufacturer at will.

What is claimed as new is:

1. In a rotary hand stamp, the combination with a frame having forks in the front ends of its side members, a stop within the frame, a spring-actuated type-carrying roller journaled in the frame, and a stop on the roller adapted to contact with that on the frame; of an inking roller having a hollow body with a row of perforations along one side, trunnions on its body journaled in the uppermost pair of forks so that the surface of this roller is out of contact with the type on the main roller, a finger on this roller contacting with the frame when said perforations are uppermost, a transfer roller having its trunnions journaled in the other pair of forks with its surface in contact with the inking and main rollers, and means for holding all trunnions in place.

2. In a rotary hand stamp, the combination with a frame having forks in the front ends of its side members, a stop within the frame, a spring-actuated type-carrying roller journaled in the frame, and a stop on the roller adapted to contact with that on the frame; of an inking roller having a tubular body provided with a row of perforations along one side and threads around its open end, its other end being closed and having a trunnion, a screw cap removably engaging said threads and having another trunnion, a finger on this cap adapted to rest against said framework when the perforations stand uppermost, a transfer roller standing below the inking roller and itself having trunnions, means for holding them in the lowermost pair of forks and the trunnions of the inking roller in the uppermost pair, a soft surface surrounding the inking roller, and a soft surface surrounding the transfer roller and in contact with that on the inking roller and with the type on the main roller.

3. In a rotary hand stamp, the combination with a frame having forks in the front ends of its side members, a stop within the frame, a spring-actuated type-carrying roller journaled in the frame, and a stop on the roller adapted to contact with that on the frame; of an inking roller having a tubular body provided with a row of perforations along one side and threads around its open end, its other end being closed and having a trunnion, a screw cap removably engaging said threads and having another trunnion, a finger on this cap adapted to rest against said framework when the perforations stand uppermost, a perforated sleeve surrounding the body of the inking roller, a soft surface surrounding the sleeve, a transfer roller

having trunnions at its extremities, means
for holding them in the lowermost pair of
forks, so that the surface of this roller con-
tacts with the type and with the soft surface
5 on the inking roller, and means for holding
the trunnions of the latter roller in the up-
permost pair of forks.

In testimony whereof I have hereunto set
my hand in presence of two subscribing
witnesses.

EDWARD W. DODGE.

Witnesses:

M. H. LOTT,

J. A. CLEMMONS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
