

(No Model.)

T. J. TURLEY.  
MULTICOLOR PRINTING ATTACHMENT.

No. 540,123.

Patented May 28, 1895.

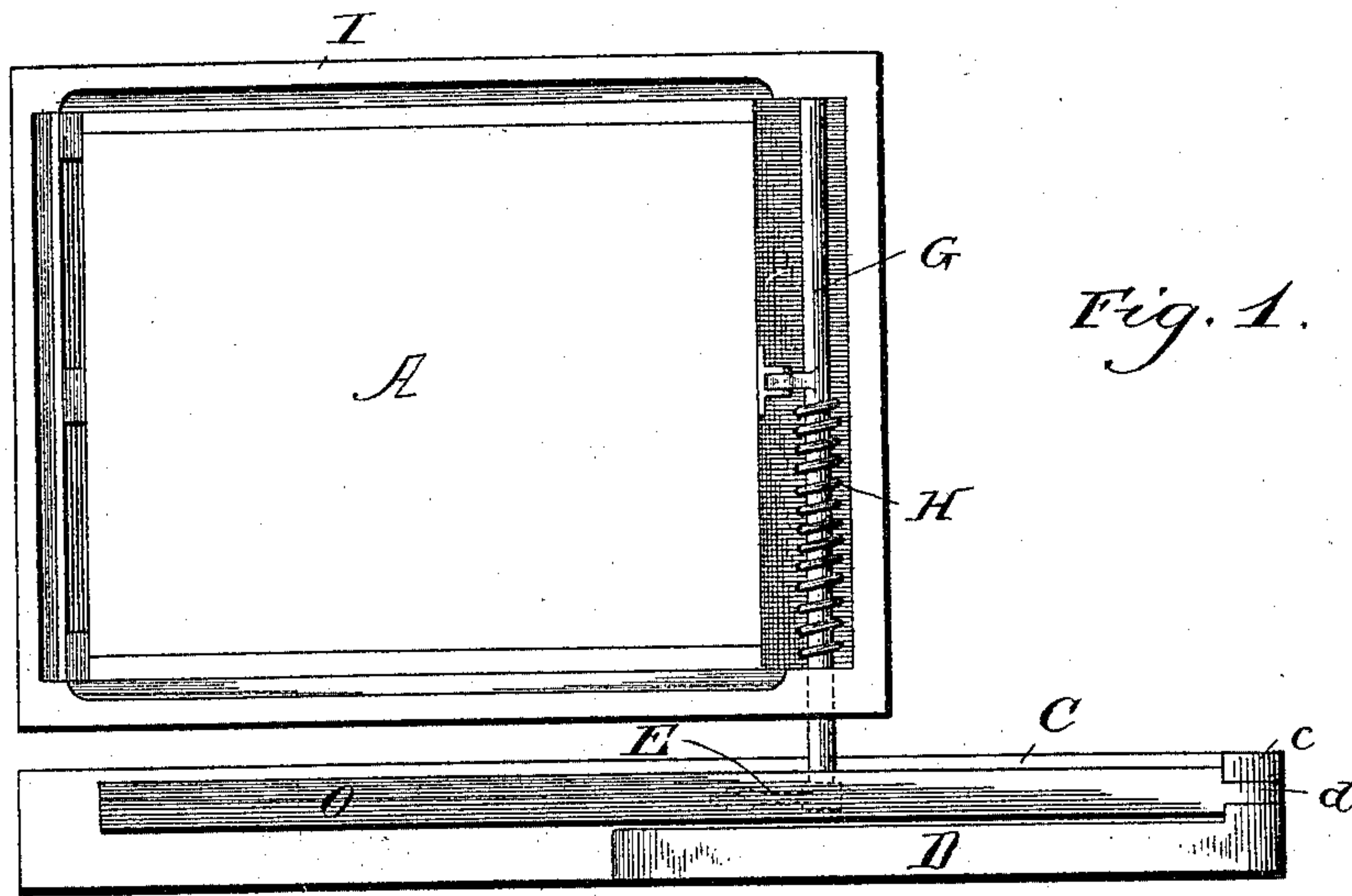


Fig. 1.

Fig. 2.

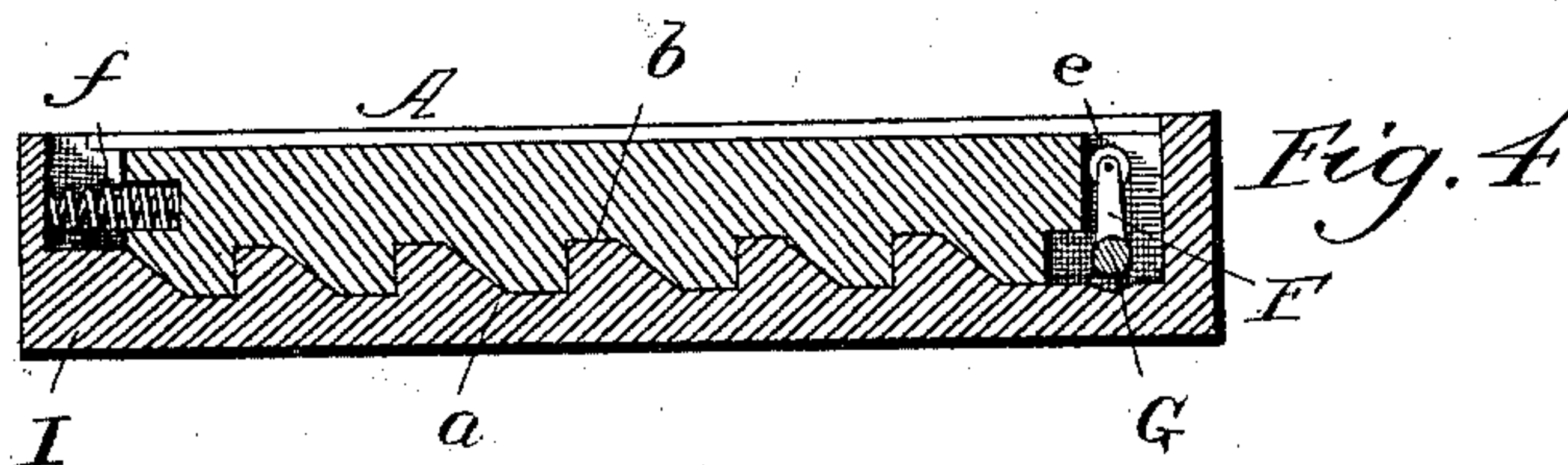
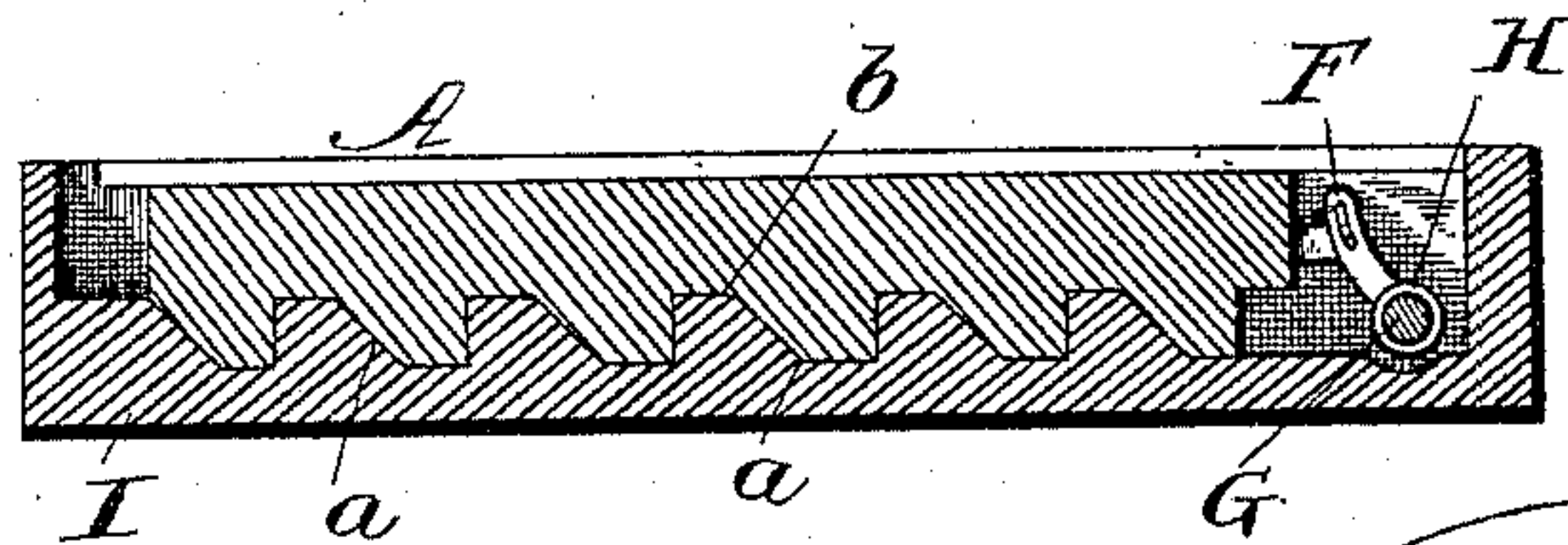


Fig. 4.

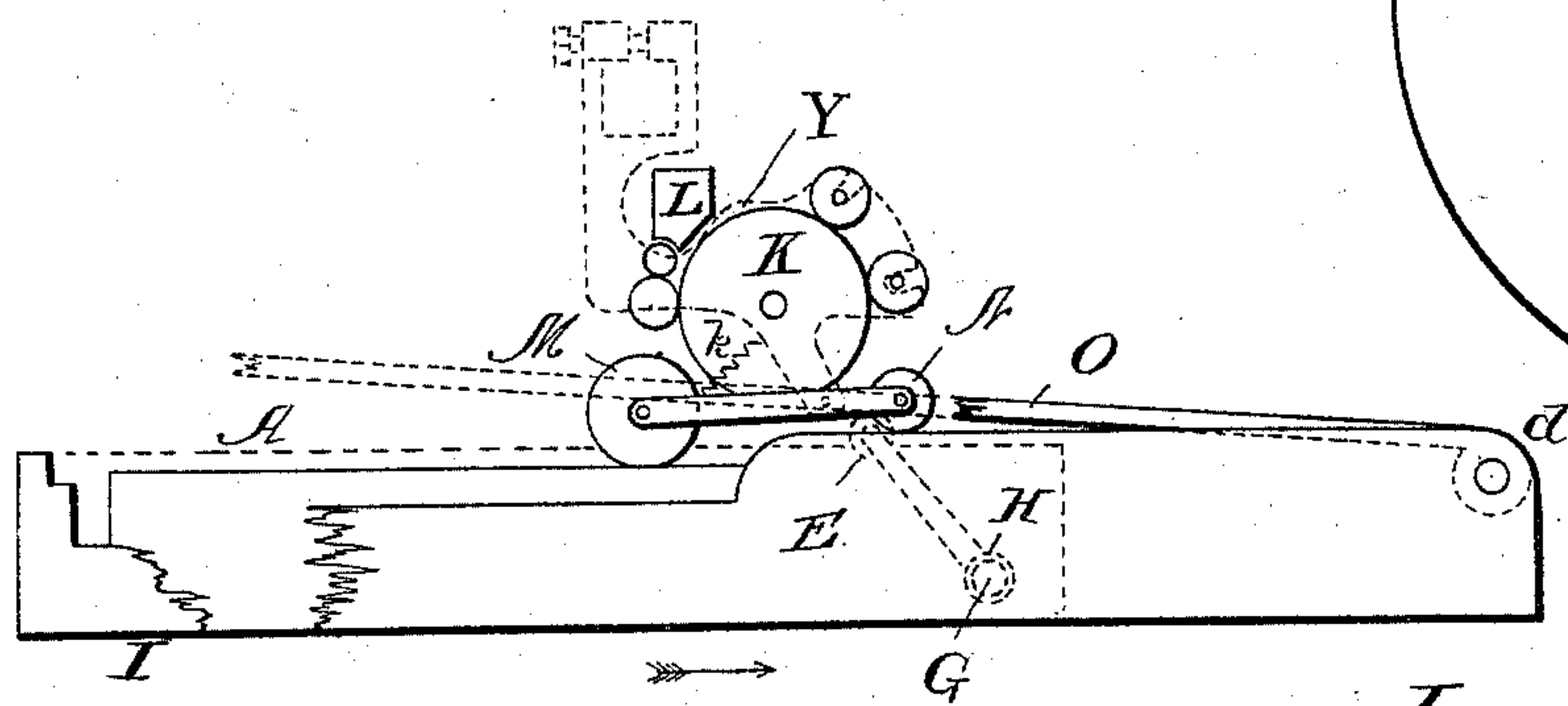


Fig. 3.

Witnesses:

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# UNITED STATES PATENT OFFICE.

THEODORE JONES TURLEY, OF NASHVILLE, TENNESSEE.

## MULTICOLOR-PRINTING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 540,123, dated May 28, 1895.

Application filed April 12, 1895. Serial No. 545,526. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE JONES TURLEY, a citizen of the United States, residing at Nashville, county of Davidson, State of Tennessee, have invented certain new and useful Improvements in Multicolor-Printing Attachments, of which the following is a specification.

My invention relates to improvements in chromatic printing devices in which a supplemental form is used in connection with the main form of the printing press, and my object is to provide means for raising and lowering the supplemental form whereby the same may be brought to type-high for an impression and lowered below type-high automatically after the impression is taken from said form.

It is my object, furthermore, to simplify the construction and make the device for operating the supplemental form occupy as little space as possible, so that when it is desired to print more than one color in the same column necessitating the use of two or more forms, several forms may be locked closely together within the desired column in the main form.

With these objects in view my invention consists in the novel features shown in the accompanying drawings and hereinafter described and claimed and which comprises certain improvements in that type of chromatic printing devices described in my Patent No. 530,865, dated December 11, 1894.

In the drawings, Figure 1 is a top plan view of my device. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a diagrammatic view, partly sectional, showing the relation of the supplemental form, inking mechanism, and impression-cylinder. Fig. 4 is a longitudinal vertical section of a modified form of my device.

In the construction shown in my prior application referred to, the frame in which the supplemental form is mounted is locked within the main form in such manner as to allow the supplemental form to move transversely of the bed of the press, and I find that where two or more of these are to be locked closely together within the said form, the mechanism

for elevating and depressing the form prevents the close contact of the supplemental frame, and to obviate this difficulty I provide the supplemental frame, I, which is adapted to be locked within the main form of the press, with transverse inclined ribs, *b*, against which corresponding ribs *a*, depending from the supplemental form, A, are adapted to act, so as to move the form horizontally and vertically within the frame. The movement of the form, A, will thus be in the direction of the length of the press and not transversely as shown in the former application.

In connection with the frame I, a side bar C, is employed. This side bar is preferably separate from the frame, as shown, so that the supplemental frame and form may be placed in any column of the main form, the side bar being at the side of the bed of the press, for the purpose hereinafter described. The outer edge of this side bar is provided with an elevated rail or track, D, of a length equal to the length of the matter to be printed in color by the supplemental form. When properly placed, the rail, D, is adapted to engage the roller, N, on the end of the arm carrying the ink roller, M, so as to depress the said ink roller to ink the electro-type, or plate, on the supplemental form, A, as shown in Fig. 3.

Extending transversely of the frame, I, is the rock shaft, G, from which an arm, F, projects upwardly and is connected by a sliding connection to the end of the form, A. This rock shaft may be of various lengths, according to the distance of the supplemental frame from the side of the bed of the press on which the side bar, C, is located. A spiral or other suitable spring, H, connects the rock shaft, G, with the frame, I, and tends normally to keep the supplemental form, A, in the position shown in Fig. 2, that is, normally below type-high. Instead of placing the spring, H, on the rock shaft, I may employ a spring or springs, *f*, between the back of the frame and form, as shown in Fig. 4, in which case the arm, F, may be provided with a roller, *e*, in sliding contact with the form.

Upon one end of the rock shaft, G, is an arm, E, which is preferably provided on its upper



end with a friction roller and projects normally slightly above type-high.

Fulcrumed to the side bar, C, at *d*, between lugs, *c*, thereon, is a lever, O, of a length equal  
5 to or slightly greater than the length of the matter to be printed. This lever extends over and rests upon the end of the arm, E, which arm keeps the said lever normally elevated above the side bar, C, as shown in Fig. 3,  
10 where its position is slightly exaggerated for the purpose of better illustration. It will thus be seen that when the impression cylinder is lowered to type-high, as the form passes thereunder, the lever, O, will be pressed down by  
15 the impression cylinder, thereby turning the arm, E, and the rock shaft, G, to which it is attached, and elevating the supplemental form to type-high for an impression.

I prefer to use with my device the inking  
20 apparatus described and claimed in my pending application referred to, which consists of a main ink roller, K, supplied with ink by the reservoir and suitable distributing rollers and having a small ink roller, M, upon one end of  
25 an arm carrying at its other end a roller, N, which is adapted to engage the track D. A suitable spring, *k*, is attached to the frame, Y, of the inking apparatus and normally holds the roller, M, in contact with the main ink  
30 roller, K.

The impression cylinder, B, in the operation of the device is slightly above type-high, so that as the bed is moved back and forth and the supplemental form locked therein,  
35 no effect is had upon the elevating mechanism until the impression cylinder is lowered to type-high.

In the movement of the bed of the press in the direction of the arrow, Fig. 3, track, D,  
40 elevates the roller, N, depressing the inking roller, M, and inks the type or electro plate upon the supplemental form, A, and as the form passes underneath the impression cylinder which is above type-high, lever, O, just  
45 clears the same. Upon the reversal of the bed of the press the impression cylinder, being lowered to type-high, engages the lever, O, depressing the same and elevating the form, A, thereby causing an impression to be  
50 taken. When the form passes from under the impression cylinder the spring H, causes the rock shaft to lower the form to its normal position below type-high.

While my present invention is preferably

used with other supplemental forms, it is of course equally adapted for separate use. 55

I claim as my invention—

1. The combination with the impression cylinder, of the frame, the supplemental form normally held below type-high and vertically  
60 and horizontally movable within the frame, the rock shaft having a sliding connection with the form and extending transversely of the frame, the side bar, the lever fulcrumed upon said bar and adapted to be engaged by  
65 the impression cylinder at type-high, whereby the rock shaft may be turned and the supplemental form raised to type-high, substantially as described.

2. The combination with the impression  
70 cylinder, of a chromatic printing device, consisting of a frame provided with inclined ribs extending transversely thereof and adapted to be locked within the main form of a press, a movable supplemental form having corre-  
75 sponding inclined ribs depending therefrom engaging the ribs on the frame, a rock shaft journaled transversely in said frame and having a sliding connection with the end of the supplemental form, a spring tending nor-  
80 mally to hold the form below type-high, and an arm upon the rock shaft adapted to be engaged by the impression cylinder to raise the supplemental form, substantially as described.

3. The combination with the impression  
85 cylinder, of the frame, the side bar, an elevated rail on said bar, a supplemental form horizontally and vertically movable within the frame and normally below type-high, a rock shaft journaled transversely in the frame  
90 and having an arm extending upwardly therefrom, a lever fulcrumed upon the side bar and resting upon the said arm, an arm connecting said rock shaft by a sliding connection with the end of the supplemental form, a spring  
95 normally holding the form below type-high, and inking mechanism operated by the rail for inking the type upon the supplemental form, substantially as and for the purpose set forth. 100

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THEODORE JONES TURLEY.

Witnesses:

R. T. FRAZIER,  
ALBERT POPKINS.