(No Model.) 2 Sheets—Sheet 1.

Q. W. BOOTH.

LEATHER TURNING MACHINE.

No. 385,497. Patented July 3, 1888.

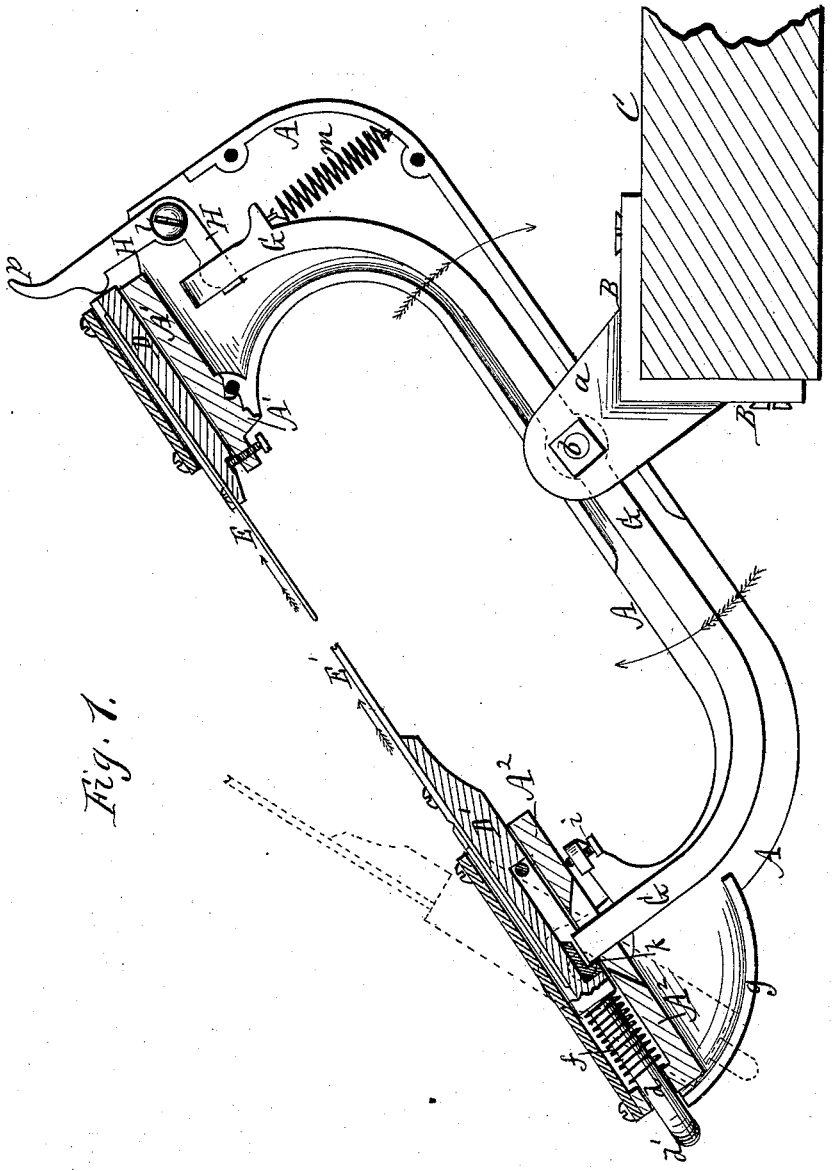


Fig. 1.

Attest.
A. S. Smith.
Chas. A. Sidener.

Inventor.
Quentin W. Booth,
per R. F. Osgood,
Atty.

(No Model.) 2 Sheets—Sheet 2.

Q. W. BOOTH.

LEATHER TURNING MACHINE.

No. 385,497. Patented July 3, 1888.

Fig. 2.

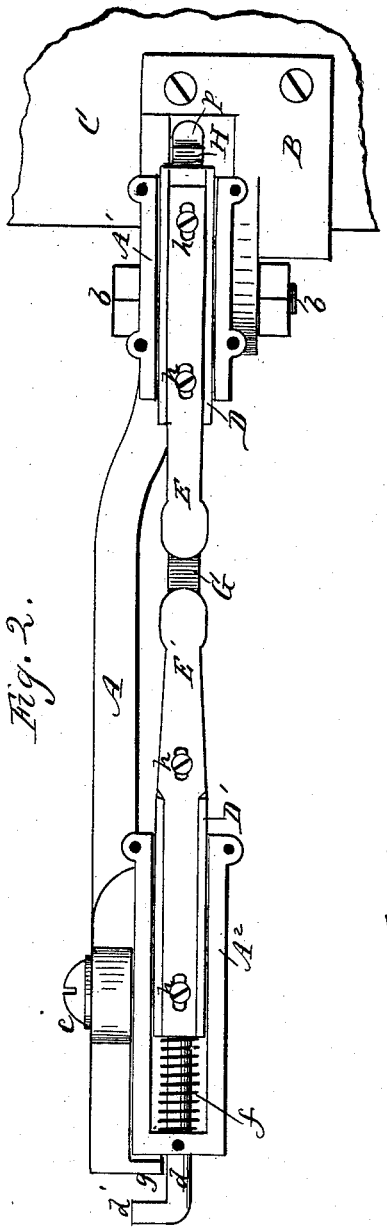


Fig. 3.

Fig. 4.

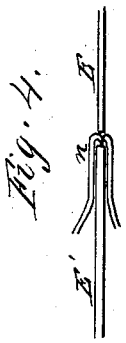


Fig. 5.

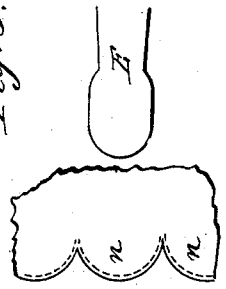
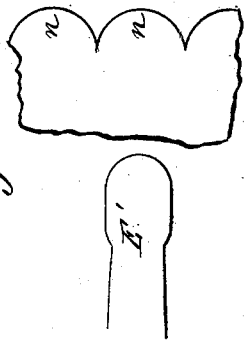


Fig. 6.



Attest.
A. S. Smith.
Chas. H. Sidener.

Inventor.
Quentin W. Booth.
per R. F. Osgood,
Atty.

UNITED STATES PATENT OFFICE.

QUENTIN W. BOOTH, OF ROCHESTER, NEW YORK.

LEATHER-TURNING MACHINE.

SPECIFICATION forming part of Letters Patent No. 385,497, dated July 3, 1888.

Application filed September 8, 1887. Serial No. 249,107. (No model.)

To all whom it may concern:

Be it known that I, QUENTIN W. BOOTH, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Leather-Turning Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

My improvement relates to means for turning the scallops of shoe-uppers. The flies of button-shoes are provided with scallops or notches, and in preparing the flies the leather and the lining are placed face to face and stitched together wrong side out, after which they are turned. The scallops, which form small pockets when sewed up, are difficult to turn right side out rapidly, and the object of my invention is to provide improved means to facilitate this operation. This work in common practice is done by hand, one scallop at a time, over a stationary turning-iron consisting of a thin flat blade, over which the scallop is turned. It has, however, been done by machinery in which two turning-irons are used, one fixed and the other movable, the scallop being placed on the movable iron wrong side out, the two turning-irons then being brought together on each side of the same, and the leather then being turned or reversed over the fixed iron. In such machinery the movable iron is operated by a treadle, so that the operator has to make a motion with his foot at the same time that he uses his hands in manipulating the leather. In view of this I do not claim, broadly, the use of two irons; but the object of my invention is to so combine and arrange the parts that when the unturned scallop is placed on one iron and end-pressure is applied to force the iron forward it releases the other iron, which then springs up against the seam, and when the reverse motion is given to turn the leather it draws the second iron back and resets the apparatus ready for the insertion of the second scallop. The action is thus automatic, requiring no treadle and no operation of the foot, the whole being done by the hands.

In the drawings, Figure 1 is a side elevation of the machine, portions being shown in longitudinal section. Fig. 2 is a plan view of the same, the covering-caps at the ends being removed to show the turning-irons and their slides. Fig. 3 is a diagram showing an edge view of the two turning-irons separated and with the unturned scallop on the primary iron. Fig. 4 is a similar view showing the two irons meeting at the seam and the scallop reversed and turned right side out on the secondary turning-iron. Figs. 5 and 6 are diagrams showing plan views of a fragment of the scalloped fly respectively in the unturned and turned positions and the turning-irons for turning the same.

A indicates the frame of the machine, which may be of any suitable form, usually a bow open at the top.

B is a bearing for attaching the frame to a table or bench, C. It is designed that the frame shall stand at an angle in front of the operator and be capable of adjustment to different positions; hence I prefer to pivot it to a lug, *a*, of the bearing B, the pivot being a screw-bolt, *b*, with a nut thereon which can be clamped up to hold the frame in any position; but, if desired, the frame can be made stationary and attached in any other way.

A′ and A² are head-blocks at the ends of the frame for supporting the turning-irons and their slides. The block A′ is stationary, but the block A² is pivoted by a bolt at *c*, so that it can be turned up at an angle, as indicated by the dotted lines at the left in Fig. 1, and fixed in that position for the purpose of using it as an ordinary turning-iron for turning plain seams.

D and D′ are the two slides, and E and E′ the two turning-irons. The slides are simply rectangular blocks or bars square in cross-section, which rest in square sockets of the head-blocks, so as to move freely forward and back. The slide D′ has an arm, *d*, extending out through the end of the head-block, around which arm *d* is a spiral spring, *f*, resting against a shoulder of the slide, by which means the slide is pressed forward. The end of the arm *d* outside of the head-block is turned to one side horizontally, forming a lug, *d′*, which, when the head-block is tilted, as shown by dotted lines, rides outside of a concentric curved flange, *g*, of the frame, but when the head-block is horizontal and the slide pressed in rests over the top of said flange *g* for the purpose of holding the turning-iron in a rigid position for

turning plain seams. The turning-irons consist, simply, of flat strips of metal with circular inner ends, and secured to the slides by screws *h h* or other means, so as to be adjustable to a certain extent forward and back. The turning-irons and slides can be made in one piece, if desired. The slide D′, which carries the turning-iron E′, is also adjustable vertically by a set-screw, *i*. The object of these adjustments is to accurately adjust the turning-irons in line and to regulate their distance apart.

G is a locking device consisting of a bow-shaped iron pivoted to turn loosely on the bolt *b*, its ends extending up under the head-blocks A′ A². That end under the pivoted head-block A² engages with a shoulder, *k*, Fig. 1, of the slide D′ and holds said slide pressed back against the spring *f*. The opposite end under the stationary head-block A′ has a hook, which rests over the projecting end of a rock-lever, H, that is pivoted at *l*. The upper end of this rock lever rests against the outer end of the slide D. This end of the arm G is drawn down by a spiral spring, *m*, or equivalent.

The operation is as follows: When the turning-irons are set, a space is left between their inner ends sufficient to insert the leather. The leather in the unturned position is inserted, and one of the scallops *n* is placed over the primary turning-iron E. Pressure is applied in inserting it which forces the slide D back against the rock-lever H. This raises the end of arm G and releases the opposite end from the shoulder *k*. The slide D′ springs forward, bringing the inner ends of the turning-irons in contact with the seam. The leather is now reversed, so as to turn the scallop over the end of the secondary turning-iron E′, and right side out. Drawing pressure being applied to the leather, the slide D′ is drawn back to its former position, and the end of arm G re-engages with the shoulder *k* by reason of the action of spring *m*, and the apparatus is thus set ready for another scallop. The action is thus automatic, being produced by the hands alone in the natural process of inserting the scallops and turning them back, and no foot-power is required, as in other machines of the class. Much more rapid work can be done. The above describes a machine for turning a single scallop at a time. If desired, a greater number of scallops can be turned at once by arranging a set of two or more turning-irons and their operating parts side by side at proper distance apart.

In some cases this machine may be used where the action is not automatic, but is produced by positive action of the hand. In such case the turning-iron E is made stationary, and the turning-iron E′ is released by the operator, who presses on a finger-piece, *p*, at the upper end of the rock-lever H. The work can be done effectively in this way.

This apparatus is not only adapted to turning the scallops of shoe-flies, but also the fingers of gloves, and may be used for other analogous purposes.

Having described my invention, I do not claim two turning-irons, one stationary and the other movable.

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

1. In a leather-turning machine, the combination of a supporting-frame, two turning-irons resting therein, one pressed forward by a spring, and a locking device for holding said spring-actuated iron in the retracted position, whereby the leather can be inserted upon one iron and then be clamped by operating the locking device to release the spring-actuated iron, as set forth.

2. In a leather-turning machine, the combination of a supporting-frame, two turning-irons resting therein, each movable toward and from the other, one pressed forward by a spring, and a locking device extending from one iron to the other and holding the spring-actuated iron in the retracted position, whereby when the leather is inserted on one iron and pressure is applied thereto it releases the other iron, which then springs forward to clamp the leather, in the manner and for the purpose specified.

3. In a leather-turning machine, the combination of the supporting-frame, two turning-irons, each movable toward and from the other, slides to which the turning-irons are attached, one pressed forward by a spring, and a locking device extending from one iron to the other, and by which the spring-actuated slide is held in the retracted position, as herein shown and described.

4. In a leather-turning machine, the combination of two opposing turning-irons in the same plane, means for operating them, the frame in which they rest, and the pivot around which the frame turns, substantially as described.

5. In a leather-turning machine, the combination of two turning-irons, each movable toward and from the other, slides to which the turning-irons are attached, a pivoted arm which locks one of the slides in place, and a rock-lever with which the other end of the pivoted arm engages, as set forth.

6. In a leather-turning machine, the combination of the two turning-irons E E′, each movable toward and from the other, the slides D D′, to which the turning-irons are attached, the spring *f* on the slide D′, the pivoted arm G, engaging with slide D′, the spring *m*, connected with the arm, and the rock-lever H, connecting at one end with arm G and resting at the other end against slide D, as shown and described, and for the purpose specified.

7. In a leather-turning machine, the combination of a supporting-frame, a pair of opposing turning-irons resting therein, and a pivot, around which one of them may be turned to stand at an angle with the other, as shown and described, and for the purpose specified.

8. In a leather-turning machine, the combi-

nation, with the frame A, provided with the concentric flange *g*, of the head-block A^2, pivoted to the frame, the slide D^2, resting in the head-block, the said slide being provided with the stem *d*, having lug *d'*, the spring *f* on the stem, and the turning-iron E', attached to the slide, as set forth.

9. In a leather-turning machine, the combination of the fixed turning-iron E, the sliding turning-iron E', provided with a spring that presses it forward, and means for locking and unlocking the same, as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

QUENTIN W. BOOTH.

Witnesses:
R. F. OSGOOD,
JACOB SPAHN.