A. Boyd.

Ink Feeder for Print'g Calico.

No. 4010. Patented Apl. 22. 1845

Fig: 1.

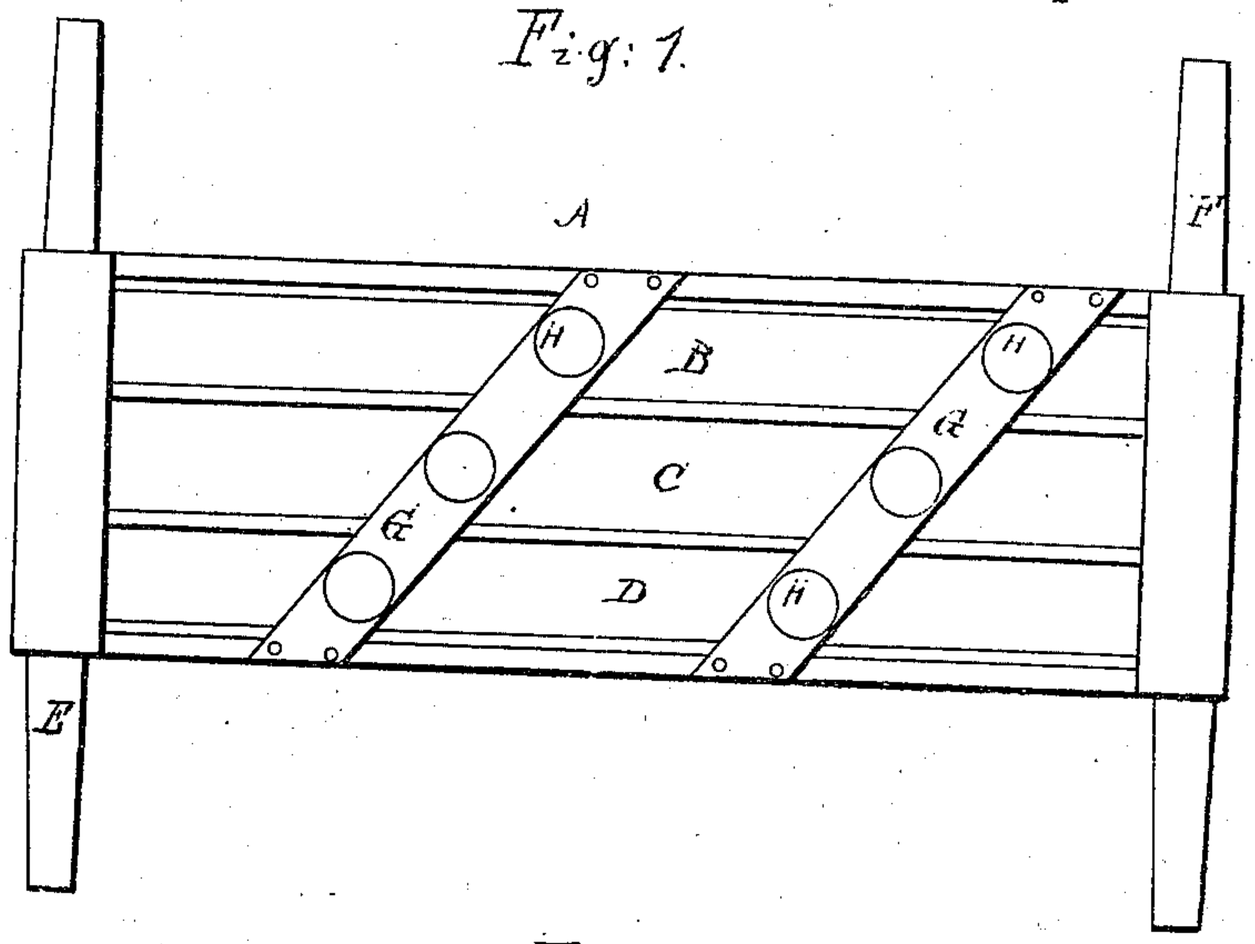


Fig: 2.

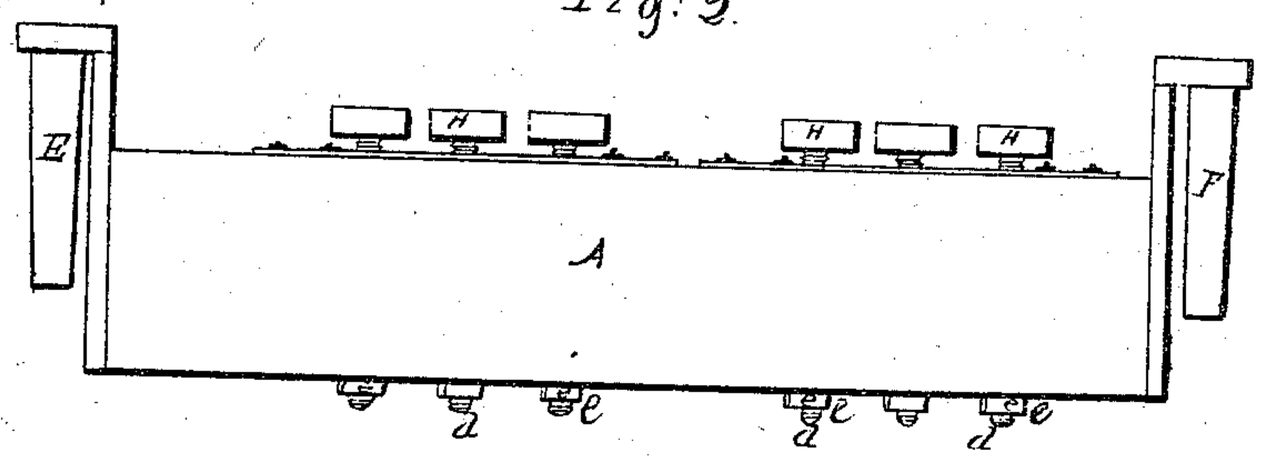
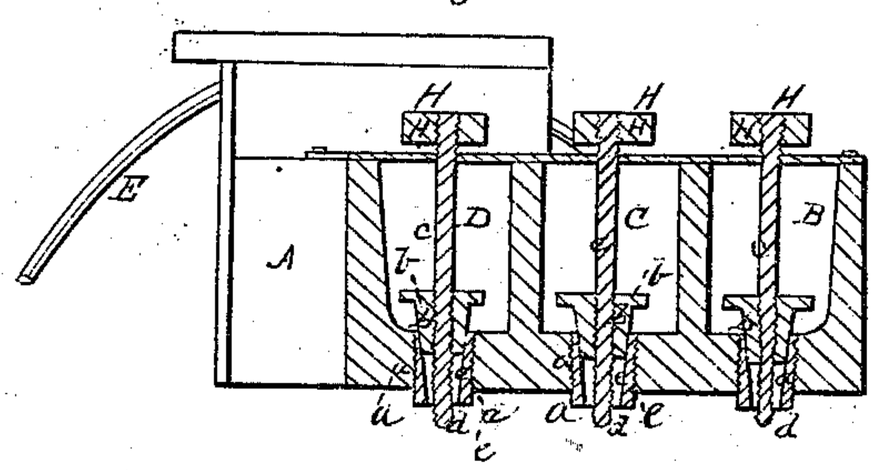


Fig: 3.



UNITED STATES PATENT OFFICE.

ALEXANDER BOYD, OF NORTH PROVIDENCE, RHODE ISLAND.

SELF-ACTING FEEDER FOR CALICO AND OTHER PRINTING.

Specification of Letters Patent No. 4,010, dated April 22, 1845.

To all whom it may concern:

Be it known that I, ALEXANDER BOYD, of North Providence, in the State of Rhode Island, have invented what may be termed a "Self-Acting Feeder" for Rainbow or Calico or Mousseline Delaine Printing, of the construction and operation of which the following description and accompanying drawings constitute a full and exact specification.

Figure 1 of the aforementioned drawings, represents a top view of my new feeder. Fig. 2, is a side elevation, and Fig. 3 is a transverse vertical and oblique section, taken centrally through one series of the weighted valves, to be hereinafter described.

The peculiar object of my self acting feeder, which is to be used in block printing of calicos, mousseline delaines and various other fabrics, is to supply the sieve cloth from which the blocks receive their color or colors, with the requisite quantity of printing material, whether the same be of one or several different colors, or of several shades of one color, and my mechanism is intended to supersede that which is generally employed, and which requires great nicety in its construction and use and is very liable to accidental admixture of the several colors—and consequent loss of the same to the printer.

The nature of my invention is as follows: It consists of a rectangular or other proper shaped box A, divided into a series of troughs or apartments B, C, D, Figs. 1, 3, of such number and dimensions as circumstances may require. The said troughs are arranged, parallel or otherwise to each other. The ends of the box A, have bow or other proper springs E, F, applied to them, as seen in the drawings, for the purpose of supporting the box upon the rail pieces, or projections from the top of the color sieve, to which the color is to be applied—the object of the springs, being to elevate the bottom of the box A, above the sieve, after each depression of it upon the sieve, in order to raise the valve to let out the color or colors upon the sieve—as will be hereinafter described. Each of the troughs or apartments (B, C, D,) has one or more orifices or openings (*a*) formed through its bottom, and a conical or other proper shaped valve (*b*), to close the said orifice. The said valve is screwed upon a vertical rod or stem (*c*), which has a screw (*d*) cut upon it from its lower end upward, about half its length, as seen in the drawings. Each stem of each valve, is supported by, and so as to move freely, through a cross bar (G) extending horizontally over and upon the tops of the troughs, or in the drawings, and (each stem) has a weight (H,) placed on its top, for the purpose of depressing the valve upon its seat, whenever the box is raised above or away from the sieve.

The apartments being charged with colors or with different shades of one color—the valves are to be regulated at such heights on their respective stems, as to permit the lower ends of the stems to project, through or beyond the bottoms of the troughs—so that when the box A, is pressed down upon the sieve, the lower ends of the valve stems will meet the surface of the cloth of the sieve, and the further depression of the box to its lowest position, will so raise the valves from their seats, as to permit the color or colors to flow out of the orifices of the valves, and upon the cloth. The quantity of color which we desire to have flow out of each orifice, may be adjusted or regulated, by turning the valve around upon the screw of its stem, until the height to which it ascends above the seat, opens a passage between the trough and valve opening, just sufficient to permit the necessary amount of color to pass through the bottom of the trough. The discharging orifice, *a*, of each valve may be formed by means of a tube (*e*) inserted in the bottom of the trough and extending beneath and upon the same as seen in Fig. 2. The seat of the valve, is formed in, or on the upper part of the tube and all the tubes of the different troughs may extend a like distance below the bottom of the box A, and so as to come in contact with the cloth of the sieve, when the box is depressed toward it. The position of the valves and orifices of discharge, are to be regulated according to the pattern to be printed—as will be well understood by calico printers.

Having thus described my invention, I shall claim—

A feeder constructed (substantially as described,) of one or more troughs or apartments, and with discharging orifices and adjustable valves adapted to them—the whole being for the purpose as hereinbefore set forth.

In testimony whereof, I have hereto set my signature, this first day of January A. D. 1845.

ALEXANDER BOYD.

Witnesses:

G. M. RICHMOND,

HENRY MARTIN.