

C. Williams. Sheet 1. of 2 Sheets.
Coloring Paper.
Nº 21,584. Patented, Sept. 21, 1858.

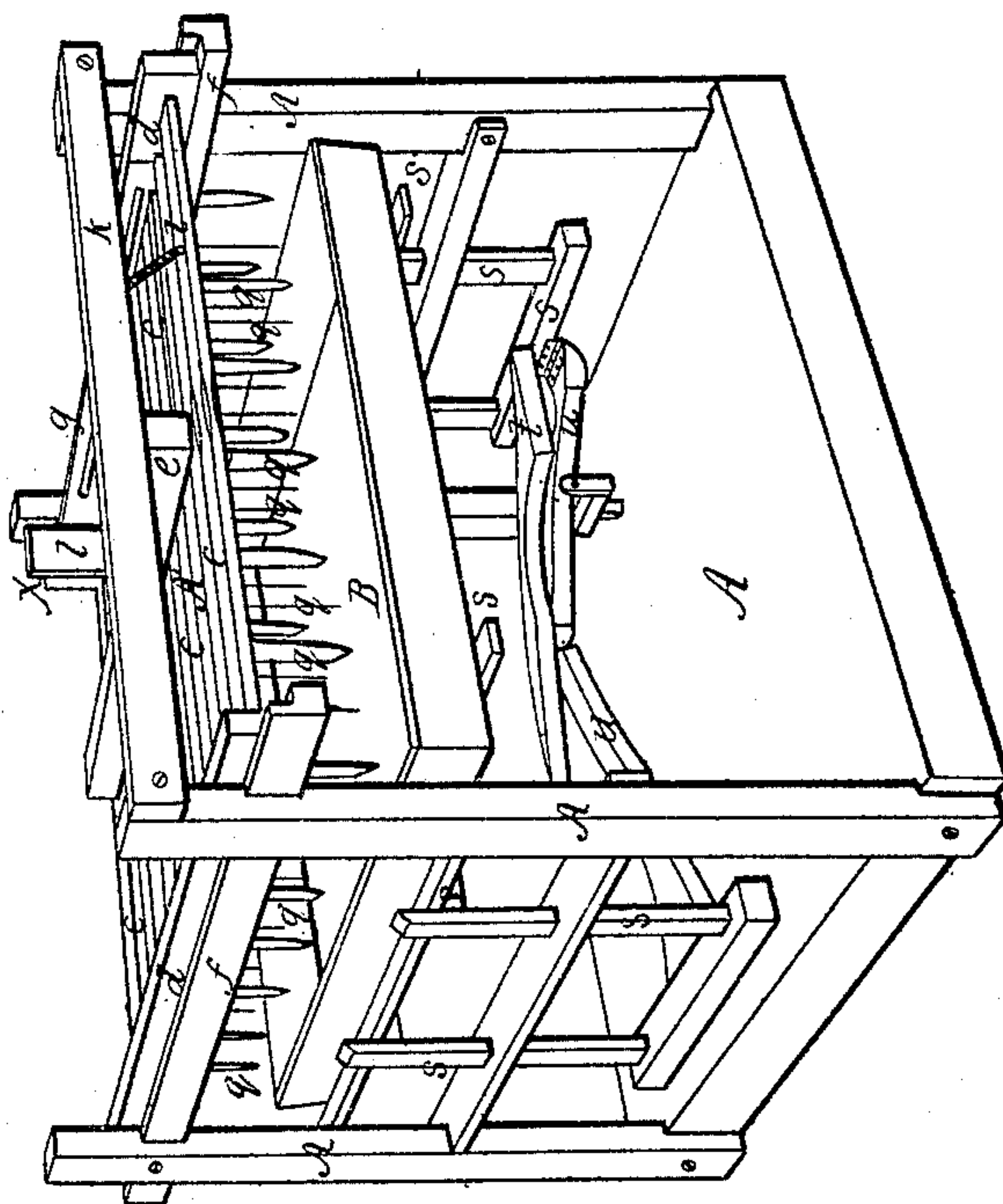


Fig. 1.

Witnesses:

Benj. Menden
C. B. Bunker

Inventor

Charles F. Williams

C. Williams. Sheet 2. 2 Sheets.
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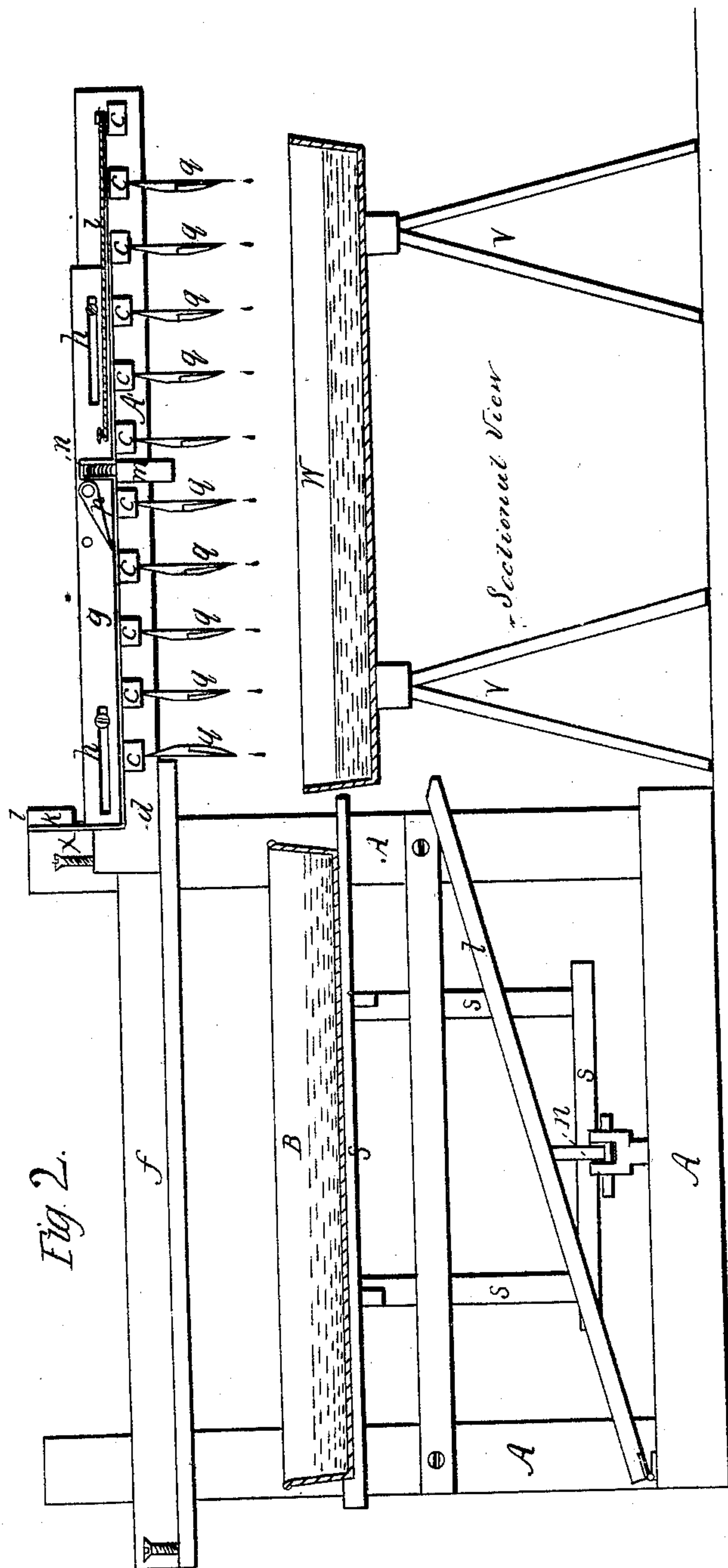
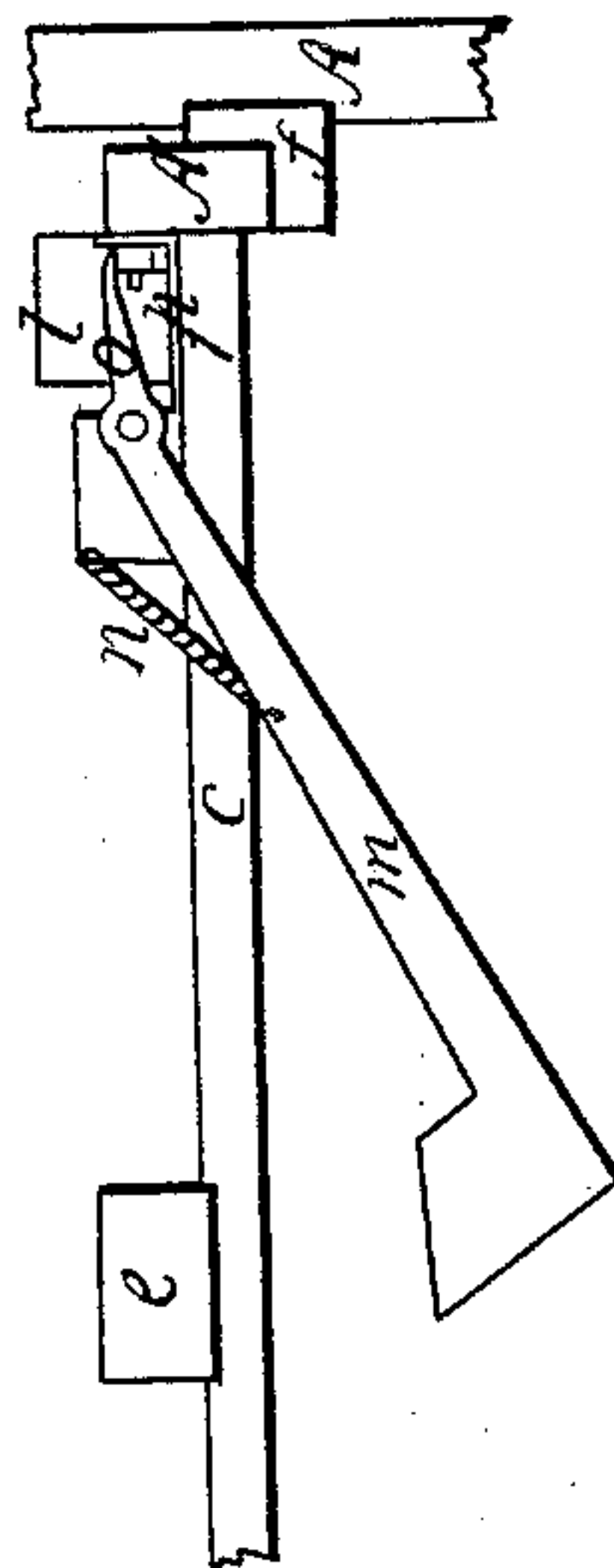


Fig 2.

Fig. 3.



Witnesses:

Boyd Munson
C. B. Bunker

Inventor:

Charles Williams

UNITED STATES PATENT OFFICE.

CHARLES WILLIAMS, OF PHILADELPHIA, PENNSYLVANIA.

APPARATUS FOR COLORING PAPER, &c.

Specification of Letters Patent No. 21,584, dated September 21, 1858.

To all whom it may concern:

Be it known that I, CHARLES WILLIAMS, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and Improved Mode of Distributing or Laying the Color in the Process of Marbling or Coloring Paper; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

In distributing or laying the color upon the surface of the gum-water in the "trough," or upon the sheet, in the manufacture of "marbled paper," it has heretofore been the practice to take a brush, dip it into the fluid color, and by a peculiar mode of handling, to sprinkle the color upon the surface of the gum-water, or directly upon the paper; it is manifest therefore that a perfect uniformity of size and regularity in the arrangement of the spots or figures for one sheet of paper cannot be thus produced; nor can a regular uniformity of the design be produced in the several sheets, even by the most skilful artist.

To effect these desirable results is the object of my invention.

It consists in providing an apparatus to be used in connection with either the usual "trough," or with a support for the paper, whereby the color is taken up, and discharged or distributed automatically, upon the surface of the said gum-water, or paper, in such a manner as to produce a perfect uniformity in the design on the several sheets whether the said spots or figures of the design be either of regular or irregular size and arrangement.

To enable others skilled in the art to make and use my invention, I will proceed to describe the construction of the apparatus, and the mode of operation.

Figure 1, is a perspective view of the apparatus; Fig. 2, a vertical section of the same, showing the sliding frame drawn out as when the color is discharged therefrom over the gum-water trough, or paper; and Fig. 3, a sectional side view of the discharging device—like letters in the several figures indicating the same subjects.

A, is the frame which supports the slide, A', and the color pan, B. The slide consists of a series of narrow strips, *c—c*, secured parallel with each other, at short distances apart, to two end pieces, *d—d*, and

a central cross piece, *e*, so that it may be slid horizontally and freely in the rabbets of the pieces, *f—f*, of the frame (A). At one side of this slide a metallic plate, *g*, is held by means of the slots and screws, *h—h*, so as to have a longitudinal sliding motion thereon, it being held forward by means of the spring, *i*, and pushed backward in drawing out the slide (A'), by means of the piece *k* of the frame (A) coming in contact with the vertical projection, *l*, on the rear end of the same. A lever hammer, *m*, is supported between the two middle strips (*c—c*), which has a spring, *n*, attached so as to press the face of the hammer up against the under side of the central cross piece (*e*), while the other end, *o*, of its lever, rests upon the lower flange of the plate (*g*); and, a little forward of the position of this end (*o*) of the lever, when the slide (A') is in its normal position (as in Fig. 1), there is a small wedge-shaped trip, or self adjusting plane, *p*, which causes the end (*o*) of the lever to pass up over it and fall, so as to cause the hammer (*m*) to strike a blow upon the under side of the slide (A'), when the said slide is pulled out to its limited extent, and to allow the said end (*o*) of the lever to pass under it when the slide is being pushed in. Along the under sides of the strips (*c—c*) the color carriers, *q—q*, are fixed in vertical positions as seen in Figs. 1 and 2, each being constructed so as to take up and hold a suitable portion of color to be distributed, and arranged in relation to each other as the pattern or design of the marble paper to be produced may require. At a short distance beneath these color carriers (*q—q*) the color reservoir or pan (B) is supported horizontally upon a vertically sliding frame *s—s*, which is adapted to be worked up and down in the main frame (A), by means of the treadle, *t*, and the levers *u—u*, so as to bring the liquid color (which is to be placed in the pan B) in contact with the said carriers (*q—q*) as occasion may require. The usual gum-water trough (W) is supported upon the trestles, *v—v*, or otherwise, so as to be directly beneath the slide (A') when the said slide has been drawn out to the extent limited by the stop-screws *x*, as seen in Fig. 2,—the treadle (*t*) being extended so as to pass out beneath the trough (W).

The mode of operation is as follows: the usual fluid color is placed in the reservoir

or pan (B), and the extent of the upward motion of the reservoir frame ($s-s$) adjusted so as to cause the immersion of the carriers ($q-q$) into the color, to the depth 5 which may be required to supply them with the desired quantities of the same, when the treadle (t) is depressed, and the usual gum-water trough, supplied and placed as before described, the operator causes the 10 carriers, after being supplied with color, to be brought directly over the trough (W), by steadily withdrawing the slide (A') until, by the obstruction of the cross piece (k) of the frame, the plate (g) is caused to 15 slide backwardly until the end (o) of the hammer lever has passed up over the trip, or plane (p), and the hammer thereby caused to strike the under side of the slide and thus cause the discharge of the color 20 from the carriers ($q-q$) into the trough (W) below, as seen in Fig. 2; after which the slide (A') is pushed in, as before, and the sheet of paper laid upon the surface of

the fluid in the trough, and thus marbled in accordance with the previous arrangement 25 of the carriers in the slide. If the color is required to be dropped directly upon the paper, the trough of gum water (W) may of course, be dispensed with, and a table or board substituted for supporting the 30 paper. A repetition of this operation for each sheet of paper, will produce marbling, of the most perfect uniformity, upon the sheets of paper, whether the design be either 35 regular or irregular.

What I claim as my invention and desire to secure by Letters Patent is—

Distributing or laying the color, in the process of marbling or coloring paper, by means of an apparatus constructed so as to 40 operate substantially in the manner and for the purpose described.

CHARLES WILLIAMS.

Witnesses:

BENJ. MORISON,
C. BRAZER.