

(No Model.)

2 Sheets—Sheet 1.

M. F. CONNETT, Jr.
MACHINE FOR TURFING FABRICS.

No. 313,710.

Patented Mar. 10, 1885.

Fig. 1.

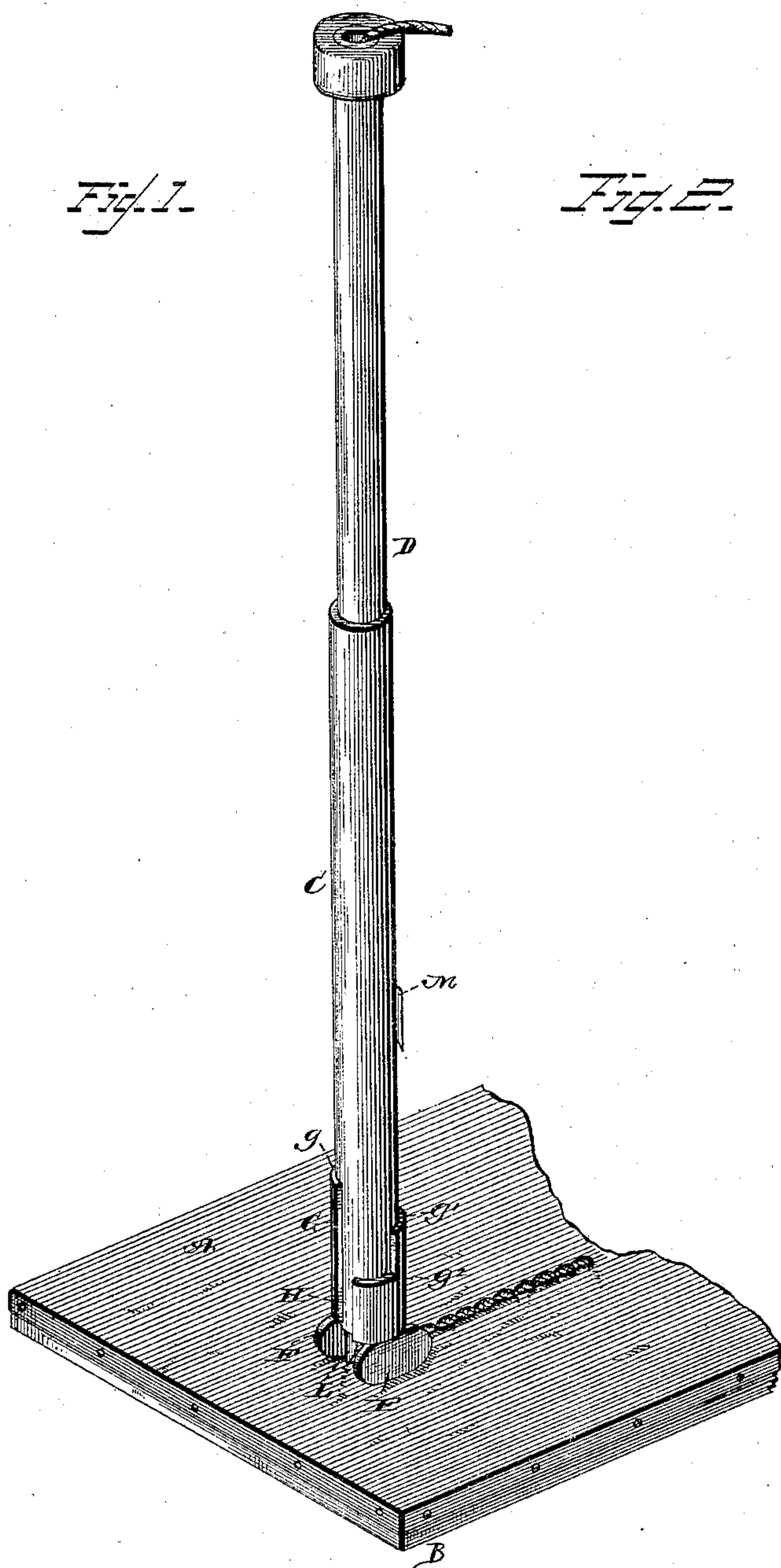
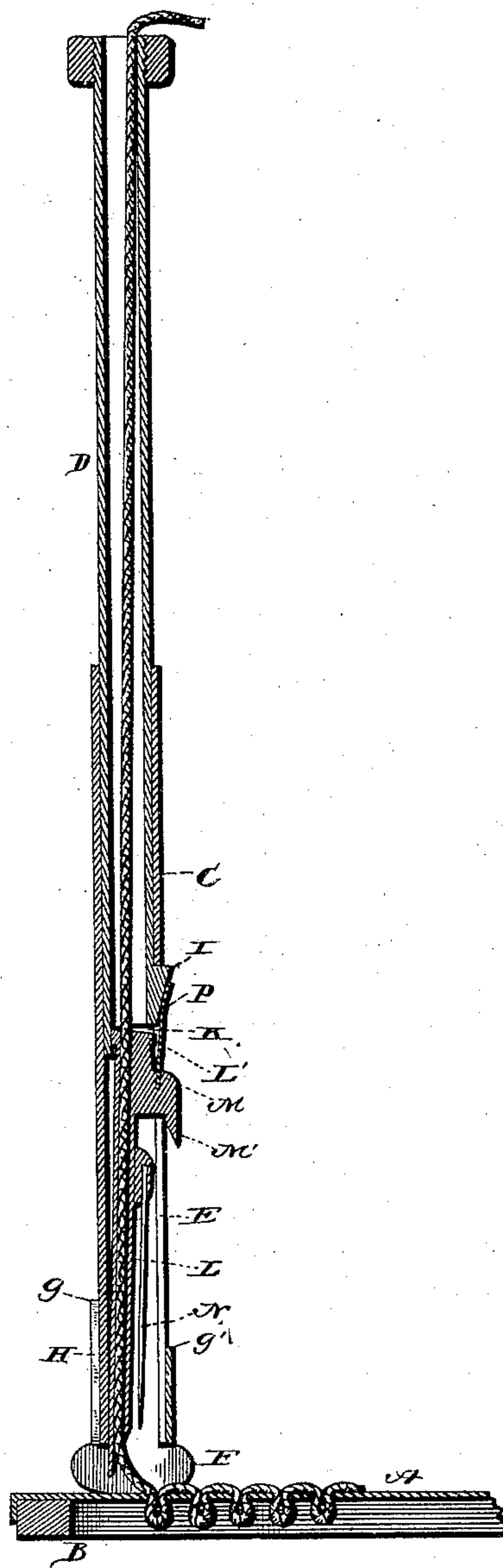


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

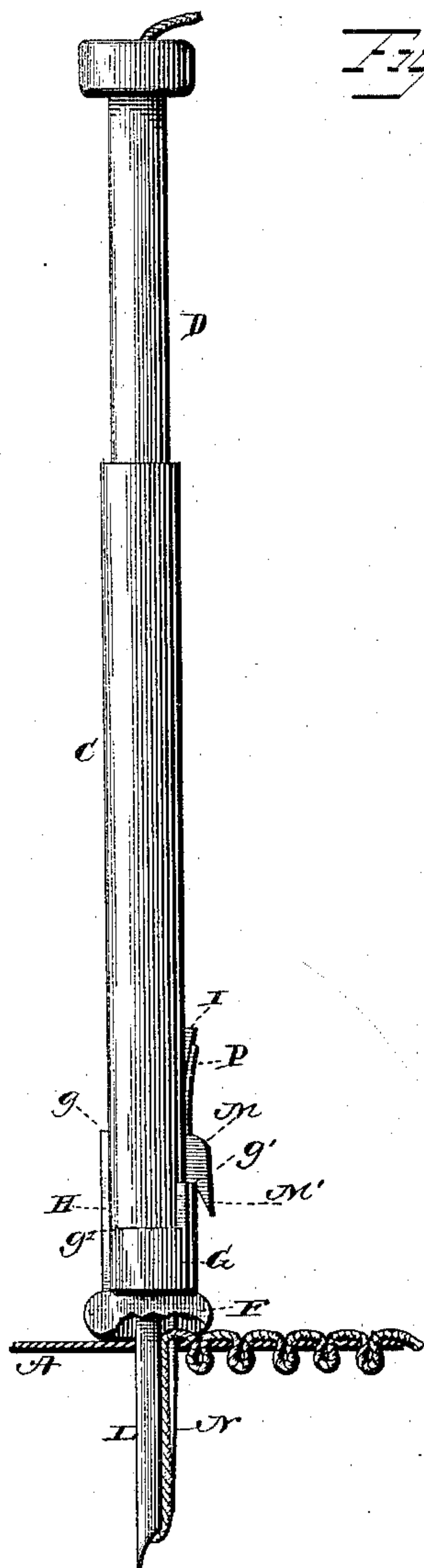


Fig. 4.

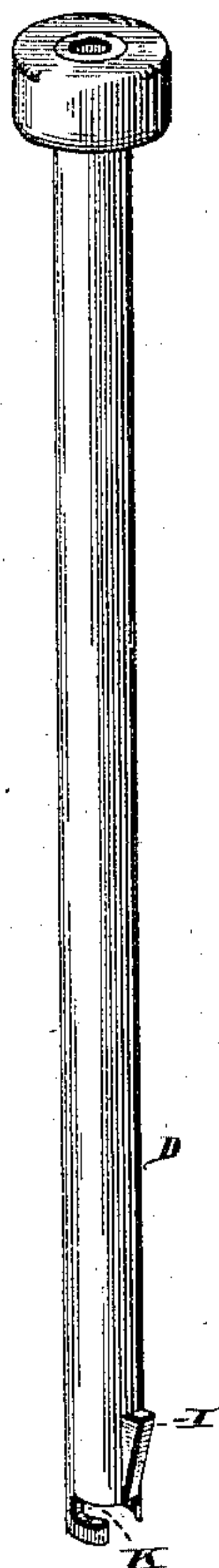


Fig. 5.

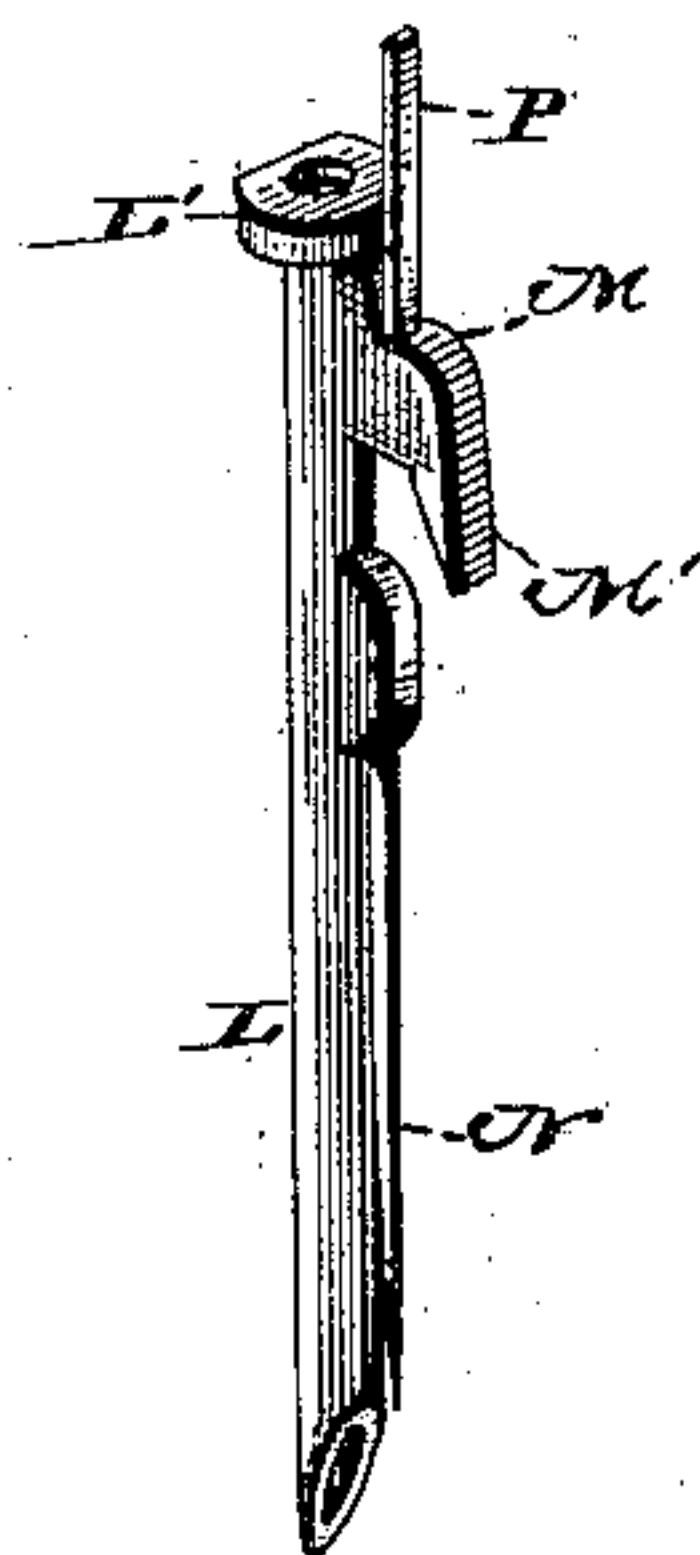
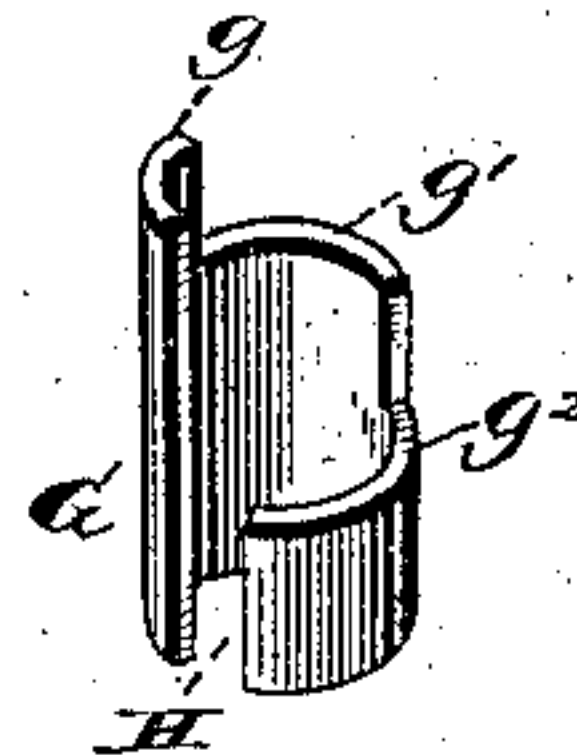


Fig. 6.



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UNITED STATES PATENT OFFICE.

MATTHEW F. CONNETT, JR., OF SPRINGFIELD, ILLINOIS, ASSIGNOR OF ONE-THIRD TO MATTHEW F. CONNETT, SR., OF SAME PLACE.

MACHINE FOR TURFING FABRICS.

SPECIFICATION forming part of Letters Patent No. 313,710, dated March 10, 1885.

Application filed October 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW F. CONNETT, Jr., of Springfield, in the county of Sangamon and in the State of Illinois, have invented certain new and useful Improvements in Machines for Turfing Fabrics; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 shows a perspective view of my machine as in operation; Fig. 2, a sectional view in side elevation, showing the parts as in position before the needle has been thrust through the fabric; Fig. 3, a view in side elevation of the machine with the parts as in position after the needle has been thrust down through the fabric; Fig. 4, a detail view of the needle-bar removed; Fig. 5, a similar view of the needle, and Fig. 6 a similar view of the needle-throw regulating-sleeve.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to provide an improved apparatus or machine for turfing fabrics; and to this end it consists in the construction, arrangement, and combination of parts, as hereinafter specified.

In the drawings, A designates the fabric to be turfed, which is stretched over a suitable frame, B, in the ordinary and well-known way.

C designates a tube, within which slides the tubular needle-bar D. Where the machine is to be operated by hand, this tube forms a handle. Where the machine is to be driven by power, this tube is to be attached to a supporting-arm in the same way as the needle-guide and presser-foot of a sewing-machine, and the needle-bar is to be connected in any suitable way with a vibrating needle-arm.

The tube, as shown in the drawings, has a longitudinal slot, E, in its rear side, open at its lower end, and extending well up the tube. The lower end of the tube C is provided at its sides with downwardly-extending ears or lugs F F, which extend parallel with each other, and are rounded on their forward and rear ends, so as to permit the free passage of the fabric under them while they rest in contact with it. Upon the tube, just above these ears, is a sleeve, G, capable of being rotated

about the tube as desired. This sleeve is at one point slotted from end to end, the slot H being of a width corresponding with slot E in the tube. When, then, the sleeve is rotated so that the two slots are in coincidence, there is a clear passage throughout the extent of slot E. The upper end of the sleeve is cut away to different depths, so as to leave portions $g\ g' \ g''$, of different heights, forming steps. The sleeve is so formed for a purpose hereinafter to be described. The tubular needle-bar D is provided near its lower end with a lug, I, projecting through and moving in the slot E as the bar is reciprocated within tube C. The upper end of this lug is made abrupt, so as to act in connection with the upper end of the slot as a stop, to limit the upward movement of the bar. The outer force of the lug is, as shown, inclined inward and downward from its upper to its lower end. Just below this lug a portion of the rear side of the tube of the needle-bar is cut away, and a slot, K, is cut in the remaining portion at right angles to the axis of the tube. The needle L is tubular, and at its lower end is brought to a penetrating-point by being cut away obliquely or at an angle on its rear side. The upper end of the needle is formed with a flange, L', adapted to fit in the slot K in the end of the needle-bar. This flange is made of such shape as to just slide and fit within the tube C when the needle-bar is drawn upward within such tube. It is also made slightly thinner toward its rear side than at its front, so that the needle, while attached to and carried by the tubular bar, as described above, is capable of being vibrated slightly to carry its point to the rear. For the purpose of giving the needle this motion, so as to form a needle-feed, on the rear side of the needle is the fixed lug or ear M, projecting out through and guided in the slot E in tube C. The lower end of the lug is on its inner side cut away to leave a downwardly-projecting portion, M', having its inner face inclined upward and inward, as shown. This portion, as the needle-bar is thrust downward within its tube, rides up on the sleeve G, so that the needle is swung rearward to make the feed. The main portion of the lug M, coming in contact with the upper edge of that portion of the sleeve which is

turned across slot E, limits the downward movement of the needle-bar and needle. By turning the sleeve so that different portions of it shall be brought across the slot E the throw of the needle can obviously be regulated as desired.

Attached to the rear side of tubular needle L, and extending parallel with it, is the needle N, whose point stands in rear of and just above the lower end of the needle L.

To swing the needle forward again into position after the inclined projection M' on its lug has passed up out of engagement with the sleeve, I provide the spring P, attached at one end to the lug on the needle, and at the other bearing against the inclined outer face of the stop-lug on the needle-bar. The edges of the obliquely cut-away end or point of the tubular needle are not left sharp, but are rounded, as shown, to prevent cutting the fabric.

If desired, the hollow needle can be provided with a solid point, an opening being made near the point for the passage of the yarn from the inside of the needle.

The operation of my machine is as follows: The fabric to be turfed is stretched on the frame B, and the needle is supplied with yarn or similar material, which is passed down through the needle-bar and needle and out at the point of the latter. The bar and needle being pulled back, the tube C is held with its bottom ears or lugs against the fabric. The needle-bar is then thrust down, so that the needle carrying the yarn is forced through the fabric until the lug on the needle strikes the sleeve on tube C. Just before this, as the end of the stroke of the needle is neared, the riding of the inclined inner face of the projection on this lug swings the needle to the rear. As the needle is confined in the goods or fabric this movement of it causes the machine to move forward. The needle being now withdrawn, a loop is formed of the yarn on the opposite side of the goods operated upon. As the needle is thrust down again through the fabric the sharp supplemental needle impales the yarn in the rear of the needle, and so prevents the loop just made from being pulled out by the movement of main needle L. As this latter moves downward the yarn is compelled to feed down through the needle-bar and tubular needle. The length of stroke of the needle, and consequently the size of the loops made, can be regulated, as described, by turning the sleeve on the tube to bring higher or lower portions of it over the slot. The spring P keeps the needle in its normal position, as shown in Figs. 1 and 2, and returns it to such position after it has been swung rearward to make the feed by the means already described.

Having thus fully set forth the nature of my invention, what I claim is—

1. In a machine or apparatus for turfing fabrics, in combination with the needle for carrying the yarn down through the fabric, means, substantially as described, moving in

the same direction with the needle, adapted to hold the yarn at a point between the needle and the loop last formed, so that such loop shall not be pulled out by the movement of the needle, substantially as shown and described.

2. In combination with the needle adapted to carry the yarn through the fabric to form loops, the supplemental needle adapted to impale and hold the yarn between the needle and the last-formed loop as the needle passes through the fabric, substantially as and for the purpose described.

3. In combination with the tubular needle for turfing fabrics, having the yarn fed through it, the supplemental needle carried with the tubular one, and adapted to impale the yarn between the loop last formed and such tubular needle, substantially as and for the purpose described.

4. In a machine or apparatus for turfing fabrics, a needle for carrying the yarn through the fabric, in combination with the impaling-needle, arranged parallel to the other and traveling in the same direction with it, substantially as shown and described.

5. In combination with the hollow needle-bar adapted to allow of the passage and feed of the yarn or thread down through it, the hollow needle attached to the bar, having its bore connecting with or forming a continuation of the bore of the needle-bar, and at its lower end cut away at an angle to form a penetrating-point, substantially as and for the purpose described.

6. The hollow needle-bar provided at its lower end with a slot substantially at right angles to its axis, in combination with the hollow needle provided with the flange adapted to fit the slot in the needle-bar, substantially as shown and described.

7. The hollow needle-bar provided at or near its lower end with a slot substantially at right angles to its axis, and open at one side of the bar, and the needle having at its upper end a flange adapted to fit in such slot and be flush with the outside of the bar, in combination with the tubular sheath surrounding the bar, substantially as shown and described.

8. In combination with the tubular sheath provided with the longitudinal slot, the needle-bar within the sheath, provided with a lug guided in the slot, the needle carried by the bar, having the lug extending out through the slot in the sheath, and the stop-sleeve around the latter, substantially as and for the purpose described.

9. In combination with the slotted sheath and the needle carried by the bar, within the sheath, and provided with a lug projecting through the slot, the rotary sleeve on the sheath, cut away to form steps of different heights for engagement of the lug on the needle, to limit the movement of the latter, substantially as and for the purpose described.

10. In a machine or apparatus for turfing

fabrics, in combination with the needle, means for regulating its throw, consisting of a lug or stud on the needle and an adjustable stop for engaging the same, substantially as and for
5 the purpose described.

11. In combination with the needle, the lug thereon provided with a projection or lip inclined on its inner side, and a fixed lug or stop on the machine, adapted to be struck and engaged by the lip and lug at the lower end of
15 the stroke of the needle, substantially as and for the purpose described.

12. In combination with the needle-bar, the needle attached thereto, so as to be capable
15 of swinging thereon, and means, as a lug and stop, adapted to swing the needle to the rear at the lower end of its stroke, substantially as and for the purpose described.

13. In combination with the needle-bar, the
20 needle carried thereby, so as to be capable of a swinging motion thereon, a spring attached to the needle, and bearing against the inclined face of a lug on the bar, and adapted to keep

the needle normally in one position, and the inclined lip or projection carried by the needle, adapted to come in contact with and ride
25 over the upper edge of the sleeve on the needle-bar sheath as the needle approaches the lower end of its throw, substantially as and for the purpose described.

14. In combination with the slotted needle-bar sheath, the needle having a lug projecting out through the slot in the sheath, and the stop-sleeve on the lower end of said sheath, provided with a longitudinal slot adapted by
30 rotation of the sleeve to be brought into coincidence with the slot in the sheath, to allow the needle to be removed, substantially as and for the purpose described.

In testimony that I claim the foregoing I
40 have hereunto set my hand this 6th day of October, A. D. 1884.

MATTHEW F. CONNETT, JR.

Witnesses:

ISAAC K. BRADLEY,

MATTHEW F. CONNETT, Sr.