

R. S. WEAVER.

Inking Apparatus for Color Printing.

No. 8,475.

Patented Oct. 28, 1851.

Fig: 1.

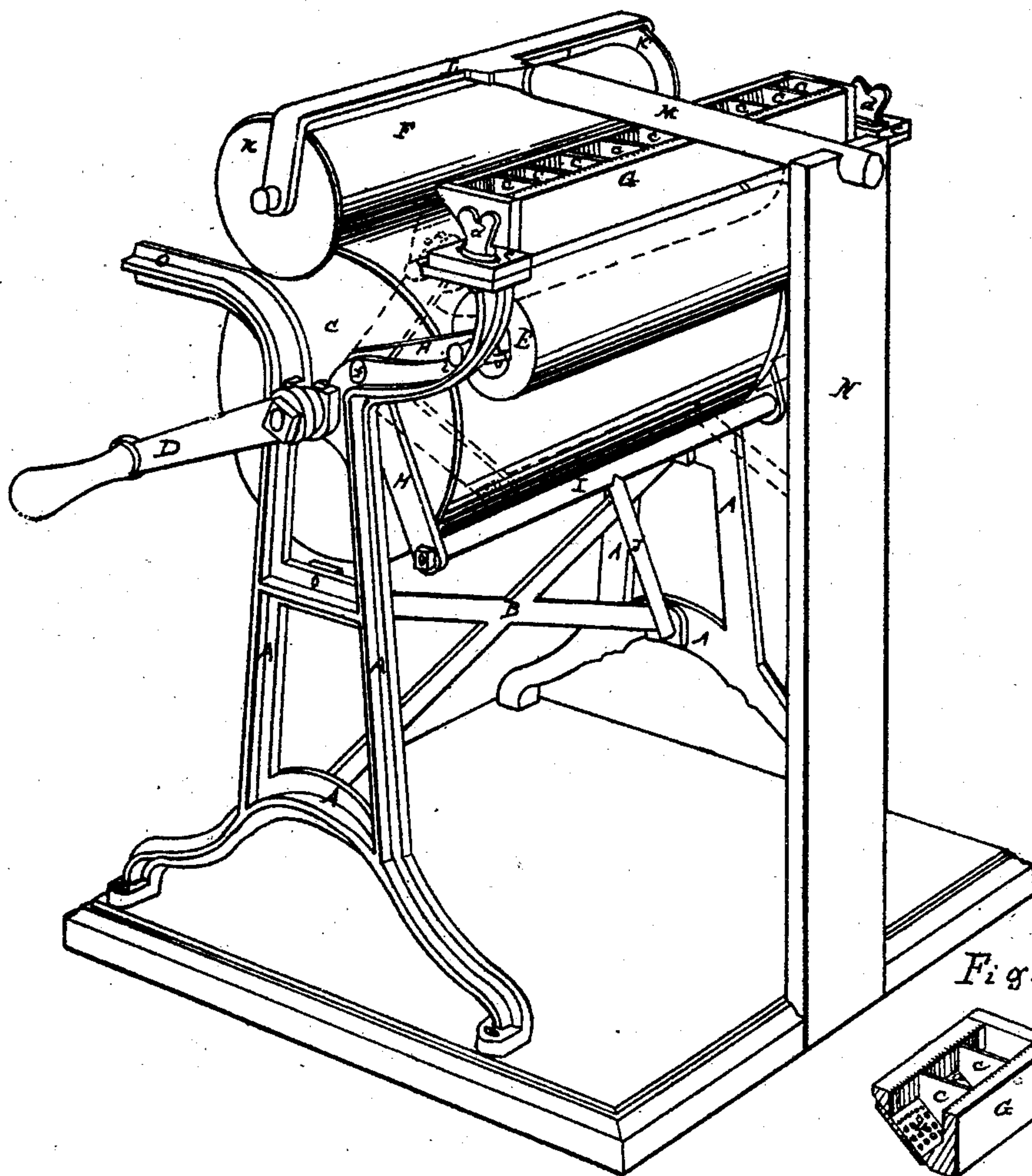
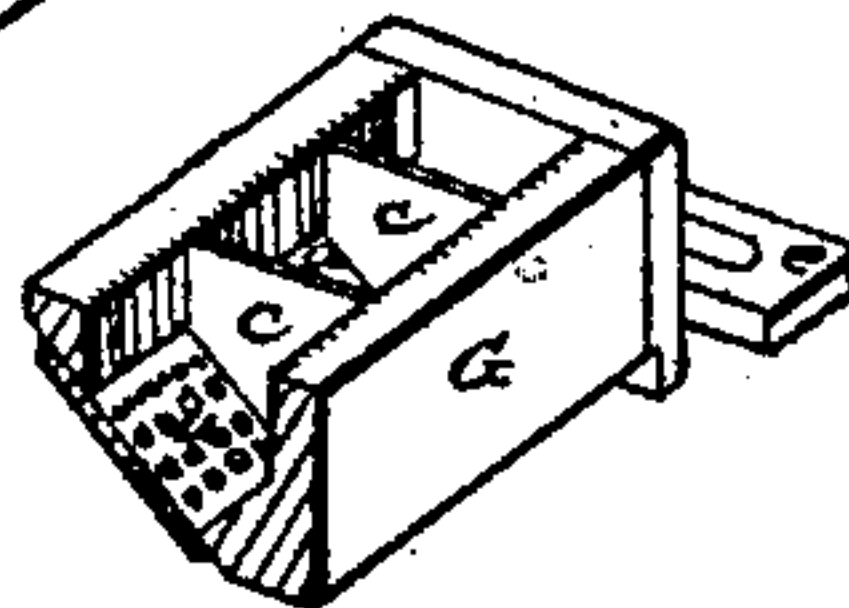


Fig: 2.



UNITED STATES PATENT OFFICE.

RICHD. S. WEAVER, OF MAYSVILLE, KENTUCKY.

MACHINE FOR PRINTING IN COLORS.

Specification of Letters Patent No. 8,475, dated October 28, 1851.

To all whom it may concern:

Be it known that I, RICHARD S. WEAVER, of Maysville, in the county of Mason and State of Kentucky, have invented certain
5 new and useful Improvements in the Inking Apparatus of Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure, 1, represents a perspective view of the entire apparatus; and Fig. 2, a portion of the ink trough.

Similar letters in both the figures represent the same parts.

In the use of different colored ink, for printing bills, cards, &c., great inconvenience has existed, and much time consumed, for the want of some expeditious manner of
20 inking the form. This heretofore, has been done by hand, or by a series of rollers, each one of which has to be separately furnished with its peculiarly colored ink, thus making the process tedious, and consequently expensive.

The nature of my invention consists, in the construction of an adjustable ink trough, which can be divided into any number of cells for containing the ink, and perforated
30 in such manner, as to allow the ink to flow onto the receiving roller, in just such regulated quantities, as will cover the particular line of type in the form, for which any given color may be selected. Also, in using for a
35 distributing roller, a metallic cylinder, which receives the ink from the receiving roller in lines or belts, and transmits it to the inking roller, in precisely similar lines or belts, and from which inking roller, the
40 form is supplied with ink, laid on as it is received from the cylinder.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

On the top cross pieces of an iron stand or frame A, strengthened by the cross braces B, is arranged a zinc, brass or other metallic cylinder C, being supported in its journals
50 in suitable open boxes on said cross pieces, so as to be easily removed for being cleansed; and to one of which journals, outside of the frame is attached the crank D, which may be turned by hand or otherwise,
55 for placing the ink properly on the cylinder C, and which cylinder also, by means of fric-

tion gives a rotary motion to the receiving roller E, and inking roller F, by which said cylinder receives the ink from the roller E, and imparts it to the inking roller F. The
60 cylinder C, is made of metal for two purposes viz: to prevent the lines or belts of different colored ink, which it receives, from running or blending with each other, and preventing the absorption of the oily matter
65 in the ink, which any porous material would do; also, the facility with which it can be cleansed when required, for a different combination of colors. The cylinder might be covered with other mineral substances either
70 vitrified or otherwise, but I mention the metals, as being the most common and yet the cheapest.

The receiving roller E, and inking roller F, may be made in the usual manner of making similar rollers, and may be covered with
75 a composition of glue and molasses, or other well known elastic materials, which are non-absorbents, so that each may perform its necessary function, viz: the roller E, by its
80 elasticity to fit closely against the perforated side *a*, (Fig. 2) of the trough G, on the outside thereof, so as to check the flow of ink through the perforations in said
85 trough, merely receiving such quantity of ink in the small recesses or holes which form in the surface of said roller, or which may be formed therein, and when required, transmitting said ink to the cylinder C, upon
90 which it is received in lines or belts, the cylinder C, in turn transmitting it to the inking roller F, in precisely the same form. The inking roller is covered with the elastic material for the purpose of more thoroughly
95 inking the form, while it at the same time, protects the type from being bruised or battered.

By placing the ink trough over the form, and adjusting the partitions therein, so as to correspond to the lines of type in the form,
100 and then replacing said trough on the stand prepared for it, and filling the cells therein, with such colored ink as may be desirable, the same facility for inking a form with various colors is obtained, as could be when
105 one color alone is used.

On suitable bearings cast on top of the stand or frame, on the rear thereof, is placed the ink trough G, which may be made of
110 wood, metal, or parts of each, said trough having its sides grooved perpendicularly, for the purpose of receiving the partitions *c*,

which fit closely therein, and which may be, if found necessary, further secured in place by a bar running across the tops thereof from end to end of the trough, and held in any well known manner. The side of the trough next the receiving roller E, is inclined or sloping underneath, for the purpose of allowing said roller to move up to and against said inclined side (as shown by red lines in Fig. 1,) for the purpose of receiving its supply of ink through the small perforations in said inclined side (as represented at *a*, Fig. 2.) The trough G, is secured to, and made adjustable on its bearings by the set screws *d*, which pass through slotted holes in the lugs *e*, which are arranged on the bottom of said trough, so that the pressure of the receiving roller E, against the perforated side of the ink trough G, may be adjustable at pleasure, but should, at all times, be sufficient to hold it there by the friction, so as to prevent the ink from passing through said perforations. If it is desired to have for the roller E, a greater surface on the perforated plate *a* to rest upon and receive ink from, than it would have by making said plate straight, it may be made concave, so as to reach farther around on the roller.

The receiving roller E, is hung by its journals upon one set of the arms of V-shaped pieces H, at each of its ends, which have their bearings in the frame, as seen at *f*; the axis of the roller E, is eccentric with regard to the axis of the cylinder C, so that when said roller E, is in the position as shown by the dark lines, it will be in contact with the cylinder C, so as to be rotated by it, and impart to it the ink which it has received from the trough while resting against it, in the position as shown by the red lines, and in which said position it does not touch the cylinder C. To the other set of arms of said V-shaped pieces, is secured a rod I, which connects them together, and in the center of which rod is placed a lever J, projecting rearward, which raises or lowers said arms, and the roller E in them, up to receive, or down to impart, ink to the cylinder as may be required. The journals of the roller E, extend through, and a short distance outside of the arms of the V-shaped pieces, so that when said roller is giving off

ink to the cylinder, as represented by the dark lines, the points of said journals, will rest against, and rotate in, rounded recesses in the frame (as seen at *i*), which prevents it from being forced away from the cylinder C, as it would otherwise be, if merely supported by the V-shaped piece alone.

The inking roller F, is provided with flanges K, at its ends, which fit outside of the cylinder C, and its journals rest and rotate in the bar L, which extends lengthwise across the top of said roller, having its ends bent down to receive said journals, and in the center of said bar is a lever or arm M, which extends back to, and rests in a slot in an upright support N, rising from the base of the frame. The sides of the lever or arm M, at its end are notched out, so that when it rests in said support N, it will be held firmly in position, to be rotated by the cylinder C, upon which it rests, when in this position, and from which it receives the ink in lines or belts to be transferred to the form as before described. The arms O, of the frame, on their inner sides are provided with ways, slightly grooved out, upon which ways and in said grooves, the flanges K, of the roller F, run, and is guided, while passing to and over the form for the purpose of inking it. When sufficient ink is on the roller F, the lever M is raised out of the support N, and the roller is run forward, being guided by the ways above mentioned, and inks the form with the various colors as arranged in the cells of the ink trough, thus inking the whole form with the different colors of ink, by one and the same roller, and at one and the same operation.

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

In combination with receiving, distributing and inking rollers arranged as herein described, the adjustable ink trough, provided with removable partitions, and perforated side, so as to give out the ink in lines or belts, corresponding with the lines or size of the type in the form, for the purpose herein described.

R. S. WEAVER.

Witnesses:

SAMUEL PIKE,
THOS. K. RICKETTS.