F. TUCHFARBER.

Ornamenting and Marking Wheels.

No. 168,115. Patented Sept. 28, 1875.

Fig. 1

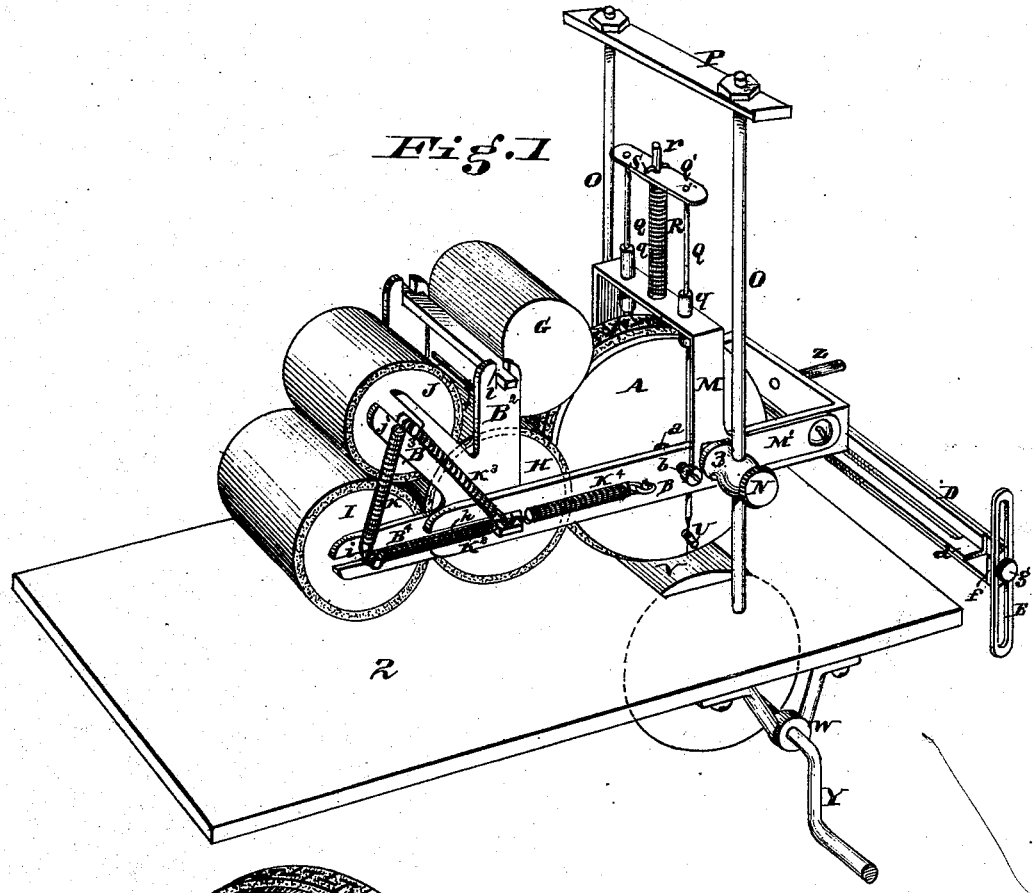
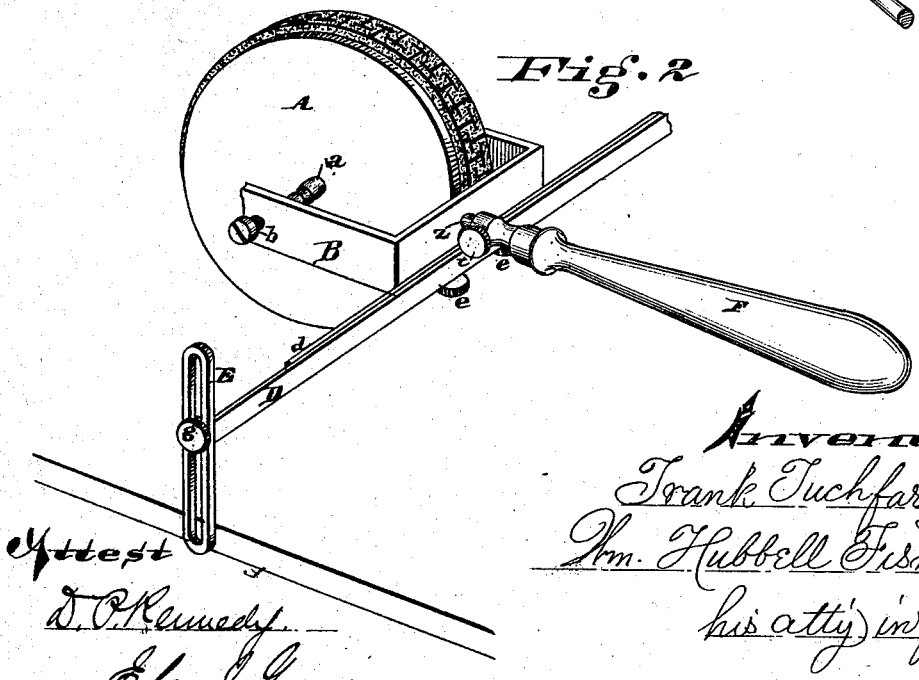


Fig. 2



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FRANK TUCHFARBER, OF CINCINNATI, OHIO.

IMPROVEMENT IN ORNAMENTING AND MARKING WHEELS.

Specification forming part of Letters Patent No. **168,115**, dated September 28, 1875; application filed June 30, 1875.

To all whom it may concern:

Be it known that I, FRANK TUCHFARBER, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Ornamenting-Press, of which the following is a specification:

My invention relates to devices for marking or ornamenting, by printing, moldings, frames, toilet ware and safes, and the like; also for printing and etching on glass and metals.

The invention consists, first, of the roller for doing the printing or marking, in connection with devices for inking the same.

The second part of my invention, supplemental to this part of my invention, is the arrangement of the roller and inking devices in such a manner that the said roller and devices can be propelled by hand over the object to be marked or printed upon. When thus constructed it can be made to print upon any surface, level or round, or composed of a number of sides.

The third part of my invention, which is also supplemental to the first part of my invention, consists in the combination of the roller and inking devices with certain other devices, whereby the roller is stationary, and the stuff or article to be marked or printed on is passed along under the roller.

The fourth part of my invention consists in the combination, with the roller, of a gage, which enables the roller, &c., when propelled forward by hand, to always be guided in a straight line over the thing to be marked.

The fifth part of my invention consists in a register of novel construction, and in the combination of the same with the roller and the frame supporting the roller, in such a manner that the roller may always begin printing at a certain desired point upon its periphery, and thus enabling the operator to cause the thing to be marked or printed, to be marked or printed in two or more colors.

In the accompanying drawings, making a part of this specification, and to which reference is hereby made, Fig. 1 represents a machine for marking, &c., and embodying my invention, the handle for propelling the roller, &c., being omitted; and Fig. 2 shows the roller, a part of the frame thereof, the gage for guiding the roller, and the handle for propelling it, the devices for inking the roller and the register being omitted from the view.

A designates the roller, turning with its axis *a*. Each end of the latter is pointed, and rotates in the concave end of a set-screw, *b*, which latter is screwed into the side B of the frame. The periphery of this roller, in whole or in part, is covered with rubber or other flexible elastic composition, embossed with the pattern which the operator intends to print upon the thing to be marked. The inking device, as preferably constructed, consists of ink-fountain G, upper distributing-roller J, lower distributing-roller I, and inking-roller H. The frame B, at rear, has on each side three branches, B^2 B^3 B^4, branch B^2, at its upper end, having a slot, *l*, open at one end for the reception and retention of the end of the rod which supports the ink-fountain, branch B^3 having at its upper end a slot, *j*, open at one end to receive and support one end of the spindle of distributing-roller J, and branch B^4 having at its rear end a slot, *i*, open at the rear to receive and hold in position the end of the spindle of distributing-roller I. A slot, *h*, in the side of the frame receives one end of the spindle of inking-roller H.

These slots *i j h*, for the reception of the spindles of the distributing and inking rollers, are so long that when the rollers are in juxtaposition, and the inking-roller is pressing against the periphery of the printing-roller A, none of the spindles will touch the ends of their respective slots. The spindles of the distributing and inking rollers are prevented from slipping out of their respective slots, and these rollers themselves are kept pressed against each other by means of the triangle of spiral springs connecting the spindles of the distributing-rollers. Roller J is kept pressing against roller I by means of spring K connecting the ends of the spindles of these rollers. Roller I is kept pressed against roller H by means of spring K^2 connecting the ends of the spindles of these rollers. Rollers H and J are kept pressed together by means of spring K^3 connecting the ends of the spindles of these rollers. The inking-roller H is kept pressed against the printing-roller A by means of spring K^4 con-

nected to the end of the spindle of roller H, and to a hook, or the like, in the frame in front of roller H, and strained between the two points of connection.

The device for registering—that is, for causing the roller to always commence to print at a desired point upon its periphery—is substantially as follows, viz: The frame M M′ is pivoted or each side of frame B, at the front end of the part M′, to the side B′ of frame B. The top of frame M has sleeves *q*, the latter, when the frame M is closed down, having a vertical position. Through each sleeve passes a needle, Q, the needles being attached at the upper or eye end to a common plate, Q′. In the top of frame M is attached a small upright post, *r*, which extends up through the plate Q′ far enough to enable the needles to be disengaged from the perforated stops U of roller A without the plate Q′ coming off the top of the post *r*. A spriral spring, R, is placed around the post *r*, and between the top of the frame M and the plate Q. This spring R is of sufficient length and power to raise the needle out of the holes in the perforated stops U. A stop, S, in post *r*, above the plate Q′, prevents the spring R from throwing the plate Q′ off the top of post *r*.

The construction of the gage, for causing the printing-roller to follow a straight line, is as follows, viz: A strip of metal, D, slotted for the greater portion of its length, the length of the slot being in the direction of the length of the strip, is provided with a flange, *d*, the flange being in cross-section at right angles to the metal strip. This strip of metal fits under and parallel to the forward end of the frame B, and the flange *d* fits against the front side of the forward end of the frame B.

A couple of set-screws, *e e*, passing through the slot in the strip D, are screwed into the bottom of the forward end of frame B. That end of the strip which is designed to hold the upright bar E of the gage, is provided with an upright flange, *f*, the flange *f* and the strip making a right angle with each other. The upright bar E is slotted for the greater portion of its length, and is secured to the flange *f* by a set-screw, *g*, the stem of which, passing through the slot, screws into the flange *f*.

A second gage is provided, precisely like the one just described, except that the flange *f* and bar E are at that end of the second flange which is opposite to that end of the first flange which has flange *f* and bar E. Both gages may be and preferably are attached in ordinary use of the printing-roller to the frame B, the strip D and flanges *f* of the gages lying the one over the other, and the set-screws *e* holding them in position, and permitting the gages to be properly adjusted. Z designates a pin or stub, firmly fixed in the end of the frame B, which enters a cavity in the end of handle F, the latter being secured in place upon the stub by means of a set-screw, *t*, passing through the handle.

When the ornamenting-press is used with the handle, the adjustment and operation of the several parts thereof are as follows: The fountain G is filled with ink. The handle F is firmly attached to the frame by means of the stub Z and set-screws heretofore mentioned. The gage, if it is to be employed, is now set first by moving the flanged end *f* of the strip D out from the side of frame B sufficiently far to enable the bar E to bear against that part of thing to be marked which is used as a guide. The set-screw *e* is then tightened and the strip secured in position. The bar E is then adjusted vertically and set in position by means of the set-screw *g*, so that the bar shall bear against that which is to be employed as a guide. The operator then passes each needle Q through the hole in the stub U, by pressing down the plate Q′. He next places the roller A upon the object to be printed upon or marked, releases his pressure on the plate Q, which immediately, through the elasticity of spring R, rises and withdraws the needles from the holes in the stubs U, and leaves the roller A free to return. He then pushes the roller forward, seeing that the bar E of the gage bears properly against the thing employed as a guide. The ink in the fountain flows onto the roller J, thence onto rollers I and H. The latter inks the printing-roller A, which in turn marks or prints upon the object under the roller the figure embossed or cut upon the periphery of the latter. After a sufficient number of objects have been printed, should it be desired to print figures of other colors into figures already printed, the operator unscrews one of the set-screws *b*, removes the roller A, and substitutes therefor another roller, bearing on its periphery the device to be printed in the new color, and securing the latter roller in position by tightening the set-screws *b*. The stubs U upon this second roller are so placed as that, when the needles are through the holes in them, the figure on that part of the periphery of the roller which is then undermost is the proper one to begin printing the new color into the figure already printed.

The ink-fount is to be changed, and, if necessary, the inking-rollers also are to be changed. This change can be easily and quickly effected, the slots presenting no obstacle to the change. Should that class of object be for marking, which requires no accuracy as to whether one or another part of the periphery of the roller shall first be presented, the registering device may be dispensed with. Where the article to be marked is very irregular the gage may be temporarily unnecessary. It is, however, of great value in enabling the operator to print the figure of the roller in a straight line.

When it becomes, for any reason, desirable to make the press stationary a large flat plate or surface, 2, is provided. Into this are screwed two uprights, O, each of which passes through

a horizontal arm, 3, fixed on the outside of the side B′ of the frame B, and projecting therefrom at right angles to the latter. A set-screw, N, screwing through the end of each arm, bears against the post and fixes the arm 3 at the height desired. The posts are steadied by being let through a plate, P, at their top, which latter rests on shoulders formed on the posts a little below their tops. The plate P is secured from slipping off the posts by nuts screwing onto the top of the posts above the plate. A hole is cut through the plate 2 immediately below the roller A, and the friction-rollers are so suspended below the plate in pillow-blocks W that the upper portion of the periphery of the roller projects above the top of the plate sufficiently to engage and carry along any object placed on the plate 2 and pressed against the roller V. This roller V is either rotated by a crank, Y, attached to its axis or by other power.

The mode in which the press operates when thus adapted is as follows: The object-roller A is set sufficiently near the roller V to enable the two rollers to press gently the article which is to be printed upon. This setting of roller A is accomplished by loosening the set-screws N in the arms 3 and sliding the frame and roller A to the desired point. The set-screws N, being tightened, will hold the roller A in place. Of course the handle F is dispensed with. The object to be marked is passed between rollers A and V. The latter roller is then rotated and carries the object along under the roller A, the latter meanwhile printing the desired figure on the upper surface of the object. The registering device is here to be employed for the same purpose, and in the same way as when the press is propelled by hand.

The gage may be employed to steady and guide the article to be printed upon as it passes to and between the rollers.

The precise construction of the inking device herein shown as to number of rollers, &c., is not deemed material to the present invention. If preferred, one of the needles of the registering device may be dispensed with, one needle being capable of holding the roller A at the desired point at which to begin marking.

The roller A, when propelled by hand, may be employed without the devices for inking it, and it may be inked by rolling it on an inked surface. In such event, however, either the registering device or the gage are still of value in connection with the roller.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a hand ornamenting-press, the combination of roller A, with device for inking it, arranged substantially as described, roller V, plate 2, and registering apparatus Q, for the purposes set forth.

2. In a hand ornamenting-press, the combination of roller A, with device for inking it, arranged substantially as described, roller V, plate 2, and adjustable uprights O, as and for the purposes set forth.

3. In a hand ornamenting-press, the combination of roller A, with device for inking it, arranged substantially as described, roller V, plate 2, registering apparatus Q, and uprights O, for the purposes specified.

FRANK TUCHFARBER.

Attest:
WM. R. FEE,
D. P. KENNEDY.