C. L. BURDICK.

STENCIL MACHINE.

APPLICATION FILED MAR. 6, 1909.

954,926.

Patented Apr. 12, 1910.

3 SHEETS—SHEET 1.

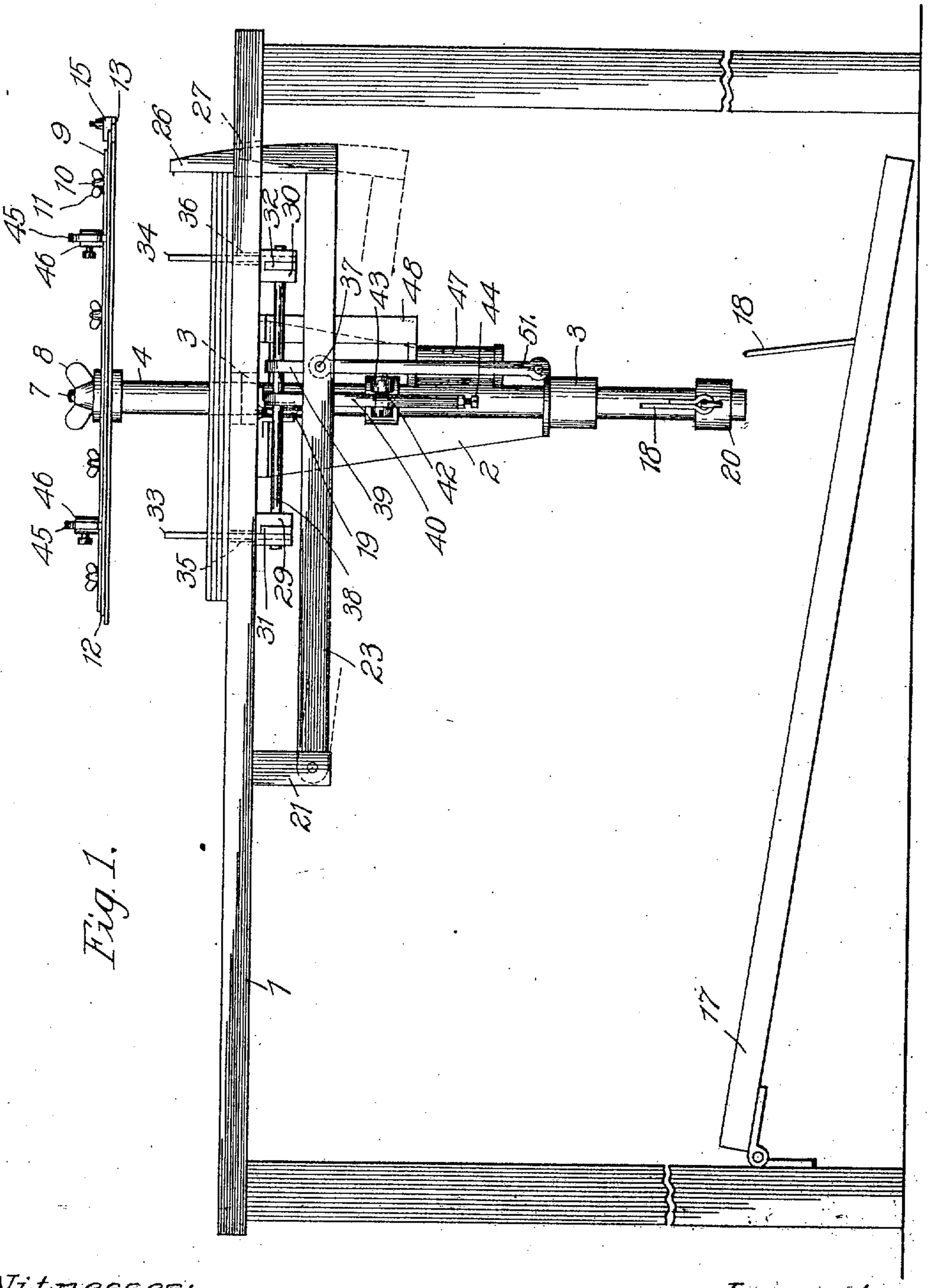


Fig. 1.

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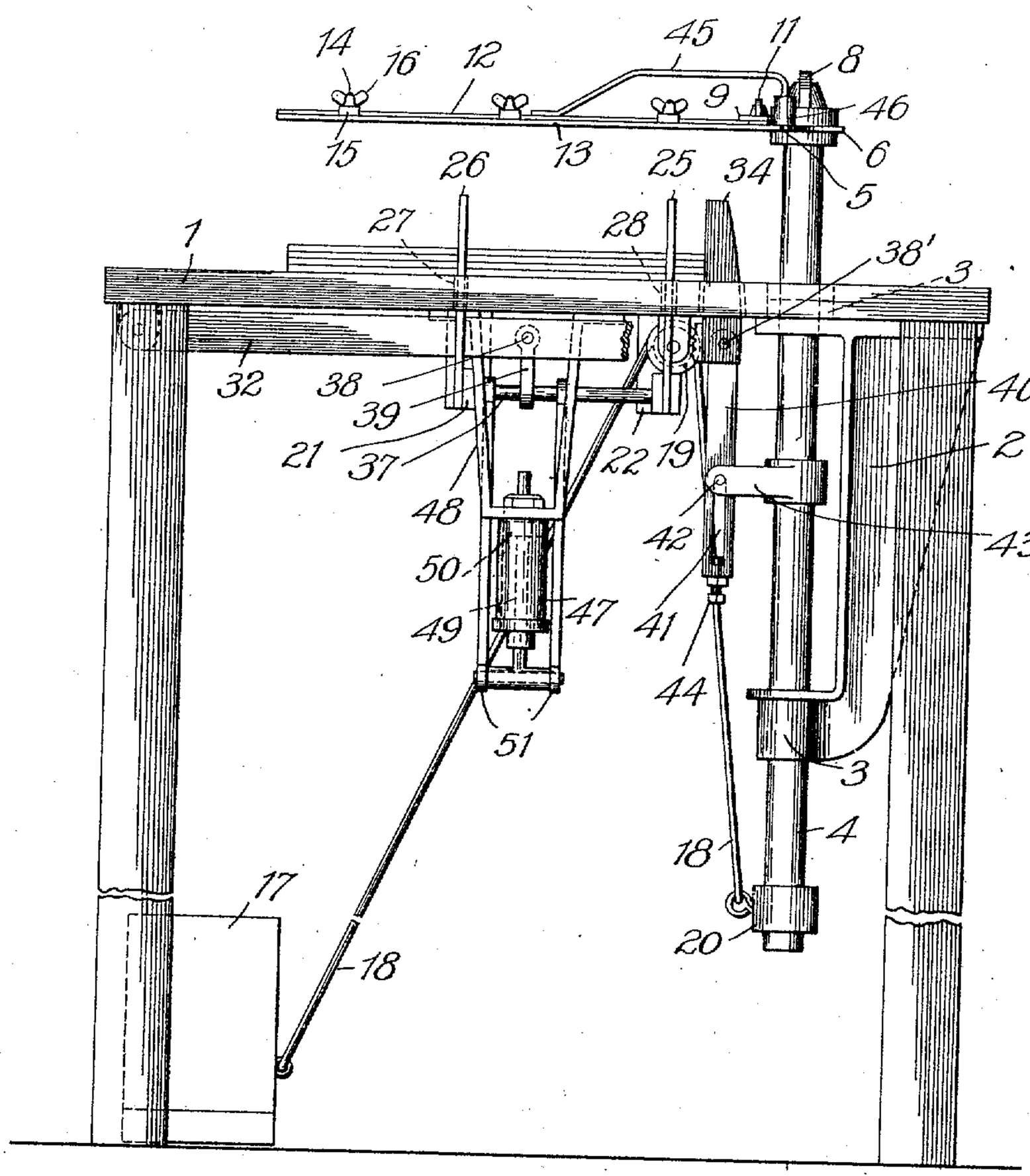
3 SHEETS—SHEET 2.

Fig. 2.

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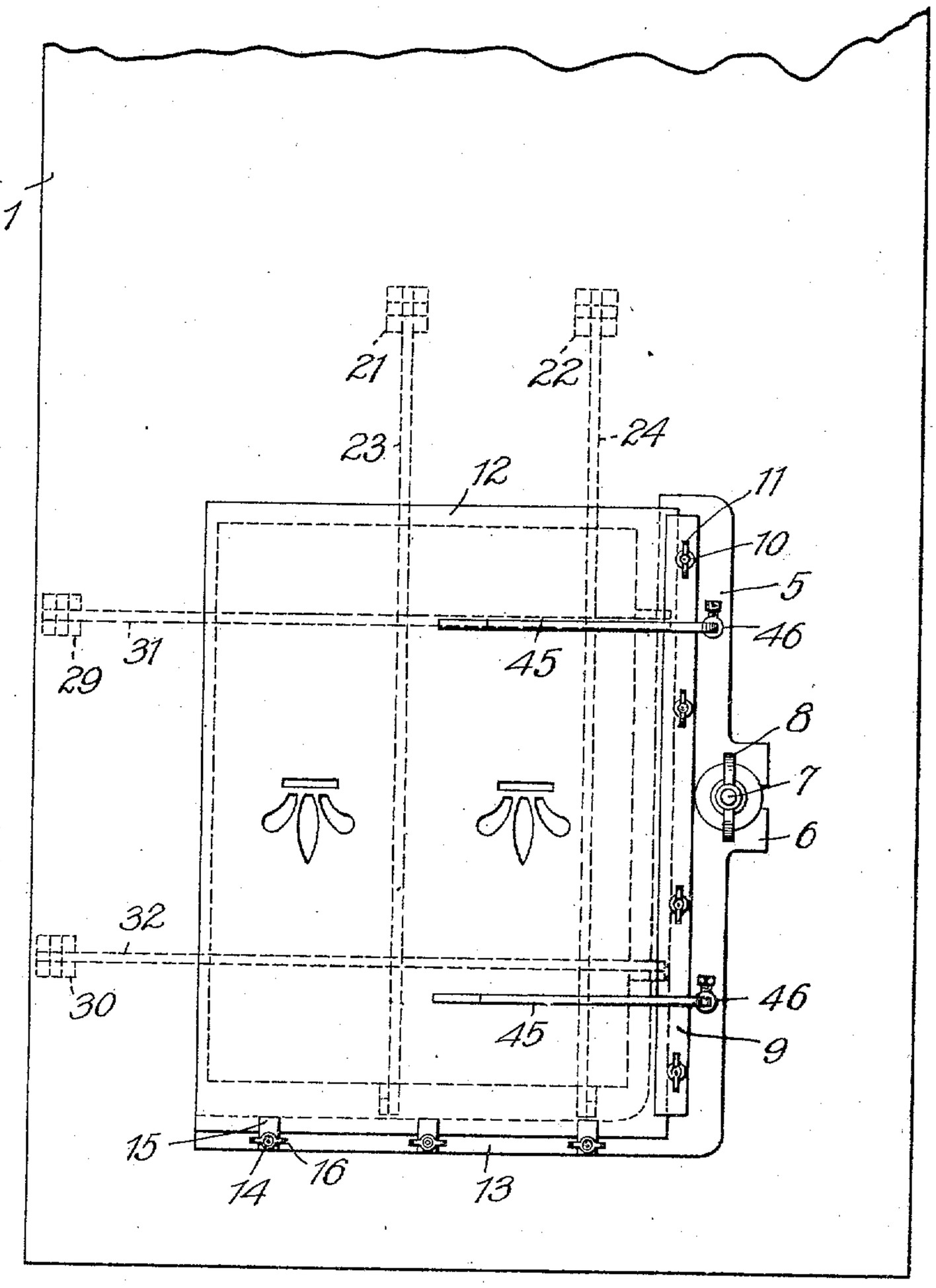


Fig. 3.

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# UNITED STATES PATENT OFFICE.

CHARLES L. BURDICK, OF LONDON, ENGLAND.

## STENCIL-MACHINE.

954,926. Specification of Letters Patent. **Patented Apr. 12, 1910.**

Application filed March 6, 1909. Serial No. 481,775.

*To all whom it may concern:*

Be it known that I, CHARLES L. BURDICK, a citizen of the United States, residing at London, in the county of Middlesex, England, have invented a certain new and useful Improvement in Stencil-Machines, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to stenciling machines, its object being to provide improved construction and arrangement which will enable cleaner work to be accomplished.

My invention relates particularly to machines for stenciling cards by means of liquid color sprays. In machines of this class, the cards are usually stacked against stops and a stencil applied to the top card and then coloring matter applied to the top card through the stencil. These stops are usually fixed and in such position that coloring matter will strike them while the card is being stenciled, the result being that the cards at their edges will be discolored. In prior machines the stencil is also supported in such manner that there is danger of coloring spray reaching the edges of the cards, as the top card is being stenciled. In the machine of my invention, the stops are adapted to disappear during the stenciling operation, so that they will be out of the field of the sprays, and will remain clean. The stencil is raised and lowered and its position with reference to the cards is such that discoloration of the card edges is prevented.

In the accompanying drawings which illustrate my invention, Figure 1 is a front elevation of a stenciling machine, Fig. 2 is a side elevation taken from the right of Fig. 1, and Fig. 3 is a plan view.

The machine table or bench 1 may be of any suitable construction, being here shown as of rectangular shape. Extending downwardly from near the rear edge of the table is a bracket 2, having bearings 3, in which can reciprocate a vertical shaft 4, supporting the stencil frame 5. At the rear edge of the stencil frame is a slotted extension 6 for receiving the threaded extension 7 at the upper end of shaft 4. This extension is clamped to a frame by a thumb-nut 8. A clamping strip 9 engages threaded extensions 10 on the stencil frame, thumb-nuts 11 engaging these extensions so that a stencil plate 12 may be clamped at its rear edge between the clamping strip and the stencil frame, as shown. The clamping frame may also have a forward extension 13 from its right end provided with the threaded extensions 14 for receiving clamping plates 15 between which and the extension 13 the right edge of the stencil plate is clamped by means of thumb-nuts 16.

Hinged at its left end to the bench or table is a treadle 17 whose other end has connected thereto one end of a cord or chain 18, which passes up around a pulley 19 suitably supported from the table and whose other end is secured to a collar 20 at the lower end of shaft 4. The adjustment is such that when the treadle is raised, the shaft and stencil mechanism carried thereby will move downwardly, and when the treadle is lowered the shaft 4 with the stencil mechanism will be raised.

Extending downwardly from near the center of the table or bench are lugs 21 and 22, pivoting the left ends of bars 23 and 24, whose ends 25 and 26 extend upwardly at right angles to the bars 23 and 24 and adapted to pass through slots 27 and 28 cut through the table top. Extending downwardly from near the front edge of the table top are lugs 29 and 30 which pivot the front ends of bars 31 and 32, which bars extend toward the rear of the table and have upwardly extending ends 33 and 34, which are adapted to pass through slots 35 and 36 cut in the table top. When the ends 25 and 26, and 33 and 34 extend through the table top they form guide fingers or stops against which cards to be printed can be stacked in position to be engaged by the stencil when the stencil frame is lowered. The bars 23 and 24 are connected by a rod 37 and above said rod another rod 38 extends between the bars 31 and 32, and these rods are connected by a link 39. A link 40 is pivoted to the rod 38′, extending between the ends of bars 31 and 32, and at its lower end is the slot 41, receiving a pin 42 supported at the end of arm 43 secured and extending from the shaft 4.

In the position shown in the drawings, the treadle is down and the stencil shaft and frame have been raised, the pin 42 having been carried to the upper end of slot 41, to raise the link 40 and the bars 31 and 32, and to also raise the bars 23 and 24 by virtue of connecting link 39. The stencil plate is therefore raised and the stop exten-

sions in their position above the table top. When the treadle is released, the weight of the stencil mechanism and the bars will cause them to return to their lower position, the slot 41 enabling the shaft 4 to drop after the stop ends return to their position below the table top. The length of this slot can be adjusted by means of a screw 44, extending upwardly into the slot from the end of the link. When the treadle is down, cards are arranged and stacked to be in perfect register against the stop ends, and the stencil frame lowered, the stencil plate then pressing against the top card. The coloring matter may then be applied as by means of sprays. After the coloring operation the treadle is again depressed and the stencil removed from the top card. During the color applying period, the stop ends are below the table top out of the field of the coloring material, and will remain clean, but as soon as the stencil is raised these stops again rise to their upper position, so that the cards could be re-stacked, if necessary, for the next stenciling operation. In order to hold the stencil more firmly against the top card, spring fingers 45 may be secured at one end in sockets 46, extending from the stencil frame with their other ends extending forwardly to engage the stencil at suitable points to more firmly press the stencil against the card to be colored. Also to prevent the stop ends from violently striking the cards and shifting them when they move upwardly, cushion mechanism is provided for the stop end supporting bars, in the form of a dash-pot 47, attached to the table by means of a bracket 48 as shown. The piston rod 49 connects at its upper end with the piston 50 and at its lower end pivots between the ends of links 51, whose upper ends pivot on the rod 37, connecting the bars 23 and 24. This dash-pot mechanism prevents too sudden operation of the treadle and the stop ends are gradually raised to the upper position, so that the stacked cards will not be disturbed. The movement of the stencil is also cushioned and prevented from too violent engagement with the cards.

By means of my invention, much neater and cleaner work can be performed; increased speed of operation is gained, as no time need be wasted in cleaning the stops.

Changes in the construction and arrangement can of course be made and I do not therefore wish to be limited to the construction and arrangement which I have shown and described.

I desire to secure the following by Letters Patent:—

1. In a stenciling machine, the combination of a supporting table, a movable stencil frame for carrying a stencil away from and into engagement with cards on said table, stops against which said cards may be stacked, and means for withdrawing said stops out of engagement with said cards and away from said stencil frame when the stencil is brought into engagement with the cards.

2. In a stenciling machine, the combination of a supporting table for supporting cards to be printed, stops for alining said cards, a stencil, a frame for supporting said stencil above the cards, means for raising and lowering the stencil frame with the stencil, means for causing said stops to rise to a position above the table when the stencil is removed from the cards, and means for causing said stops to be moved entirely below the table out of engagement with the cards and away from said stencil frame when the stencil is brought into engagement with the cards.

3. In a stenciling machine, the combination of a table for supporting cards to be printed, a stencil, stops for alining said cards, means for applying the stencil to the cards, and means for automatically causing said stops to be entirely withdrawn from engagement with the cards and away from said stencil upon application of the stencil to said cards.

4. In a stenciling machine, the combination of a table for supporting cards to be printed, a frame, a stencil supported by said frame above the cards, treadle mechanism connected with said frame for raising and lowering said frame, stops connected with said frame adapted when said frame is raised to extend above the table top to aline the cards and to be carried below the table top entirely out of engagement with the cards and away from said stencil frame when the frame is lowered to carry the stencil into engagement with the cards.

5. In a stenciling machine, the combination of a table for supporting cards to be printed, a reciprocable stencil frame, treadle mechanism for controlling the reciprocation of said stencil frame, a stencil carried by said frame to be brought into engagement with the cards upon lowering of said frame, stop frames pivoted below the table, and stop ends on said frames, said frames being connected with the stencil frame, there being openings through the table for accommodating the stop ends, said stop ends being connected with the stencil frame, so that the stop ends are carried through the slots to a position above the table top to aline the cards, said stop frames being swung downwardly when the frame is moved downwardly to carry the stencil into engagement with the cards, whereby said stop ends are withdrawn from said slots and away from the cards.

6. In a stenciling machine, the combination of a table for supporting cards to be printed, a reciprocable stencil frame, treadle

mechanism for controlling the reciprocation of said stencil frame, a stencil carried by said frame to be brought into engagement with the cards upon lowering of said frame, stop frames pivoted below the table, stop ends on said frames, said frames being connected with the stencil frame, there being openings through the table for accommodating the stop ends, said stop ends being connected with the stencil frame, so that the stop ends are carried through the slots to a position above the table top to aline the cards, said stop frames being swung downwardly when the frame is moved downwardly to carry the stencil into engagement with the cards whereby said stop ends are withdrawn from said slots and away from said cards, and a dash pot for cushioning the movement of said frames.

7. In a stenciling machine, the combination of a table, a movable stencil frame for carrying a stencil toward and away from said table, a stop against which cards may be stacked, and means for withdrawing said stop out of engagement with said cards and away from said stencil frame when the stencil is brought toward said table into engagement with said cards.

8. In a stenciling machine, the combination of a table, a movable stencil frame for carrying a stencil toward and away from said table, a stop member extending from a carrier pivoted below said table, and means whereby said stop may be moved upwardly through an opening in said table when said stencil frame is carried away from said table.

9. In a stenciling machine, the combination of a table, a movable stencil frame for carrying a stencil toward and away from said table, stops against which blanks may be stacked, and means whereby part of the movement of said stencil frame may be transmitted to said stops to withdraw them out of engagement with said blanks and away from said stencil frame when the stencil is brought into engagement with said blanks.

10. In a stenciling machine, the combination of a table, a reciprocating shaft, a stencil frame carried by said shaft to be moved toward and away from said table, stop members carried by swinging members below said table, said stop members being arranged to pass through openings in said table and above said table, and actuating means for simultaneously lowering said stencil frame and lowering said stops to a position below the table.

11. In a stenciling machine, the combination of a table, a stencil frame arranged to be carried toward and away from said table, stops against which blanks may be stacked, movable means for simultaneously lowering said stencil frame upon the cards and withdrawing said stops from engagement with the cards, a dash pot carried by said table, and a piston therefor carried by said movable means for cushioning such simultaneous movement.

12. In a stenciling machine, the combination of a table, a stencil frame arranged to be carried toward and away from said table, a swinging frame pivoted beneath said table, stops carried by said frame and extending upwardly through openings in said table, and means for simultaneously lowering said stencil frame toward said table and swinging said frame to carry said stops in a position beneath said table.

13. In a stencil machine, the combination of a table, a stencil frame, means for carrying said stencil frame toward and away from said table, spring means for exerting a downward tension upon said stencil frame, stops against which blanks may be stacked, and means for simultaneously lowering said stencil frame and withdrawing said stops out of engagement with said blanks and away from said stencil frame.

14. In a stenciling machine, the combination of a table, a reciprocating rod, a stencil frame carried by said rod to be moved toward and away from said table, a swinging frame pivoted beneath said table, a stop carried by said swinging frame and arranged to extend through an opening in said table and above said table, a link carried by said swinging frame, said link having a slot therein, and a connecting member carried by said shaft and engaging in said slot so that part of the movement of said shaft may be transmitted to said swinging frame.

15. In a stenciling machine, the combination of a table, a stencil frame arranged to be carried toward and away from said table, a pair of frames pivoted beneath said table to swing at right angles to each other, extensions carried upon the free ends of said frames arranged to pass through openings in said table and above said table to form stops against which blanks may be disposed, a link connecting said frames, and means whereby said frames may be swung downwardly to bring said extensions into a position beneath said table when said stencil frame is carried downwardly upon the cards.

In witness whereof, I hereunto subscribe my name this 23rd day of February, A. D. 1909.

CHARLES L. BURDICK.

Witnesses:
ALBERT C. BELL,
MARGARET A. O'BEIRNE.