(No Model.)

A. B. DICK.

AUTOMATIC STENCIL PRINTING MACHINE.

No. 596,653. Patented Jan. 4, 1898.

Fig. 1.

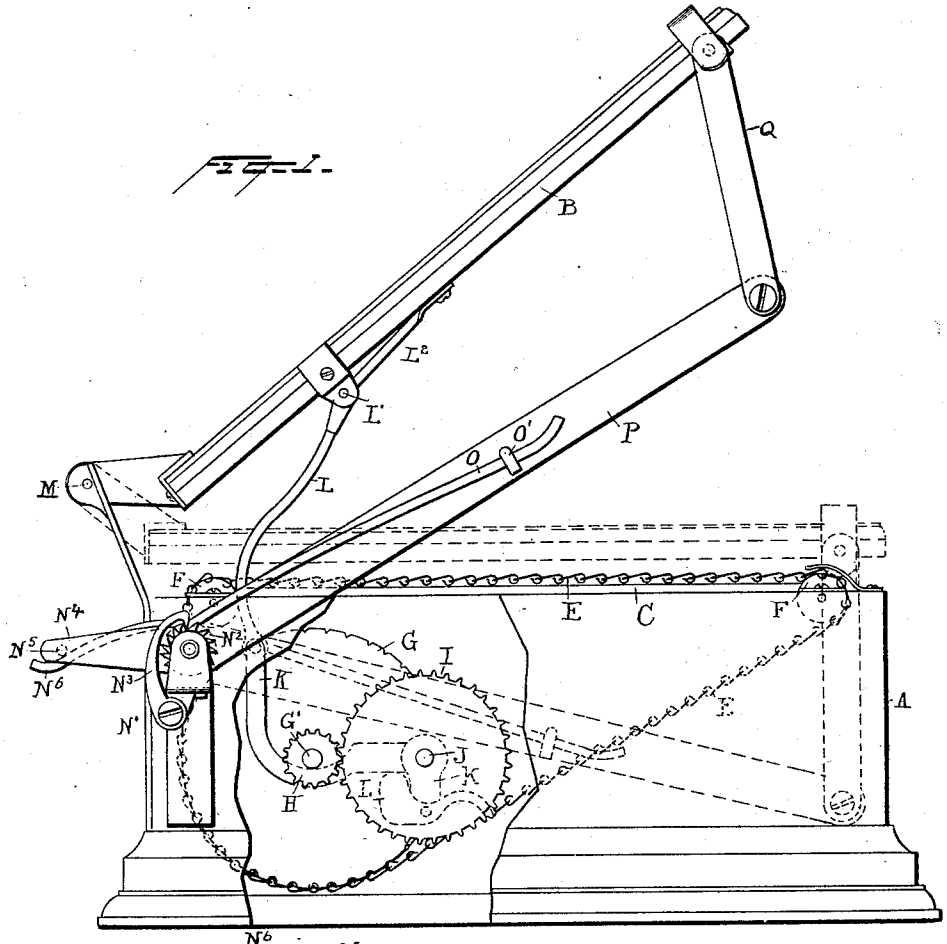
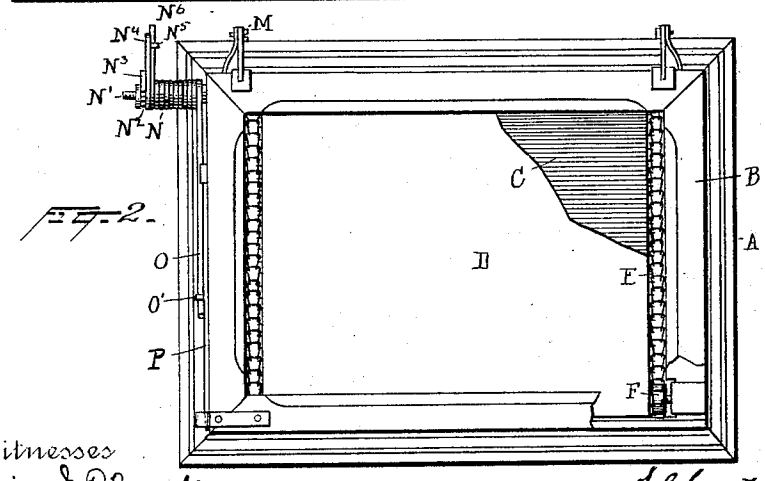


Fig. 2.



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UNITED STATES PATENT OFFICE.

ALBERT B. DICK, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE A. B. DICK COMPANY, OF SAME PLACE.

AUTOMATIC STENCIL-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 596,653, dated January 4, 1898.

Application filed November 25, 1896. Serial No. 613,384. (No model.)

To all whom it may concern:

Be it known that I, ALBERT B. DICK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Automatic Stencil-Printing Machines, of which the following is a specification.

The object of my invention is a stencil-printing machine of that type now known as "automatic," used principally for printing from paper stencils, and in which the printed sheet is automatically discharged from the machine.

My improved machine is cheap in construction, compact in form, of few parts, and easily operated.

In the accompanying drawings, forming a part of my invention, Figure 1 is a side elevation of my improved machine with certain parts broken away and other parts shown in broken lines to represent the machine or some of its parts in their several positions, and Fig. 2 is a plan view thereof with a small portion broken away to better show certain parts.

In the drawings, A is the case of the machine, which may be of any ordinary construction and material.

B is the stencil-holding frame, in which the paper stencil is clamped. This frame may be of any ordinary construction; but I prefer to employ the construction shown in my Patent No. 404,034.

C is a bed of slate or other suitable material, serving as the fixed printing-bed. This fixed printing-bed is supported by the casing A in any convenient manner, preferably as shown in Fig. 1, where it is seen let into a raised portion of the frame. Over this bed travels a moving apron or carrier D, so arranged, by mechanism hereinafter to be described, as to move automatically after each printing operation a distance sufficient to discharge the sheet.

The mechanism referred to comprises two sprocket-chains E, attached one to each edge of the apron, the said chains working in the plane of the permanent printing-bed over sprocket-wheels F, of which there are four, two for each chain. The chains are operated by sprocket-wheels G, carried on a shaft G', extending across the machine, only one of the sprocket-wheels being shown. On the same shaft as the sprocket-wheels is a small gear-wheel H, driven by the larger gear-wheel I, carried on a spindle J, supported in the side of the casing A. On this same spindle is mounted a bell-crank arm K, (shown in dotted lines,) which carries a weighted pawl L, also shown in dotted lines, which pawl engages with the teeth of the gear I and drives the same. The object of weighting the pawl is to insure its retention in the teeth of the gear I when it is to impart a movement of rotation thereto.

The elbow-lever K is pivotally connected to a lever L, which in turn is pivoted to the stencil-frame B at L'. A flat spring L^2 bears against the pivot on the outside of the arm L when the same is upon the pivot, so as to retain it in place. This is simply for convenience in assembling or separating the parts. It will therefore be observed that upon elevating the frame B upon its pivot M motion transmitted through the arm L and connected parts will move the sprocket-wheel G and thereby move the chain, the said sprocket-wheel and its connections being of such size and number of teeth as to secure a movement of the traveling belt or apron about equal to the width of the permanent printing-bed, whereby the printed sheet is carried out of the machine.

So far I have described the machine as constructed when it is intended to be operated by hand—that is, when the printing-frame is to be lifted by hand. When the machine is to be operated automatically—that is, when the stencil-frame is to be self-elevating after each impression—I employ the following mechanism: At one end of the machine, and preferably on the outside, I arrange a coiled spring N upon a spindle N', suitably supported on the casing. This spindle is provided with a ratchet-wheel and pawl N^2 N^3, an arm N^4, with pin N^5, being carried by said pawl. One end N^6 of the coiled spring N engages behind the said pin N^5. The other end O of the coiled spring extends under a pin O' upon the lever P, which is pivoted upon the spindle N'. At the outer end of said lever a pivoted arm Q is connected with the stencil-

frame. The object of the ratchet is to adjust the tension of the spring, the method of doing which will be readily understood.

It will be obvious that when the stencil-frame with its connections just described is brought by hand from the elevated position shown in Fig. 1 in full lines to the dotted position shown in the same figure the coiled spring will be compressed. After passing the printing-roller over the stencil-sheet and obtaining a print, still holding the frame down by hand, and then releasing the frame, the same will be automatically thrown into the elevated position shown in full lines, Fig. 1, and thereby the apron will be fed the predetermined distance and the sheet discharged. This operation may be repeated indefinitely.

If the machine is desired to be used for operation by hand alone, by removing the end O of the spring from under the hook O′ on lever P the spring will be thereby disconnected and the machine may be used as desired.

I claim—

1. In a stencil-printing machine, the combination with a hinged or pivoted stencil-frame, of a platen, an apron adapted to travel over said platen and upon which the paper to be printed on is placed, mechanism for moving said apron, and a device actuated by the movement of the stencil-frame for operating said apron mechanism, substantially as set forth.

2. In a stencil-printing machine, the combination with a hinged or pivoted stencil-frame, of a platen, an apron adapted to travel over said platen and upon which the paper to be printed on is placed, a sprocket-chain connected with said apron, gearing for driving said sprocket-chain, and a device actuated by the movement of the stencil-frame for operating said gearing, substantially as set forth.

3. In a stencil-printing machine, the combination with a hinged or pivoted stencil-frame, of a platen, an apron adapted to travel over said platen and upon which the paper to be printed on is placed, mechanism for moving said apron, a device actuated by the movement of the stencil-frame for operating said apron mechanism, and a spring engaging with said stencil-frame to elevate the same after each impression, substantially as set forth.

This specification signed and witnessed this 21st day of November, 1896.

ALBERT B. DICK.

Witnesses:
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