

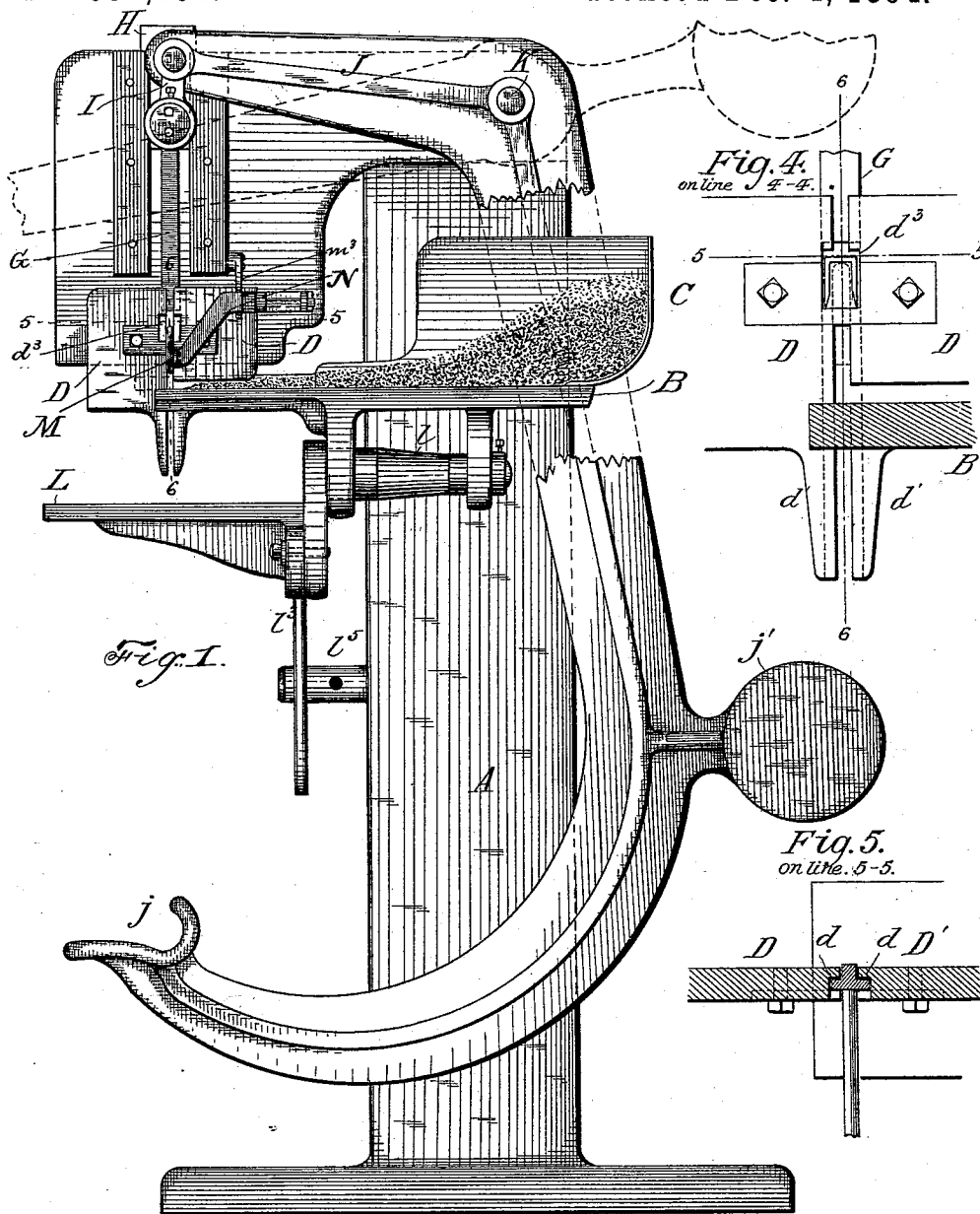
(No Model.)

3 Sheets—Sheet 1.

McCLINTOCK YOUNG.
BRUSH MACHINE.

No. 530,151.

Patented Dec. 4, 1894.



Witnesses
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M. R. Kenned

Inventor.
Mc C. Young
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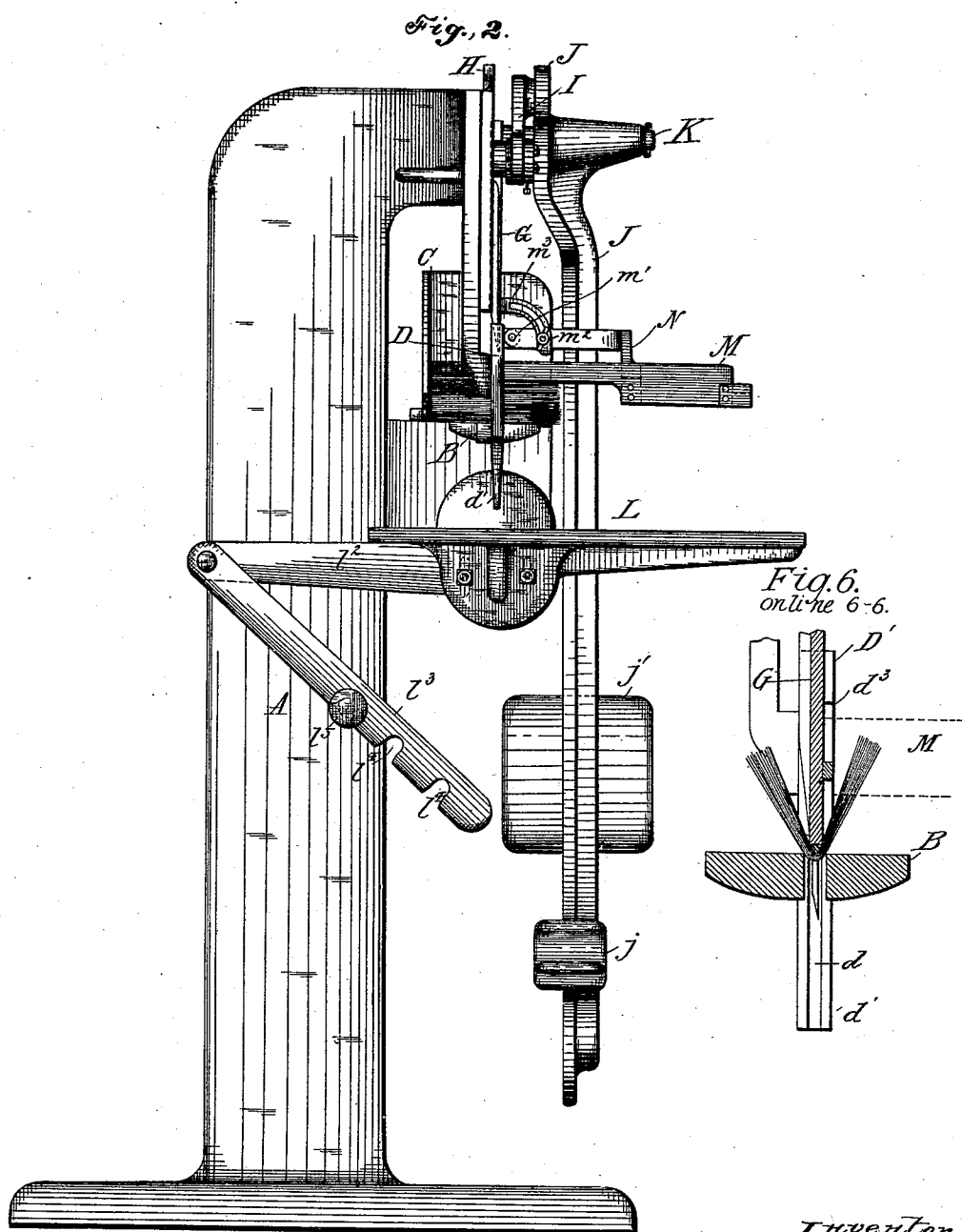
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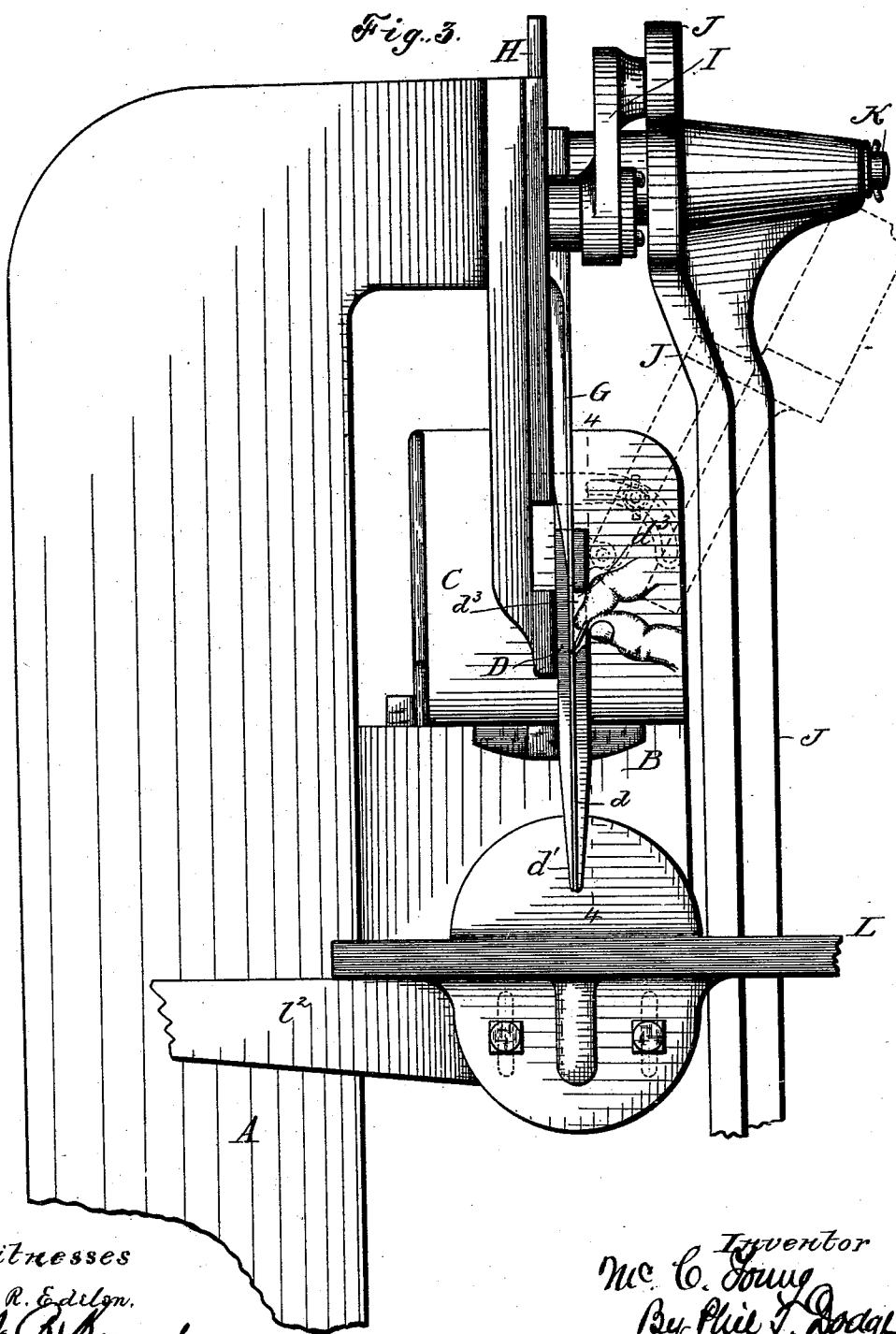
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UNITED STATES PATENT OFFICE.

McCLINTOCK YOUNG, OF FREDERICK, MARYLAND.

BRUSH-MACHINE.

SPECIFICATION forming part of Letters Patent No. 530,151, dated December 4, 1894.

Application filed November 30, 1891. Serial No. 413,521. (No model.)

To all whom it may concern:

Be it known that I, McCLINTOCK YOUNG, of Frederick, county of Frederick, and State of Maryland, have invented a new and useful Improvement in Brush-Machines, of which the following is a specification.

The machine forming the subject of this invention is designed to seat a U-shaped staple astride a bunch or wisp of fiber, bend or double the fibers through the staple to form a tuft, and then carry the tuft and staple into a hole in the brush-block or body, driving the legs of the staple point foremost, firmly into the wood. It embraces as its leading features grooved guides for the staple, a reciprocating staple-driving blade, a slotted bed on which the fiber is sustained and by which it is doubled or folded around the descending staple. It also embraces means for sustaining and feeding the staples and supporting the brush-block.

In the accompanying drawings,—Figure 1 represents a side elevation of my improved machine, a portion of the foot-lever being broken away to expose other parts to view. Fig. 2 is a front elevation of the machine. Fig. 3 is a front elevation on an enlarged scale of the upper portion of the machine. Figs. 4, 5 and 6 are sections taken respectively on the lines 4—4, 5—5 and 6—6 of the preceding figures, and illustrating the details of the staple guiding and driving devices.

Referring to the drawings,—A represents a rigid frame, which may be of any suitable form adapted to sustain the operative parts herein described, which, as represented in the drawings, consist of a standard having an expanded base or foot, and an overhanging upper end.

B represents a horizontal bed or table bolted or otherwise fixed to the frame and extending beneath its overhanging end. This bed or table B is designed to receive and sustain *en masse* the fibers to form the tufts. This bed is provided with a suitable box or receptacle C, open in one side, in which the fibers, cut to the required length, are laid horizontally, so that they may be worked out by hand in sheet form toward the projecting end of the table, which at its end is provided with a vertical slot or opening to admit of the tuft being carried downward therethrough.

To the overhanging end of the main-frame are firmly fixed two guide-plates D and D', having vertical parallel edges provided with vertical grooves *d d*, to receive and guide the legs of the staple. These guide-plates D D', are continued downward through and beyond the bed B, and terminate in arms or points *d'*, which being seated on the brush-block direct the tuft and staple to their place therein. Above the level of the table B, the guides D D', have their front walls cut away, as shown at *d*³, in order to produce an opening through which the staples may be inserted point foremost in a downward direction into the guiding grooves, in the manner indicated in Figs. 3 and 4.

It will be observed that an open horizontal space exists between the under side of the guide D' and the tuft-supporting table B, so that the fibers may be spread out in sheet form and worked by hand horizontally under the guide D' and against the vertical face in such position that those required to form a tuft will lie immediately beneath the staple in the guide, so that when the staple is driven downward it will straddle or embrace the required number of fibers to form the tuft and carry the same downward at the middle through the opening in the table B, whereby the ends of the fibers are folded or doubled upward around and above the staple, the ends of the fiber projecting upward while the points of the staple extend downward below them.

For the purpose of driving the tuft and staple I provide the blade G, bolted or otherwise fastened to a plate, H, arranged to reciprocate in vertical guides on the overhanging end of the main-frame. The plate H is operated by a pitman I, the lower end of which encircles a large boss on the plate while the upper end is jointed to one end of the lever J, which is mounted on a horizontal journal or pivot K, on the main-frame, and curved downward and forward in such shape as to admit of its being readily vibrated by the foot of the operator applied to the foot-piece *j*, at its lower end. This lever J, may be varied in form at will, but I recommend the form shown in the drawings, as being convenient and serviceable. It is preferably formed with a weight, *j'*, on the rear side, as shown. When

formed as shown, the lever hangs normally in the position indicated in Fig. 1, holding the driving-blade G, in an elevated position. After being operated by rearward pressure of the foot it returns automatically to this position.

Below the table B is mounted a bed-plate L, intended to sustain or support the brush-block, previously bored, in position to receive the tufts and staples as they are driven downward through the overlying guides. The bed-plate L may be sustained in any suitable manner but I commonly provide it with a horizontal journal l , seated in ears on the under side of the bed B, so that it may be tipped or rocked according to the angle at which the tufts are to be inserted in the brush-block. I provide the table with a rigid outreaching arm l^2 , to which there is jointed an arm l^3 , provided with notches l^4 , and arranged to engage a rigid stop l^5 , whereby the table may be locked at different inclinations.

The feeding of the staples into the guides may be effected by hand, as indicated in Fig. 3, without the assistance of feeding devices of any kind, but in order to facilitate the operation I prefer to provide, as shown in Figs. 1 and 2, a horizontal guide-bar M, sustained by a lateral arm N, with one end presented toward the feed openings d^3 . To make use of this guide the staples are placed astride of the same in series and pushed forward in such manner that at each descent of the driving-blade G, the foremost staple will be carried downward thereby through the guide. The arm M, is preferably pivoted to the frame at m' , and fastened by a clamp screw m^2 , passing through a curved fixed arm m^3 . This arrangement admits of the guide being turned upward out of the way when it is not to be used, as indicated by dotted lines in Fig. 3.

It will be observed that the present machine is not intended to form the staples which it drives. I propose to make use of staples such as are commonly sold in the market having pointed and barbed legs of such strength that they may be driven into the wood without bending or crossing so that the bight of the tuft will be confined between the legs of the staple and the bottom of the hole. I believe myself to be the first to construct a machine adapted to thus insert the staples, and it is to be understood that the details of the parts both as to form and arrangement may be modified, provided they are adapted to operate essentially as described.

Having thus described my invention, what I claim is—

1. In a brush machine, a staple guide adapted to permit the insertion of a completed staple, and a reciprocating blade to drive the staple, in combination with a fiber support extending across the path of the driving blade and having an opening for the passage of the staple and fiber, and a support for the brush-block.

2. The grooved guide to receive the legs of a staple and provided with a lateral opening to admit the staple, in combination with the driving blade arranged to slide in said guide, and a fiber support extending across the path of the driving blade and having an opening for the passage of the doubled fiber and the staple therethrough.

3. In a brush machine, the combination of a guide to receive the legs of a staple, a reciprocating staple-driving blade, a staple support arranged to guide the staple's points forward beneath the blade, and an underlying fiber support having an opening for the passage of the fibers and staples therethrough.

4. In a brush machine, the grooved staple guide, the reciprocating driving blade, the fiber support extending across the path of the blade and having an opening therethrough, and the staple-supporting arm hinged to turn away from its operative position.

5. In combination with a brush-block support and an overlying fiber support, having an opening therethrough, a staple guide, a driving blade, and a pendulous lever, coupled with and adapted to operate the driving blade, substantially as shown.

6. In a brush machine, and in combination with a driving blade, a staple guide adapted for the introduction of the staple, points foremost, and a fiber support having a passage to permit the lateral introduction of the fiber beneath the descending staple, and with an opening therethrough for the passage of the staple and its contained fiber: whereby the staple is caused to separate the tuft from the remaining fiber, the tuft doubled, and the tuft and staple driven into the brush block.

In testimony whereof I hereunto set my hand, this 8th day of October, 1891, in the presence of two attesting witnesses.

McCLINTOCK YOUNG.

Witnesses:

EDWIN C. MARKELL,
MARSHALL FOUT.