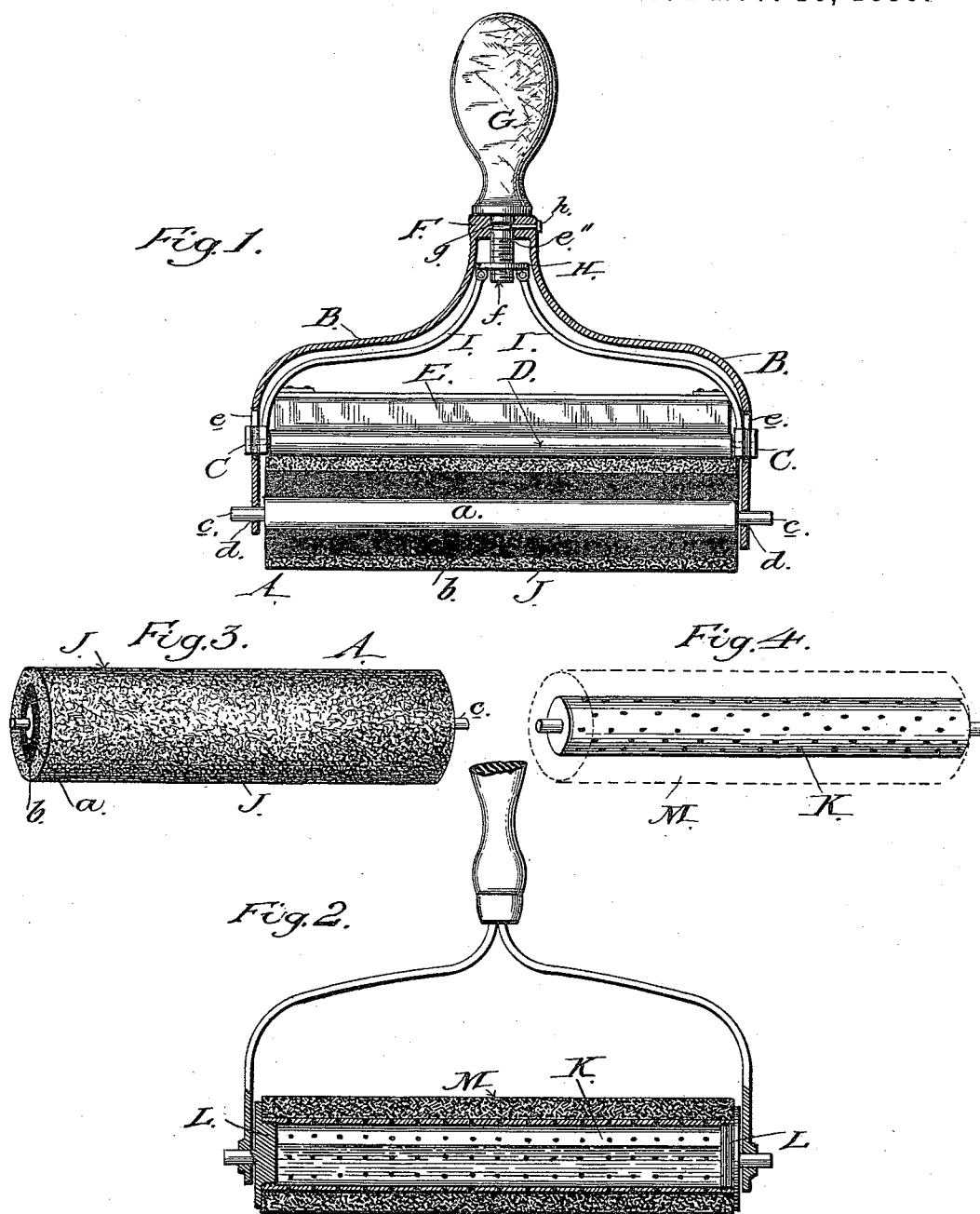


(No Model.)

W. G. FUERTH.
INKING APPLIANCE.

No. 440,824.

Patented Nov. 18, 1890.



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UNITED STATES PATENT OFFICE.

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INKING APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 440,824, dated November 18, 1890.

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To all whom it may concern:

Be it known that I, WILLIAM G. FUERTH, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Inking Appliances, of which the following is a full and clear description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional view of an inking roller or appliance embodying my invention. Fig. 2 is a similar view of a roller of modified form. Figs. 3 and 4 show views of the rollers detached.

My invention relates to appliances used in connection with the stencil-sheets from the mimeograph, cyclostyle, and other similar devices, for manifolding or reduplicating type-written or other matter, as well as for the duplicating of drawings, sheet-music, autographic writings, &c.; and my invention consists of an inking roller or appliance having an automatic feed whereby a regular flow of ink is assured at all times to secure clear and uniform copies, as I shall hereinafter fully describe and claim.

To enable others skilled in the art to which my invention relates to make and use the same, I will now describe its construction and indicate the manner in which the same is carried out.

In the accompanying drawings, A represents a roller consisting, preferably, of a core *a*, around which is molded a gelatinous substance—say roller composition—herein indicated by *b*, having a thick exterior tubular covering of absorbent fibrous material, to be hereinafter described. The pintles or journals *c* of the roller are adapted to be seated in bearings *d* in the lower ends of the spring-arms B of the handle portions, and the said arms are slotted at *e* to receive the sliding boxes C, which are grooved so that they may have a sliding movement in the arms, for a purpose I will hereinafter explain.

The boxes C are adapted to receive the journals of a feed-roller D, which rests upon the upper surface of the roller A, and is so mounted that its upper portion turns within the discharge end of an ink fountain or reservoir E,

supported between rods I in any suitable manner, whereby when the device is pushed across the stencil-sheet the movement of the roller A is imparted to the feed-roller which rests upon it and causes the latter roller to transfer a portion of the ink from the fountain or reservoir to the fibrous outer service of the roller A in such quantities and with such even distribution that the fibrous covering of said roller is thoroughly impregnated with the ink, so that when the roller A is passed over the stencil all parts of the latter are uniformly supplied with the ink and clear and uniform copies of the original writing or drawing are always insured.

The spring-arms B, which hold the roller between them, are secured at their outer ends to a sleeve or collar F, having a central aperture *e'*, through which is passed the threaded spindle *f* of the handle G, said spindle having an annular groove *g*, which is engaged by the inner end of a pin *h*, passed transversely through one side of the sleeve or collar F, whereby said handle is prevented from being pulled out of the sleeve or collar, but is allowed a free rotary movement. The spindle *f* has fitted to it an internally-threaded collar H, to which the upper ends of rods I are secured, these rods being extended downward, preferably alongside of the spring-arms B, and having their lower ends secured to the boxes in which the ends or journals of the ink-feeding roller are mounted. From this description it will be seen that when the device is in use the desired pressure is given the feed-roller by turning the handle G, which movement, by reason of the threaded spindle, causes the collar H to move up or down the spindle, thereby drawing up or pressing down the rods which hold the boxes in which the journals of the feed-roller turn, and causing the feed-roller to increase or decrease its pressure upon the roller A.

The roller A (shown in Fig. 1) is formed by first making the core and molding the seamless outer covering to form a tube J of fibrous material. This seamless tube is of considerable thickness and is placed around the core, and the two pieces placed in a mold, after which an elastic composition—such, for instance, as what is usually termed “roller

composition" or other elastic compound—is poured into the space between the core and fibrous tube and allowed to set, after which the roller is removed and mounted, as previously described, ready for use.

In many instances I may find it desirable to use ink of a stiff concentrated nature, and when such substance is used I may employ the form of roller shown in Fig. 1; but I often prefer to use a fluid ink; and when this is done the construction of the roller is necessarily modified. Such a roller as last mentioned is shown in Fig. 2, and consists of a hollow perforated tube K of metal, whose inner chamber forms the ink fountain or reservoir. This metal tube has metal screw-caps L at its ends, one or both of which may be removed to cleanse the tube or to introduce a fresh supply of ink. Around this perforated tube I place a seamless fibrous tube M, similar to that shown in Fig. 1. When such a roller as is shown in Fig. 2 is used, I do not need the pressure-feed roller in Fig. 1, nor the means for adjusting the same, as the ink contained within the metal tube will percolate through the perforations in the walls of the tube, and meeting the fibrous outer tube will be diffused throughout the latter by reason of its capillary attraction, and will become so uniformly distributed that when the roller is passed over the stencil-sheet only the desired amount of ink for a perfect copy will be transmitted from the roller to the sheet.

All chances of "gumming" or of a surplus of ink being transferred to the stencil-sheet is avoided and an automatic delivery or feed of ink from the internal chamber to the fibrous outer tube or covering is always assured.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hand-roller for reproducing copies from stencil-sheets, a roller of yielding composition, and a molded tube of thick absorbent material fitted over the composite roller and adapted to receive and retain ink and transmit the same to the stencil-sheet, substantially as herein described.

2. A hand-roller for reproducing processes, consisting of a roller having an exterior surface of thick absorbent material, a handle

portion by which the roller is caused to pass over the stencil, and a fountain and feed-roll connected with the handle portion and adjustable toward and from the inking-roller, substantially as herein described.

3. A hand-roller for reproducing processes, consisting of a handle portion adapted to have an axial movement, an inking-roller having an exterior covering of thick fibrous material, a frame in which said roller is mounted, and a fountain and feed-roll connected with the handle portion and adjusted toward and from the inking-roller when the handle is rotated, substantially as herein described.

4. A hand-roller for reproducing processes, consisting of a frame within which a fibrous-covered inking-roller is mounted, a feed-roll and fountain above the inking-roller, curved arms between which the same are mounted, having a threaded socket at the union of their upper ends, and an axially-moving handle having a threaded spindle engaging said socket, whereby the fountain and feed-roll are adjusted toward and from the inking-roller, substantially as herein described.

5. The combination, with an inking-roller, the spring-arms in which the same is mounted, sliding boxes within said arms, a feed-roller mounted in the sliding boxes, a rotary handle having a threaded spindle, a collar adapted to move up and down said spindle, a connection from said collar to the sliding boxes, and an ink reservoir or fountain, substantially as herein described.

6. An improved inking-roller consisting of a roller of elastic material having a tube of fibrous material fitted over it, spring-arms in which said roller is mounted, having a sleeve at the top provided with a central aperture, a handle mounted in said sleeve having a threaded spindle provided with an annular groove adapted to receive a retaining-pin, a collar on said spindle adapted to move up and down the same when the handle is turned, a feed-roller mounted in sliding boxes, a connection between said collar and boxes, and an ink fountain or reservoir, substantially as herein described.

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Witnesses:

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