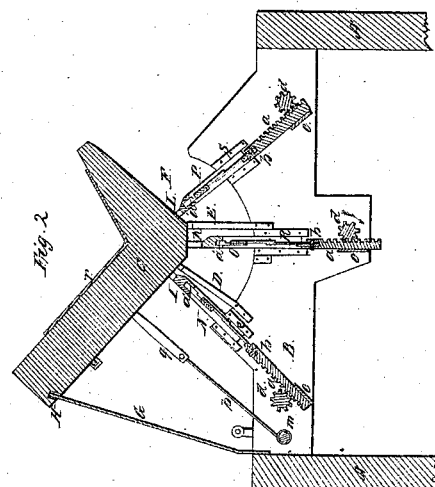
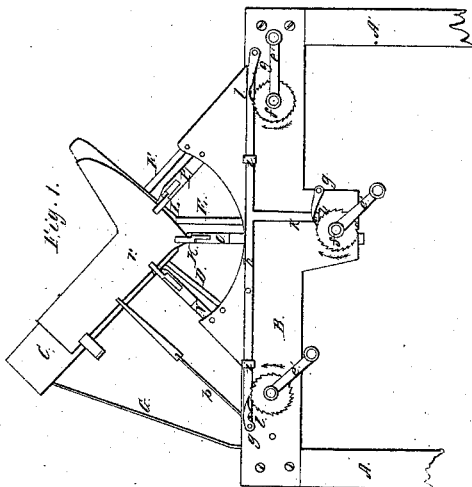
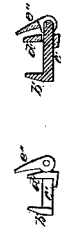
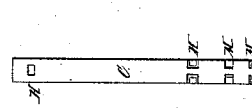
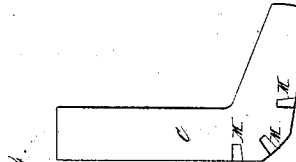
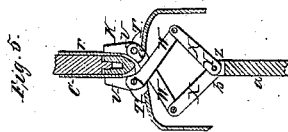
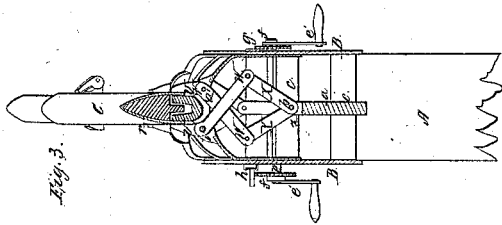


Snow & Sadler,
Crimping Leather,

No. 4,057,

Patented May 21, 1845.



UNITED STATES PATENT OFFICE.

CHENEY SNOW AND THOMAS N. SADLER, OF SPENCER, MASSACHUSETTS.

BOOT-CRIMP.

Specification of Letters Patent No. 4,057, dated May 21, 1845.

To all whom it may concern:

Be it known that we, CHENEY SNOW and THOMAS N. SADLER, both of Spencer, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Machinery for Crimping Leather for Boots, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms our specification.

In said specification we have set forth the nature and principles of our said improvements by which they may be distinguished from other inventions of a similar character together with such parts or combinations as we claim and for which we solicit Letters Patent.

The figures of the accompanying plate of drawings represent our improvements.

Figure 1, is a side elevation. Fig. 2, is a longitudinal vertical and central section and Fig. 3, is a transverse vertical section. Figs. 4, 5, 6, 7, are detail views which will be referred to and explained hereinafter.

In the process of crimping leather for boots, the first operation is to adapt the leather when damp to the boot form, by any of the various kinds of crimping jaws; and afterward to stretch the leather and tack it at various points to said form, so that when it dries it shall be crimped effectually into the desired shape. The latter part of the process is to be accomplished by our improvements and much more expeditiously than it is now performed.

A, A' Figs. 1, 2, 3, are two vertical legs or standards. B, B, are longitudinal cross plates which support the operative parts of the apparatus and which are shaped as seen in Figs. 1 and 2 and screwed or otherwise properly secured to the legs A A'.

C is the boot form which rests at proper points on the supports D, E, F situated toward the front A, at the center, and toward the back A' of the machine respectively and properly secured to the inside of the plates B, B. A bent bar G attached at its lower end to one of the legs, A, fits at its upper end into a mortise at the back of the top of the leg of the form as shown at H.

I, K, L are supporting sockets, the sides of which fit into corresponding grooves M, M, on the sides of the form C as shown in Fig. 4, which shows a side and end elevation of said form. These sockets are attached to or have sliding frames N, O, P, the sides or

tongues of which move or slide in grooves Q, R, S, on the insides of the plates B, B, directly in rear or behind the supports D, E, F respectively. Proper mortises are cut through the tops of each of the frames N, O, P, on each side of the sockets I, K, L, as shown at T, T, Fig. 5, which is a detail sectional view of said sockets. Through these mortises in each of the sliding frames the ends or lever arms of the bent lever gripping jaws U, U, pass turning on fulcra at V, V, similarly arranged in each of the sliding frames as shown in Figs. 3 and 5. The arms of the several gripping jaws U, U, cross each other below the bottom of the sockets I, K, L, and have each a proper shoulder *a'*, *a'*, on their faces in contact, (see Figs. 2, 3, 5), against which the edge of the other abuts, thereby regulating the opening of the jaws and providing for the raising of the sockets I, K, L and sliding frames N, O, P, as will be seen by the sequel. The ends of the levers U U are attached at W, W, to the ends of the arms X X of the toggle joints X Y X &c. The other ends of the arms X, X, being fitted, (so as to form the toggles) into the sockets Z, Z on the tops of the movable racks *a*, *a*, *a*, and connected together by pins *b*, *b*, *b* which pass through the sides of said sockets and the arms X X, as seen in Fig. 2.

c, *c*, *c*, are cross plates on which the backs of the sliding racks *a*, *a*, *a*, rest. The teeth of each of the racks *a*, *a*, *a*, engage with the teeth of a pinion *d*, *d*, *d* on the revolving shafts *e*, *e*, *e*, each of which has proper bearings in the cross plates B, B. Each of these shafts is arranged with a crank *e'*, *e'*, *e'* a ratchet wheel *f*, *f*, *f* and catch *g*, *g*, *g*, as shown in Fig. 1, which two latter when in connection with each other allow the shafts *e*, *e*, *e*, to turn only in one direction. A slide bar *h* moving in proper supports *i*, *i*, and having a depending bar *k* near its center, is arranged with studs *l*, *l*, *l* on each of its ends and the end of the bar *k* which fits under the various catches *g*, *g*, *g*, and when the bar is moved forward and back, throw said catches into or out of connection with the ratchet wheels *f*, *f* &c.

At the rear of the machine or just in front of the bottom of the bar G a shaft *m* is arranged, the journals of which rest and revolve in proper supports in the plates B, B, as shown in Fig. 1. This shaft like the others is provided with a ratchet wheel *n*

and catch *o*, and has a cord *p* attached to its center which passes through the ends of the handles of the pincers or nippers *q q*, constructed in the usual manner, (see Fig. 6), the use of which will be explained hereinafter.

The above constitutes the description of the construction and arrangement of our principal machinery. It now remains to specify the operation of the same or the mode or manner in which the leather is stretched on, and confined to, the form.

The form *C*, (with the leather *r* partially adapted to the same as seen in Fig. 1.), is placed or arranged upon the supports *D*, *E*, *F*, and the bar *G* so as to rest stably. The various catches *g, g, g*, are then thrown out of connection with the several ratchets *f, f, f*, by the studs on the slide bar *h* operated as above described.

The shafts *e, e, e*, are then successively turned by the cranks *e' e' e'* in the direction indicated by the arrows, which it will be seen will raise the sliding racks *a, a, a*, and consequently open or extend the toggles *X V X* and gripping jaws until the shoulders *a', a'*, check the further extension or opening of the same. The racks being then turned or moved still farther up will cause the sliding frames *N, O, P* and the sockets *I K L* to rise until the sides of the latter are fitted into the grooves *M, M*, &c. on the sides of the boot-form *c*. Then by allowing the catches *g, g, g* to descend and engage with the ratchets *f, f, f*, (by moving the slide bar *h* back), and turning the shafts in the direction opposite to that indicated by the arrows, the jaws will grip or pinch the leather between their inner faces and the exterior faces of the sockets *I, K, L*, and by continuing the revolution of the shafts, the leather will be drawn down over the form tightly at the various points where the jaws take hold, the supports *D, E, F*, keeping the form in position.

After the leather is sufficiently stretched over the form it is confined thereon by means of the clamping apparatus represented in Fig. 7, in which *b'* is a stationary clamp attached to the end of the bar *c'* and *d'* is a movable clamp arranged in the usual manner so as to slide on the bar *c'*, and having

a play on the same about or a little greater than the width of the back of the form and the thickness of the leather on the same. When this clamping apparatus is applied to the form and leather it is made to pinch or confine the latter to the former, or is locked on to the same, by means of the lever cam *e''*, which when turned so as to make an acute angle with the bar *c'*, effectually secures the above specified object.

Whenever the leather requires straining at any other point or points than those at which the movable jaws take hold it may be done by means of the pincers *q, q*, which may be applied at any point, and by turning the shaft *m* in a proper direction, the cord *p* attached to the shaft will, (by being passed through the handles of the pincers *q, q*, as shown in Fig. 6.), cause the leather to be pinched, and as the cord is wound up on the shaft the leather will be strained as desired.

Having thus described our improvements we shall only claim as our invention—

1. The combination of the bent lever gripping jaws (arranged, and operated by the toggles &c. as specified,) with the movable sockets *I, K, L*, attached to the sliding frames *N, O, P*, the whole being arranged and operating substantially as above described and for the purpose of stretching the leather over the form.

2. Also, the combination with the above, of a pair of pincers, capable of being applied to the leather at any point and operated by means of a cord passing through the handles of the pincers and attached to a revolving shaft, said shaft having a ratchet and catch, and the whole arrangement being substantially as herein before specified.

In testimony that the foregoing is a true description of our said invention and improvements we have hereto set our signatures this twenty-sixth day of March in the year eighteen hundred and forty-two.

CHENEY SNOW.
THOMAS N. SADLER.

Witnesses:

RUTH W. SIBLEY,
CHARLES W. SIBLEY.