(Model.)

C. C. HANSON & G. B. DUNHAM.

SOLE EDGE TRIMMER.

No. 266,257. Patented Oct. 17, 1882.

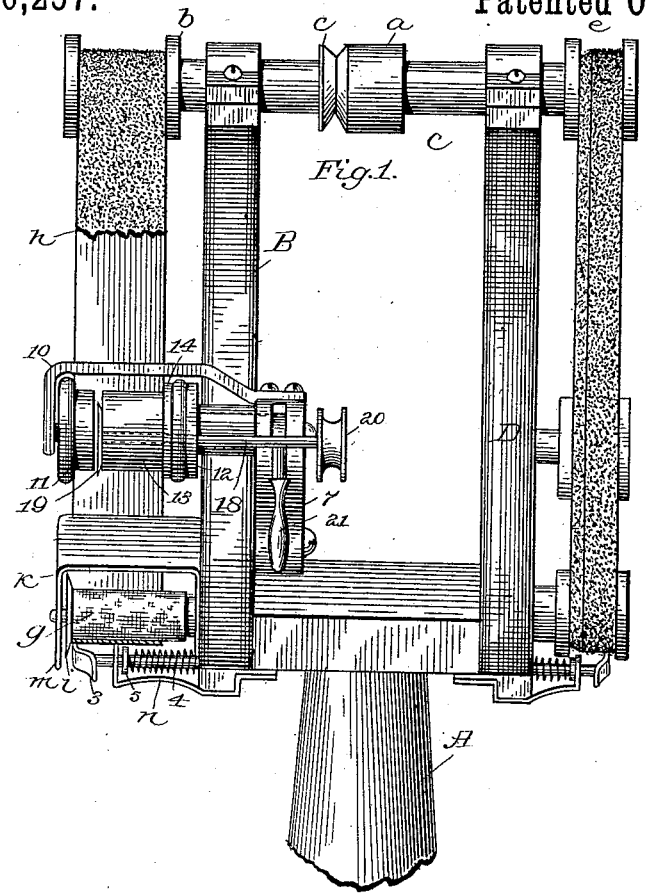

Fig. 1.

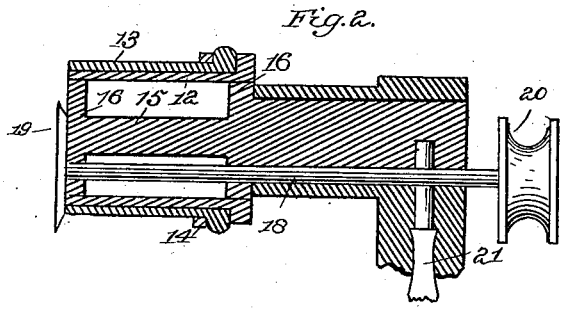

Fig. 2.

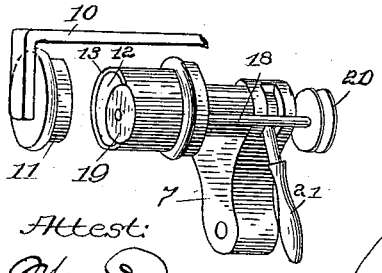

Fig. 3.

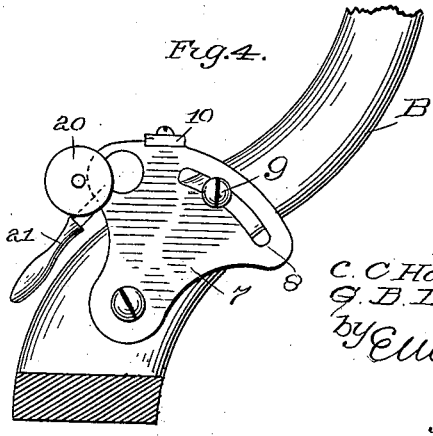

Fig. 4.

Attest:
Walter Thaldson
S. W. Seley

Inventor
C. C. Hanson.
G. B. Dunham
by Ellis Spear
Atty.

UNITED STATES PATENT OFFICE.

CHARLES C. HANSON AND GEORGE B. DUNHAM, OF LYNN, MASSACHUSETTS; SAID DUNHAM ASSIGNOR TO SAID HANSON.

SOLE-EDGE TRIMMER.

SPECIFICATION forming part of Letters Patent No. 266,257, dated October 17, 1882.

Application filed December 10, 1881. (Model.)

To all whom it may concern:

Be it known that we, CHARLES C. HANSON and GEORGE B. DUNHAM, both citizens of the United States, residing at Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented certain new and useful improvements in machines for trimming, scouring, or cleaning the edges of sole-leather used in the manufacture of boots and shoes, of which the following, taken in connection with the accompanying drawings, is a specification.

The invention relates to mechanism for scouring and trimming the edges of boots or shoes.

The invention consists in matters of construction and combination hereinafter fully set forth and specifically claimed.

Figure 1 is a front view of the entire machine. Fig. 2 is a longitudinal section through the drum and belt-shipper; Fig. 3, a perspective of the part illustrated in Fig. 2; Fig. 4, a side elevation of the trimming-knife and its operating mechanism.

The column A and arms B D, extending upward and rearward therefrom, constitute the frame-work of the machine. The shaft C turns in its bearings in the arms B D. It is driven by belt-power applied to the pulley *a*, and it carries three other pulleys, *b c e*.

Upon the stud-pin or journal *f* is arranged the loose drum *g*. The belt *h* establishes communication between the drum and the pulley *b*, motion being in this manner imparted to the drum. Said belt *h* is covered on one side with sand or other fine gritty substance, which serves to scour or grind the leather, as referred to hereinafter. The drum *g* is covered with rubber, so as to yield slightly to pressure applied to the belt. The rand-knife *i* has its axis of motion concentric with the axis of the drum *g*. It is secured to the outer end of the drum *g*, so as to be revolved thereby. A thin plate, *m*, extends downward from the end of the horizontal arm *k*, and, projecting slightly below the rand-knife, serves as a guard to protect the upper from being injured by the rand-knife.

The horizontal arm *n* has one end attached to the frame B, and at the other end it turns upward to form a suitable bearing for the rod 2. Said rod 2, passing through the end of the arm *n*, carries on its outer end a thin plate, 3. The other end of the rod enters a hole in the frame B. The rod 2 is movable endwise in its bearings. It is surrounded by a spiral spring, 4, one end of which bears against the frame B, and the opposite end of which bears against the fixed collar 5. The spring 4 operates to push out the rod 2, so as to keep the plate 3 in close proximity to the rand-knife. The collar 5, striking against the end of the arm *n*, prevents the rod from being pushed out of its bearings.

In operation the shoe is held by the operator, the sole-edge being pressed up against the belts passing over the yielding surface of the drum. The guard *m* presses into the rand-crease between the sole and upper, and the rand-cutter operates between the guard and the sole-edge, with its inner side in contact with the sole, so as to cut off the burr or roughness left by the belt. The pressure-plate 3 bears against the bottom of the sole to keep it pressed up closely against the rand-cutter. The shoe is turned round by the workman to bring the entire periphery or edge of the sole to the scouring-belt. The spring 4 yields sufficiently to accommodate the plate 3 to inequalities in the thickness of the sole.

Projecting horizontally from the frame B is a stud-pin, 6, which serves as a journal for the elbow-plate 7. Said plate 7 is constructed with a slot, 8. A screw, 9, passes through said slot into the frame B, by means of which the plate may be adjusted in an obvious manner. Secured to the plate 7 is an arm, 10, which extends outward and downward, as shown in Fig. 3, to form a bearing for the flanged wheel 11. Said plate 7 is further provided with a hollow boss, 12, Fig. 3, which serves as a journal for the cylindrical drum 13. The drum 13 and the wheel 11 are constructed with their diameters equal to each other, and being arranged, as shown in Fig. 3, with their axis of motion concentric in reference to each other they form a suitable idler, about which the scouring-belt *h* is made to travel, as shown in Figs. 1 and 2. A collar, 14, made adjustable on the drum 13, serves to keep the edge of the scouring-belt close up to the rand-knife *i*, while

the tension of the belt may be modified by adjusting the plate 7, as before described. Within the hollow boss 12 is a shaft, 15, provided with collars or flanges 16 16, which bear against the boss, as shown, Fig. 3. A shaft, 18, is journaled in the collars 16. It carries on one end a cutter-knife, 19, and on the other end a pulley, 20. Motion is communicated to the shaft by means of a belt extending from the pulley 20 to the pulley *e*, Fig. 1. It must now be evident that by a semi-rotation of the shaft 15 (which is obviously effected by grasping the handle 21) the cutter 19 may be elevated to the position shown in Fig. 3. In this position it pierces the belt *h*, so as to cut a narrow strip off the edge of the same. By reversing the handle 21 the cutter 19 may be withdraw within the idler. The collar 14 should then be adjusted so as to compel the belt *h* to travel over with its edge against the rand-knife, as before described. In this manner the working portion of the scouring-belt may be removed from time to time, until the whole belt is consumed. A new belt must then be obtained.

On the opposite side of this machine, in connection with the frame D, is another set of machinery, designed for working upon beveled edges and round "shanks," so-called. The construction and arrangement of this mechanism differ from that already described in the two following particulars, viz: The scouring-belt is molded on one side, or otherwise shaped to fit the edge-surface of the intended sole; and, second, the belt-trimming mechanism is wholly dispensed with. The idler here shown, being of well-known construction, is used for varying the tension of the belt. The construction and arrangement of the other parts are identical with the construction and arrangement of the corresponding parts on the other side of the machine, already described.

What we claim is—

1. The combination of a driving-shaft, a pulley carrying a rand-cutter, and a scouring-belt adapted to run in or nearly in contact with the rand-cutter.

2. The combination of the driving-shaft, loose drum, rand-cutter, and scouring-belt with the guard-plate *m*.

3. The combination of the rand-cutter, mounted on the loose drum, and the scouring-belt with the spring-pressure plate *m*.

4. The combination of the driving-shaft, the scouring-belt, the adjustable belt-trimming knife, and means, substantially as described, for adjusting the belt to compensate for the portion removed by the trimming-knife.

5. The combination of the adjustable arm 7, having the drum 13, and the scouring-belt.

6. The combination of the scouring-belt, the drum 13, and flanged wheel 11 with the independent shaft 18, having cutter 19 and pulley 20, and the collar 14 on the drum.

7. A device for trimming and scouring sole-edges, consisting essentially of a main frame, a driving-shaft, a loose drum carrying a rand-cutter, a scouring-belt, an independent trimming-knife adapted to be revolved to trim the belt, and a movable collar for adjusting the position of the belt with respect to the rand-cutter.

In testimony whereof we have signed this specification in presence of two subscribing witnesses.

CHARLES C. HANSON.
GEORGE B. DUNHAM.

Witnesses:
BENJ. K. PRENTISS, Jr.,
C. B. TUTTLE.