

T. Crossley,
Calico Printing.

No. 95,777.

Patented Oct. 12, 1869.

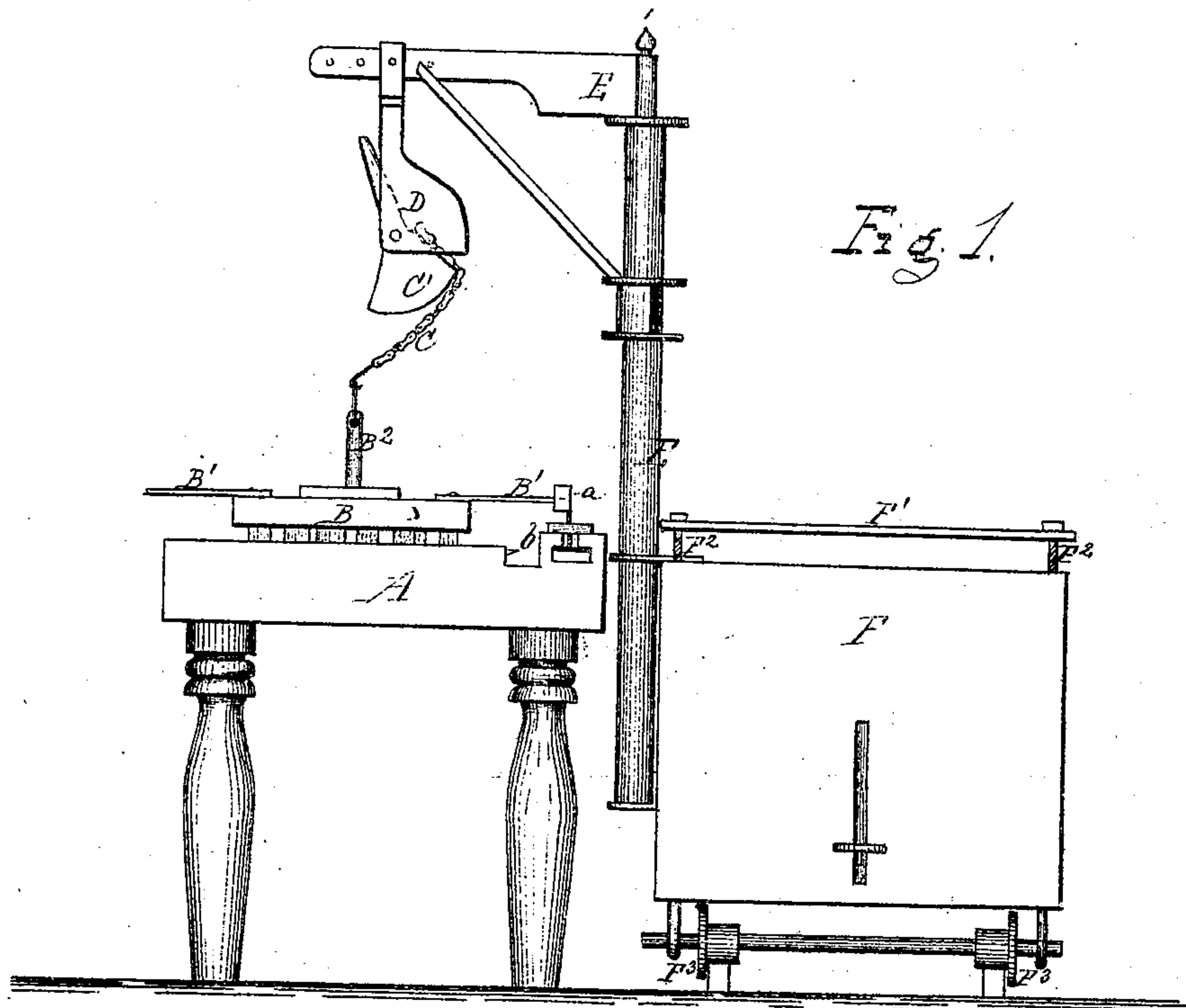


Fig. 1.

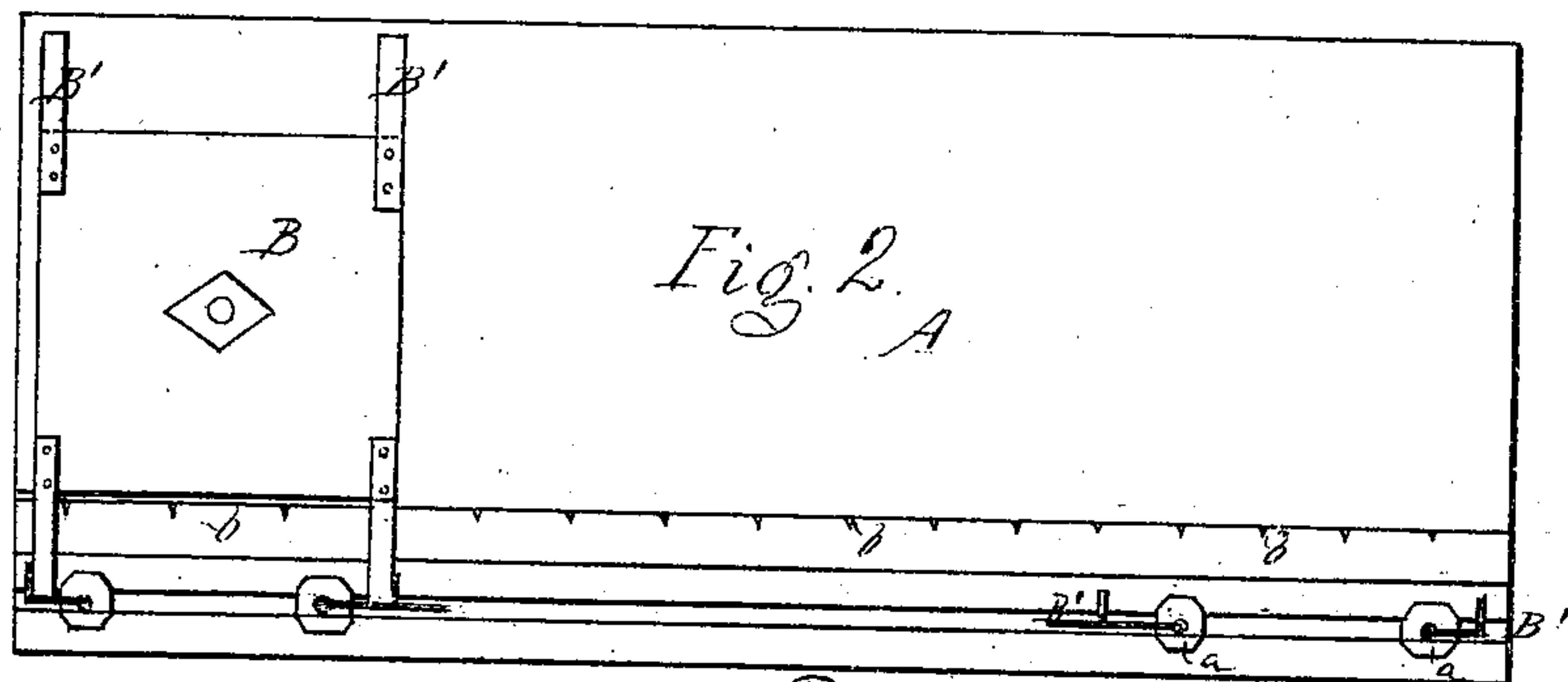
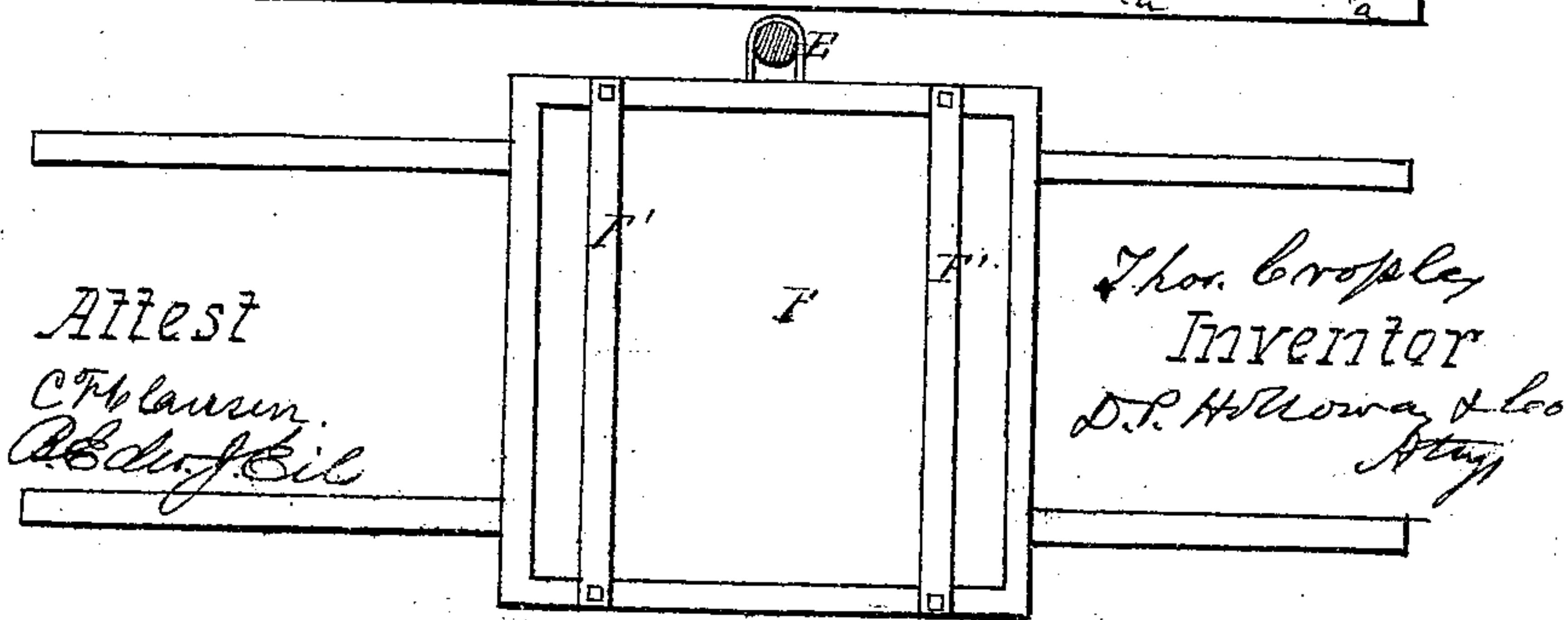


Fig. 2.



Attest
C. F. Clausen
A. B. J. Gil

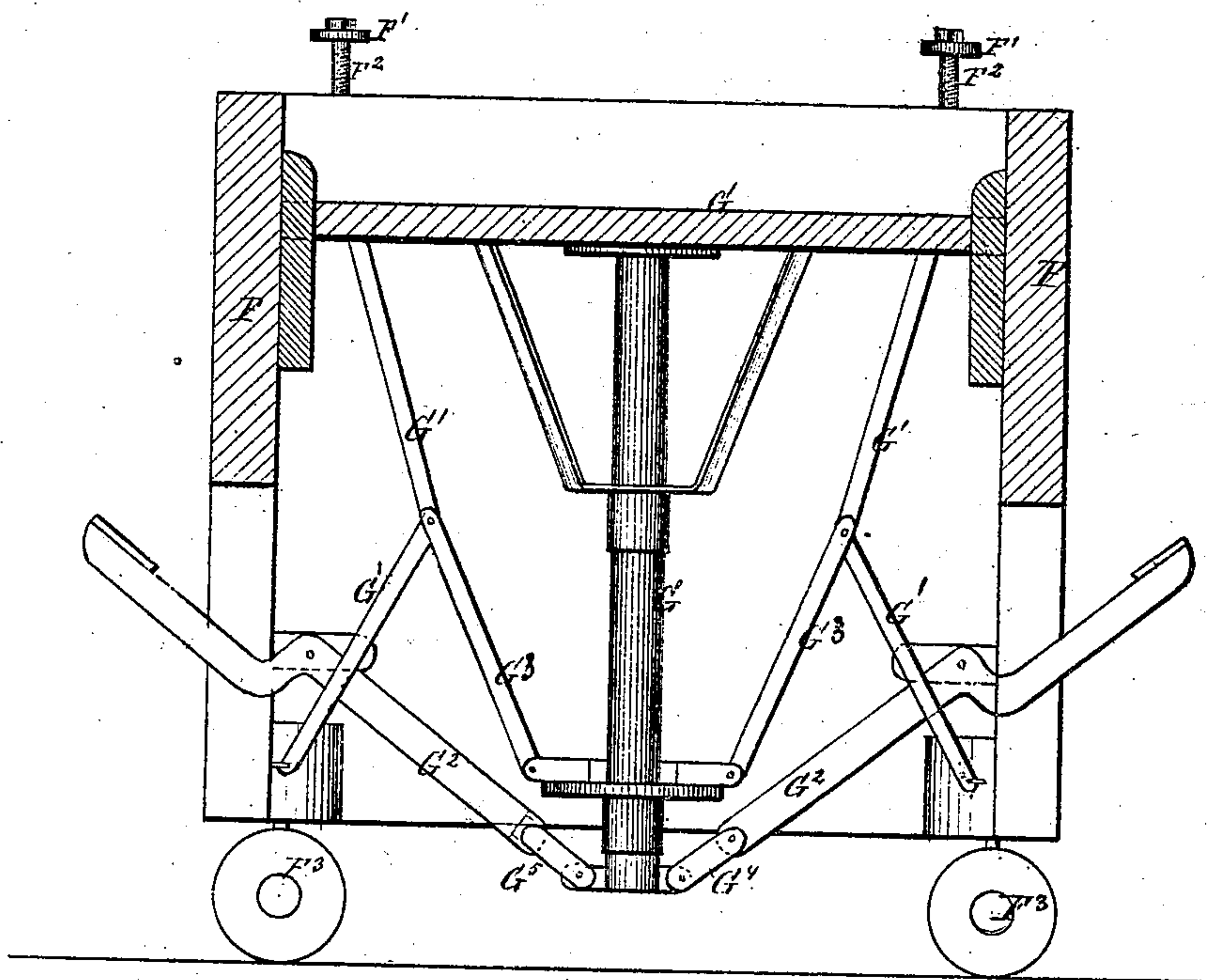
Thos. Crossley
Inventor
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Fig 3.



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United States Patent Office.

THOMAS CROSSLEY, OF BRIDGEPORT, CONNECTICUT.

Letters Patent No. 95,777, dated October 12, 1869.

IMPROVED MACHINE FOR PRINTING CARPETS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS CROSSLEY, of Bridgeport, in the county of Fairfield, and State of Connecticut, have invented a new and useful Machine for Printing Carpets; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is an end view of the machine, showing the table upon which the carpet is to be placed, the block or form, and the car for moving the same horizontally, and which supports the form while being inked or supplied with coloring-matter.

Figure 2 is a plan view of the table, car, and the track upon which it runs.

Figure 3 is a sectional elevation of the car, showing the platen for inking or coloring the type, and the manner of raising and lowering the same, together with the means of adjusting the blocks.

Corresponding letters refer to corresponding parts in the several figures.

Carpet-printing, as at present practised, requires that the blocks or form in which they are placed, or to which they are secured, should be operated entirely by the hand of the artist, and, as a consequence, great care and the lapse of a considerable space of time are necessary in placing the blocks, upon each movement thereof, in order that the lines of the different colors in the figures may correspond.

The great exactness required, in order that perfect work may be done, has necessitated the employment of skilled, and, consequently, of high-priced laborers, which fact has very much enhanced the cost of the article produced.

The object of the inventor of this device is to facilitate the printing of carpets, and other articles of a similar character, and thus to reduce their cost to the manufacturer and to the public; and, to this end,

The invention consists in providing a machine for that purpose, in which the following-named elements shall be combined: A table or platform upon which the fabric is to be spread, to receive the impression of the blocks; a lever, or other equivalent means, for raising the blocks, or the form to which they are attached; guides, for determining the exact position of such blocks, or form, while making its impressions; and a movable car or platform for moving the blocks or form horizontally; and

The invention further consists in the combination and arrangement of the various parts of the machine, as will be more fully described hereinafter.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, in the drawings, represents a table or platform, which is to be supplied with legs, to raise it to the proper height.

Near the rear side of this table, a groove is to be formed, as shown in figs. 1 and 2 of the drawings.

To the front edge of this groove, but pointing rearward, projecting, sharp-pointed pins are to be secured, to which to attach the edge of the fabric to be printed, which pins are shown at *b*.

From this point, the fabric is to be carried to the front edge of the table, on which it is to be spread evenly, and where it may be secured by another row of pins or points, if found necessary.

B represents a form, to the under side of which the blocks may be attached.

These blocks have raised upon their lower surfaces the forms of the figures which it is desirable to print upon the fabric, which is placed upon the table.

B' B' represent bars of metal, which are to be secured to the upper surface of the forms, over the edges of which they project for a distance sufficient to enable them to enter guides *a*, which are secured in a groove formed in the rear edge of the table A.

These bars or guides are to be so arranged that they will direct the blocks or form to the exact point upon the fabric where it is necessary to print the characters or figures, and they serve to insure the proper placing of such figures without the lapse of any considerable space of time, and thus enable the artist to print a great number of figures with precision, in the time usually required for placing the blocks.

To the upper surface of the form B, there is to be secured a stud or pin, the upper end of which is to be perforated, or otherwise prepared, to receive the lower end of a chain, C, which extends from it to, and is connected with a sector, C', so that as the lever or handle upon its outer end is borne down, said chain will be carried upward, its links bearing upon the face of the sector, and thus raise the form B, whenever it is desirable to change its position upon the fabric to be printed.

D represents a device, to the lower end of which the sector is pivoted, while its upper end is to be provided with a staple or yoke, to embrace the arm of crane E, soon to be described.

This device is so arranged that it may be placed in any desired position upon the crane, and held there by means of a pin which passes through both, a series of holes being provided for that purpose.

E represents a crane which is to be secured to a car, which is arranged to run upon rails laid or formed in a line parallel with the table A.

This crane may be constructed as shown in fig. 1, or in any other approved manner, its object be-

ing to carry the form B from the position in which it is used for printing, as shown in fig. 1, to its position over or upon the car, where it receives the ink or coloring-matter for the next impression, and from the last-named position back to its original one.

It will be observed that this crane is so attached to the car that it moves with it, and that its horizontal arm is capable of turning upon its vertical portion.

F represents a car or structure which is mounted upon wheels, F³, in the usual manner, which wheels rest upon rails, which are so arranged that said car can be moved in a line parallel with the inner edge of table A, and for a distance equal to the whole length of such table, in order that the form or block may be used for giving an impression upon the fabric on any portion of such table, while said form is suspended from the crane, or, rather, so that such form may be taken up from any point where it has been used to make an impression, and carried to any other point of the table.

F¹ F¹ represent bars or rods, of metal, which extend across the upper portion of the car F, they being provided with holes near their ends for the reception of bolts or screws F², by which they can be raised or lowered at pleasure.

The office of these bars is to receive between them the form B, and upon their upper surfaces the guides B', when the form is swung around upon the car for the purpose of receiving a fresh supply of coloring-matter, the screws F² being for the purpose of leveling such form, or for so arranging it, that when it is desirable to have one portion of it press harder upon the inking or coloring-surface than another, it can be done by screwing one or more of the screws further into the car, and thus permitting such portion to press harder upon such surface than it does upon the other portions.

G represents a table or platen, which is to be of suitable thickness to sustain the parts which are secured to it, and of such dimensions otherwise as to fit the inner surface of the car F, but so as to move freely up and down therein.

The upper surface of this platen should be covered with some elastic substance, such as rubber, which should be provided with a flange, to prevent the coloring-matter from being wasted.

The upper surface of this elastic material should be covered with felting, or other kind of cloth, to receive and transfer the coloring-matter to the block.

To the under side of this platen, a shaft or column is to be secured, which is to slide through suitable guides secured to the inner surface of the car, and so arranged as to secure the shaft in a vertical position, and thus insure the proper working of the platen.

G¹ G¹ represent a series of toggle-levers, the upper ends of which are secured to the lower surface of the platen, from which point they extend downward for about one-half of their length, where a joint is formed, and at which point they are jointed to a series of levers, by which they are operated.

The lower ends of these toggles are secured to the corners of the car, or to blocks placed thereon, for their reception.

G² G² represent levers, or treadles, which are pivoted to the sides of the car through which they extend, their outer ends being supplied with a pad, upon which to place the foot of the operator in raising the platen.

The lower ends of these levers are connected, by links G⁴, to a cross-head upon the lower end of shaft G, so that as their outer ends are borne down, the shaft and platen are raised.

G³ G³ represent a series of connecting-rods, which extend from the joints in the toggle-levers to which

they are connected, to and connect with a cross-head upon the lower portion of shaft G of the platen, which is provided with a collar for it to rest upon, so that as the power is applied to the treadles G², to raise the shaft G, a suitable amount of pressure shall be applied to the corners of the platen, as well as to its centre.

In some cases, I propose to place, between the upper ends of the toggle-joint and the lower surface of the platen, springs, so that in cases where it may be desirable to have a greater pressure upon one portion of the block or form than there is upon another, one or more of such springs will yield, and thus permit such a result to be produced.

Some of the advantages due to this machine may be enumerated as follows:

First, it permits the use of a much larger form or block, say four times the size of those used in hand-printing, which insures a more even distribution of the colors, and avoids the straight lines made by joining the impressions when made by small figures or blocks.

Secondly, by the use of the large forms or blocks which this invention enables the operator to use, a design having four times the extent and variety of those used in hand-printing can be executed.

Thirdly, in consequence of the size of the forms or blocks, and of the increased facility in handling and placing them, about four times as much printing can be done in a given length of time as by the hand-process.

Fourthly, in consequence of the provisions for always guiding the blocks or forms to the exact position which it is desired to have them occupy upon the fabric to be printed, cheaper labor may be profitably employed than could be done previously.

Fifthly, high type, in the printing of some patterns, may be used with advantage, their additional weight being no objection, because of the facilities for handling them, thus insuring the preservation of the depressed parts of the block from contact with the sieve or felt containing the coloring-matter.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. A machine for printing carpets, and other fabrics, combining in its construction a table or platform, upon which the fabric is to be spread while receiving the impressions of the blocks; a lever, or other equivalent mechanism, for raising the blocks; guides for determining the exact position of such blocks while making its impression; and mechanism for removing the blocks from the position which they occupy when making their impressions, to that which they occupy when receiving the ink or coloring-matter, substantially as and for the purpose set forth.

2. The combination and arrangement of the table A, block or form B, sector-lever C, device D, crane E, and car F, substantially as and for the purpose set forth.

3. The arrangement of the car F and crane E, with reference to the table or platform A, substantially as and for the purpose set forth.

4. The combination and arrangement of the levers or rods F¹, screws F², car F, and platen G, substantially as and for the purpose set forth.

5. The combination and arrangement of the platen G, toggle-levers G¹, connecting-rods G³, and treadle-levers G², substantially as and for the purpose set forth.

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

Witnesses: THOMAS CROSSLEY.
B. EDW. J. EILS,
O. F. CLAUSEN.