No. 745,668. PATENTED DEC. 1, 1903.

G. L. RICHARDSON & H. S. WILCOX.

INK FOUNTAIN.

APPLICATION FILED JULY 15, 1903.

NO MODEL.

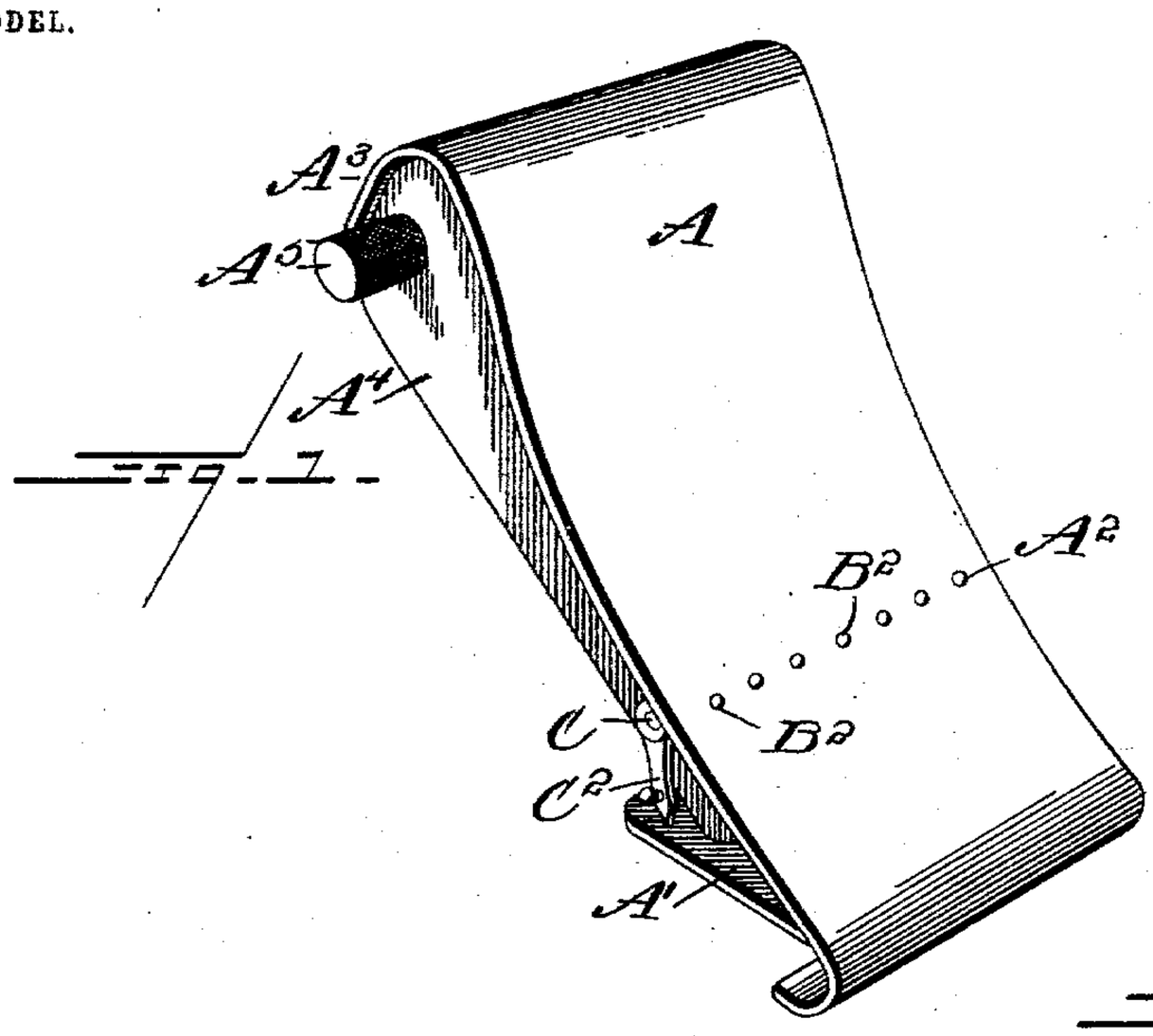

Fig. 1.

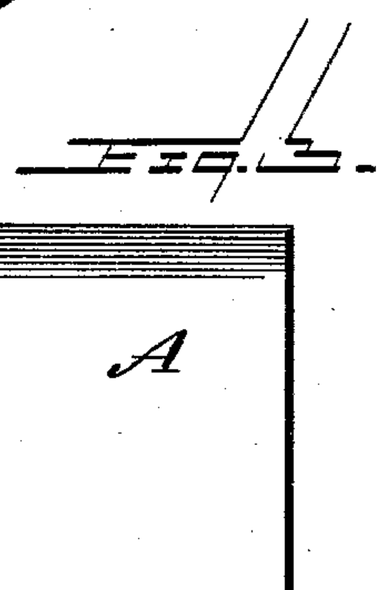

Fig. 3.

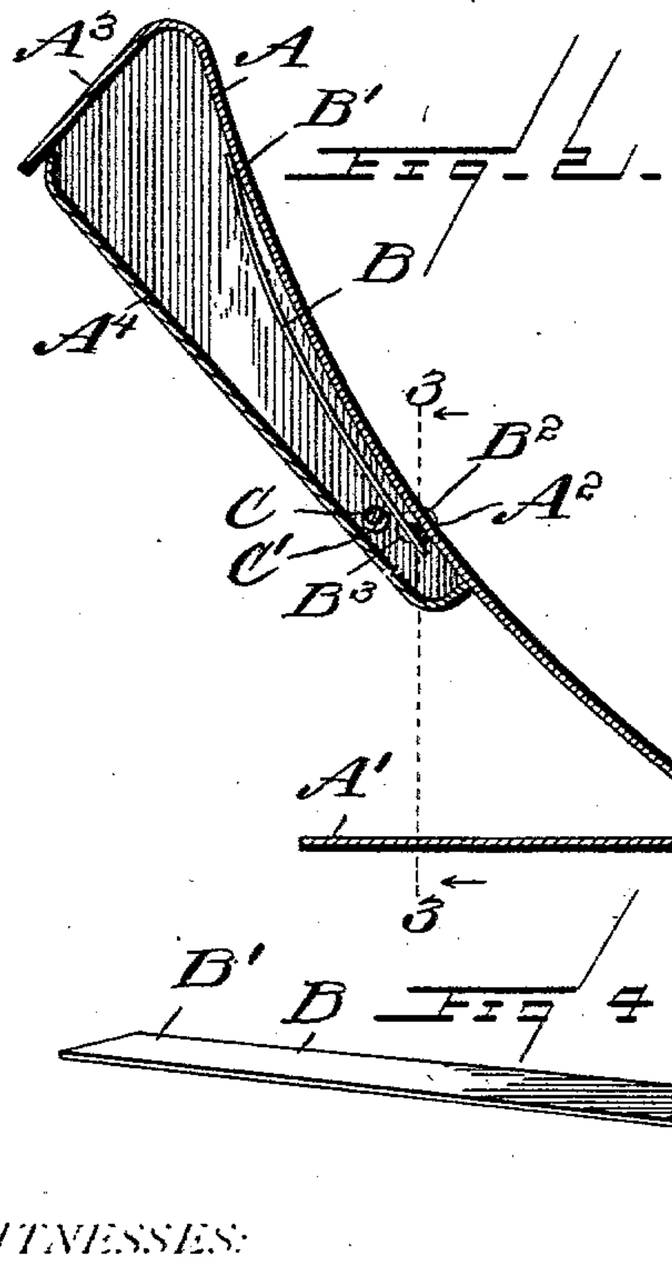

Fig. 2.

Fig. 4.

Fig. 5.

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No. 745,668. Patented December 1, 1903.

UNITED STATES PATENT OFFICE.

GEORGE L. RICHARDSON AND HENRY S. WILCOX, OF CHICAGO, ILLINOIS, ASSIGNORS TO TROY LAUNDRY MACHINERY CO., LIMITED, OF TROY, NEW YORK, A CORPORATION OF NEW YORK.

INK-FOUNTAIN.

SPECIFICATION forming part of Letters Patent No. 745,668, dated December 1, 1903.

Application filed July 15, 1903. Serial No. 165,675. (No model.)

To all whom it may concern:

Be it known that we, GEORGE L. RICHARDSON and HENRY S. WILCOX, citizens of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Ink-Fountains, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an ink-fountain, and particularly to means for feeding ink from a reservoir to a plate over which an inking-roller passes.

The invention has for an object to provide an apertured inking-plate with a communicating reservoir, said apertures being provided with valves adapted to be opened in the passage of the roller or other device over the inking-plate, whereby an accurately-controlled feed of ink to the roller is secured.

A further object of the invention is to provide means for limiting the opening movement of these valves to further control the extent of feed of the ink to the inking-plate.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings, Figure 1 is a perspective of the invention. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective of one of the valves, and Fig. 5 is a similar view of the eccentrically-mounted controlling-rod for the valves.

Like letters of reference refer to like parts in the several figures of the drawings.

The letter A designates an inking-plate, which may be disposed in any desired position, but is here shown as segmentally extending at substantially a right angle to the base-plate A′ thereof, by which it may be secured in position. This plate is provided at any desired point with a series of apertures A^2, and the upper end A^3 thereof is overturned to form an end wall of the inking-reservoir A^4, which is applied to the under surface of the plate. This reservoir is also provided with the usual filling-opening closed by a cap A^5. The apertures A^2 in the inking-plate A may be normally closed by any desired construction of valve, one form of which is herein shown and comprises a series of independent springs B, secured at their upper ends B′ to the under face of the inking-plate and provided at their free ends with ball-valves B^2, adapted to seat in the apertures A^2 and extend partially therethrough, so as to be depressed and open the aperture in the contact therewith of an inking-roller passing over the surface of the plate A. These balls are secured to the springs in any preferred manner — for instance, by means of the depressed sockets B^3, within which they may be soldered or otherwise secured. In order that the extent of the movement of these valves may be controlled to determine the degree of feed proper to any particular condition of the ink used or the amount desired, the controlling-rod C is disposed beneath the springs and provided at opposite ends with eccentric bearing portions C′, mounted in the side walls of the ink-reservoir, so that when rotated the body C of the rod will contact with the springs, and thereby limit the depressed movement thereof or hold them against any such movement when it is desired to stop the feed. The relative position of this rod may be determined by means of the indicator-arm C^2, secured to one end thereof beyond the reservoir.

In the operation of the invention it will be seen that the inking-roller in passing over the plate depresses the valves, thus permitting the ink to flow from the lower portion of the reservoir, where the valves are disposed, onto the plate over which it is distributed in the movement of the inking-roller, and the feed of ink is thus automatically shut off and controlled by the passage of the inking-roller over the plate. This is particularly important in the use of fluid inks such as are frequently used in connection with marking-machines, although the invention is adapted for use with other characters of inks and in different classes of machines wherein the printing or marking operation is performed. It will also be observed that by the use of

the independent valves for each aperture in the plate a feed is only secured through those valves which are depressed by contact with the inking-roller, so that if a short or small roller be used only sufficient ink for use therewith will be fed upon the plate and the other apertures will remain closed. The use of the controlling-rod also permits all of the valves to be held in a secured position, or the extent of travel thereof is limited relative to the fluid character and the consequent gravity-feed of the ink. In the form of the invention illustrated the feed of the ink is by gravity; but it will be obvious that this may also be accomplished by pressure when the position of the plate is such that a gravity-feed cannot be conveniently secured.

It will be obvious that changes may be made in the details of construction and configuration of the invention without departing from the spirit of the same as defined by the appended claims.

Having described our invention and set forth its merits, what we claim, and desire to secure by Letters Patent, is—

1. In an inking-fountain, an apertured inking-plate, a reservoir communicating therewith, and a valve disposed in the aperture in said plate and adapted to be depressed by the passage of a body over said plate.

2. In an inking-fountain, an apertured inking-plate, a reservoir communicating therewith, a valve disposed in the aperture in said plate and adapted to be depressed by the passage of a body over said plate, and means for adjustably limiting the opening movement of said valve.

3. In an inking-fountain, a plate provided with a series of transverse apertures therein, a reservoir carried by the plate and communicating with said apertures, and a series of independent valves disposed in said apertures and partially projecting therethrough.

4. In an inking-fountain, a plate provided with a series of transverse apertures therein, a reservoir carried by the plate and communicating with said apertures, a series of independent valves disposed in said apertures and partially projecting therethrough, and independent springs for normally retaining said valves in a closed position.

5. In an inking-fountain, a plate provided with a series of transverse apertures therein, a reservoir carried by the plate and communicating with said apertures, a series of independent valves disposed in said apertures and partially projecting therethrough, independent springs for normally retaining said valves in a closed position, and an adjustable controlling-rod eccentrically mounted to contact with said springs.

6. In an inking-fountain, a plate provided with a series of transverse apertures therein, a reservoir carried by the plate and communicating with said apertures, a series of independent valves disposed in said apertures and partially projecting therethrough, independent springs for normally retaining said valves in a closed position, an adjustable controlling-rod eccentrically mounted to contact with said springs, and an indicating-arm carried by said controlling-rod at one end thereof.

7. In an inking-fountain, a segmental plate provided with a transverse series of apertures, a reservoir secured to the under side of said plate and communicating at its lower portion with said apertures, leaf-springs secured to the under face of said plate and provided with ball-valves extending partially through said apertures, and a base-plate disposed at substantially a right angle to the segmental plate.

8. In an inking-fountain, a segmental plate provided with a transverse series of apertures, a reservoir secured to the under side of said plate and communicating at its lower portion with said apertures, leaf-springs secured to the under face of said plate and provided with ball-valves extending partially through said apertures, a base-plate disposed at substantially a right angle to the segmental plate, a controlling-rod eccentrically mounted in the side walls of said reservoir beneath the free ends of said springs, and an indicating-arm upon one end of said rod.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE L. RICHARDSON.
HENRY S. WILCOX.

Witnesses:
GEORGE C. ROBERTS,
J. WEBB GRIFFEN.