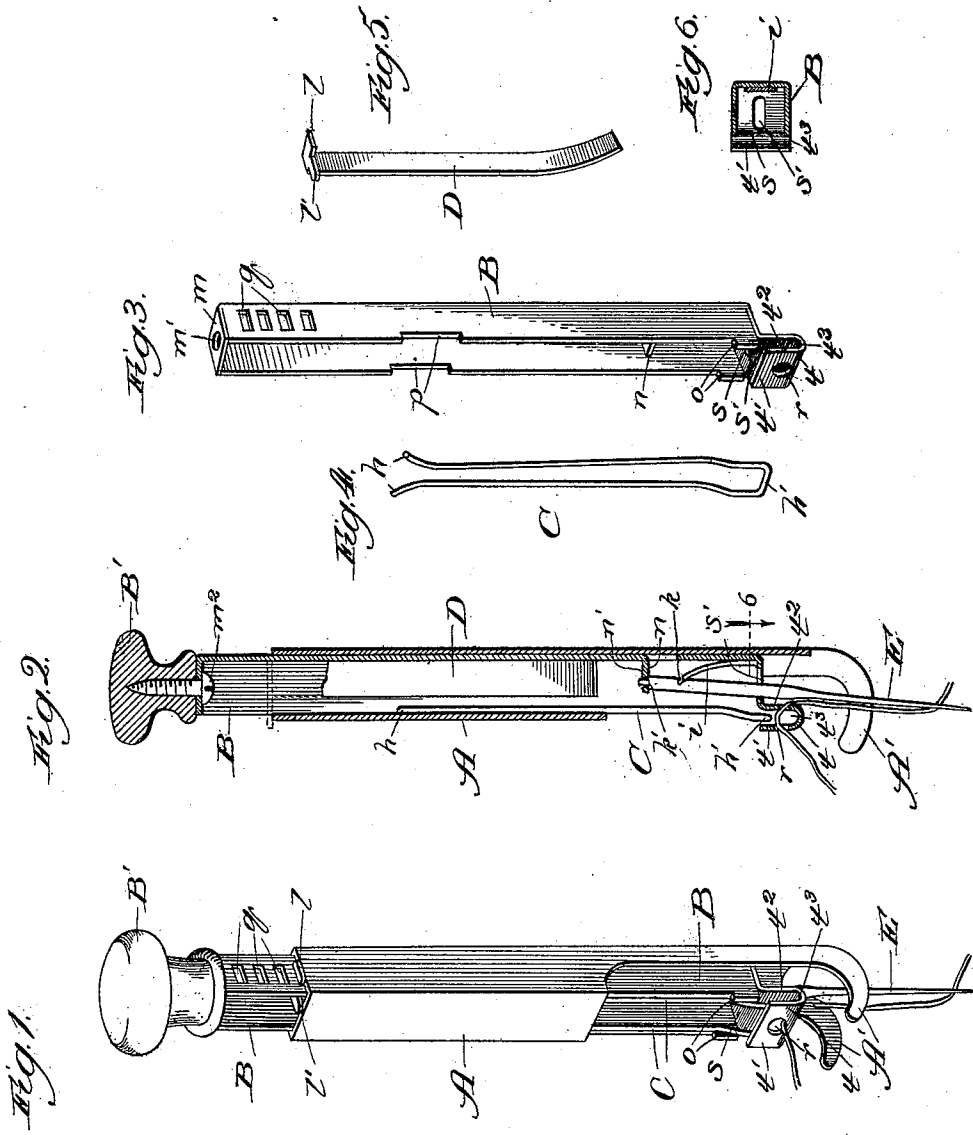


(No Model.)

M. F. CONNETT.  
FABRIC TURFING IMPLEMENT.

No. 463,753.

Patented Nov. 24, 1891.



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# UNITED STATES PATENT OFFICE.

MATTHEW F. CONNETT, OF PINE BLUFF, ARKANSAS, ASSIGNOR TO M. F. CONNETT, OF DAVENPORT, IOWA.

## FABRIC-TURFING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 463,753, dated November 24, 1891.

Application filed January 5, 1891. Serial No. 376,758. (No model.)

*To all whom it may concern:*

Be it known that I, MATTHEW F. CONNETT, a citizen of the United States, residing at Pine Bluff, in the county of Jefferson and State of Arkansas, have invented a new and useful Improvement in Fabric-Turfing Implements, of which the following is a specification.

My invention relates to an improvement in fabric-turfing implements of the class which produce a "turf" upon the reverse side of the fabric operated upon and in which a threaded needle is operated to puncture and reciprocate through the fabric in its forward movement and in its backward movement withdraw only a part of the thread to leave a loop upon the reverse side of the fabric, a number of which loops when cut and trimmed form the turf.

My object is to provide an implement of the above class which shall be of a more simple construction and more effective in its operation than the devices of the same class hitherto employed.

In the drawings, Figure 1 is a perspective view of my improved device; Fig. 2, a longitudinal section of the same; Figs. 3, 4, and 5, perspective views of details, and Fig. 6 a section taken on the line 6 of Fig. 2 and viewed in the direction of the arrow.

A is the outer casing or sheath of the device, which also operates as the holder and is formed with a presser-foot A'.

B is a hollow needle-bar, open at its forward side and provided at one end with a knob or handle B'. At the lower end of the forward side of the needle-bar is a flat hook-shaped extension *t* with approximately parallel sides *t'* *t''* and socket *t'''* between. The extension *t* may be formed, as shown, by an extension of the back of the needle-bar, which is first bent across the lower end of the latter to afford the base *s*. The sides *t'* *t''* are provided with coincident openings through them, which afford the eye *r*. Through the base *s* is an opening *s'*, elongated in the direction from front to back of the needle-bar. In one side of the latter, toward the top, is a series of openings *q*, and the edges of its sides at the front are formed with coincident elongated recesses *p* and coincident projecting stops *o*, which lat-

ter are near the base of the needle-bar. A short distance above the base portion *s* a section of the back of the needle-bar is cut out on three sides and bent inward at right angles to the back to afford a needle-bearing *n*. The needle-bearing *n* has an opening *n'* through it to receive the top or reduced head portion of the needle, as hereinafter described. The needle-bar and the features thereof mentioned, with the exception of the handle B', may be stamped and formed from an integral sheet of metal, thereby materially limiting the cost of its production. The top *m* of the needle-bar is formed of an extension of the back thereof, which is bent over upon the sides, as shown, and provided centrally with a perforation *m'*, through which a screw *m''* is passed to secure the handle B' in place.

C is a clamping-strip preferably in the form of a stirrup and comprising a single strip of stiff springy wire bent to the shape shown.

D is an adjustable spring-stop, curved, as shown, and provided at the top with the projections *l* *l'*. The needle E has an eye near its point and a longitudinal groove on one side extending to the eye, being of a construction common to sewing-machine needles. Near its upper end the needle is provided with a socket *k*, and at its said end it is reduced in circumference to enter the opening *n'* and afford a shoulder *k'*. In adjusting the parts together the upper portion of the needle is passed through the opening *s'* and its reduced upper end into the opening *n'* in the needle-bearing with its shoulder *k'* against the under side thereof. Extending from the back and base portion of the inner side of the needle-bar is a leaf-spring *i*, which presses into the socket *k* of the needle, operating to hold the latter in the bearing *n* and against withdrawal, and operating, also, to maintain it normally against the forward end of the opening *s'*, whereby the needle extends normally obliquely downward and forward from the needle-bar. The needle-bar is then passed upward through the sheath A and its handle B' fastened in position. The spring D is then inserted in the needle-bar with its projection *l* extending through one of the openings *q*,

where it is held by pressure of the spring against the opposite sides of the needle-bar. The spring-stirrup C is then inserted in position, first pressing the ends *h* against the resistance of the spring toward each other to enable them to pass between the sides of the needle-bar. When in position, the ends *h* extend through the recesses *p* of the needle-bar against the adjacent sides of the sheath and its stirrup end *h'* projects into the socket *t*<sup>3</sup>.

The device is threaded by passing the thread from the forward side through the eyes *r* under the end *h'* of the intervening stirrup, and thence down to and through the eye of the needle. The device is held perpendicular to the fabric which is to be embroidered upon with the presser-foot A' upon the fabric. A downward pressure upon the handle plunges the needle-bar down in its sheath and the needle through the fabric, and raising the needle-bar by its handle in the sheath withdraws the needle from the fabric. The oblique position of the needle causes it in its downward plunge to enter the fabric at an angle, so that as it descends it draws the device forward. As the needle is withdrawn from the fabric the pressure of its forward side against the fabric causes the needle to vibrate backward against the resistance of the spring *i* and ascend in a direct line with the needle-bar, whence it springs again to its oblique position when released from the fabric. This action of the needle causes the device to travel forward with each downward plunge of the needle-bar without corresponding backward movement when the needle ascends. The distance which the device will travel with each plunge of the needle is governed by the extent of its plunge through the fabric, and this may be regulated by adjustment of the spring-stop device D. When its projection *l* is inserted through any one of the openings *q*, its projection *l'* extends (and the projection *l* may also extend) beyond the sides of the needle-bar to impinge against the top of the sheath and limit the downward plunge of the needle-bar, the distance of the plunge being greatest when the projection *l* is in the upper opening *q* and least when it is in the lowest opening *q*. The upward movement of the needle-bar is limited by the stops *o*, which impinge against the lower forward end of the sheath. The friction produced by

the pressure of the ends *h* of the spring-stirrup against the inner sides of the sheath is sufficient to maintain the stirrup and needle-bar when raised against dropping of their own weight in the sheath.

In operation the initial lowering of the needle-bar causes its eye to drop below the lower end *h'* of the stirrup before the upper ends of its recesses *p* strike the ends *h* of the stirrup to carry the latter down against the retarding effect of the friction of the ends *h* against the sheath. This causes the thread to pay out through the eyes *r* in the downward plunge of the needle through the fabric without obstruction from the stirrup. As the needle-bar is raised with the initial movement, the lower end of its socket *t*<sup>3</sup> is drawn against the end *h'* of the stirrup, thus operating to clamp the thread between it and the stirrup. In the ascent of the needle-bar, therefore, the thread is locked, preventing further feed of the material and causing the ascending needle to withdraw part of the thread that has been carried through the fabric and leave a loop of the thread on the reverse side of the latter.

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

In a fabric-turfing implement, the combination of a sheath A, provided with a presser-foot A', a needle, a hollow needle-bar B, reciprocating within the sheath and provided with a needle-bearing *n*, an opening *s'* in its base through which the needle extends, a spring *i*, operating to maintain the needle normally in an oblique position, an extension *t*, affording a clamping-surface and having an eye *r* through it for the passage of the thread and coincident recesses *p* on opposite sides, and a spring-clamping strip C, movable with the needle-bar and extending at one end to the extension *t* and at its opposite end projecting through the recesses *p* into frictional contact with the sheath, the needle-bar having limited play independent of the clamping-strip, whereby it moves in advance of the clamping-strip and clamps the thread as the needle is withdrawn and releases it as the needle is advanced, substantially as described.

MATTHEW F. CONNETT.

In presence of—

GEORGE R. WELLS,  
S. WRIGHT.