(No Model.) 2 Sheets—Sheet 1.

F. W. NICHOLS & H. P. LANCASTER.

Machine for Blacking and Burnishing the Edges of Seam Stays.

No. 235,557. **Patented Dec. 14, 1880.**

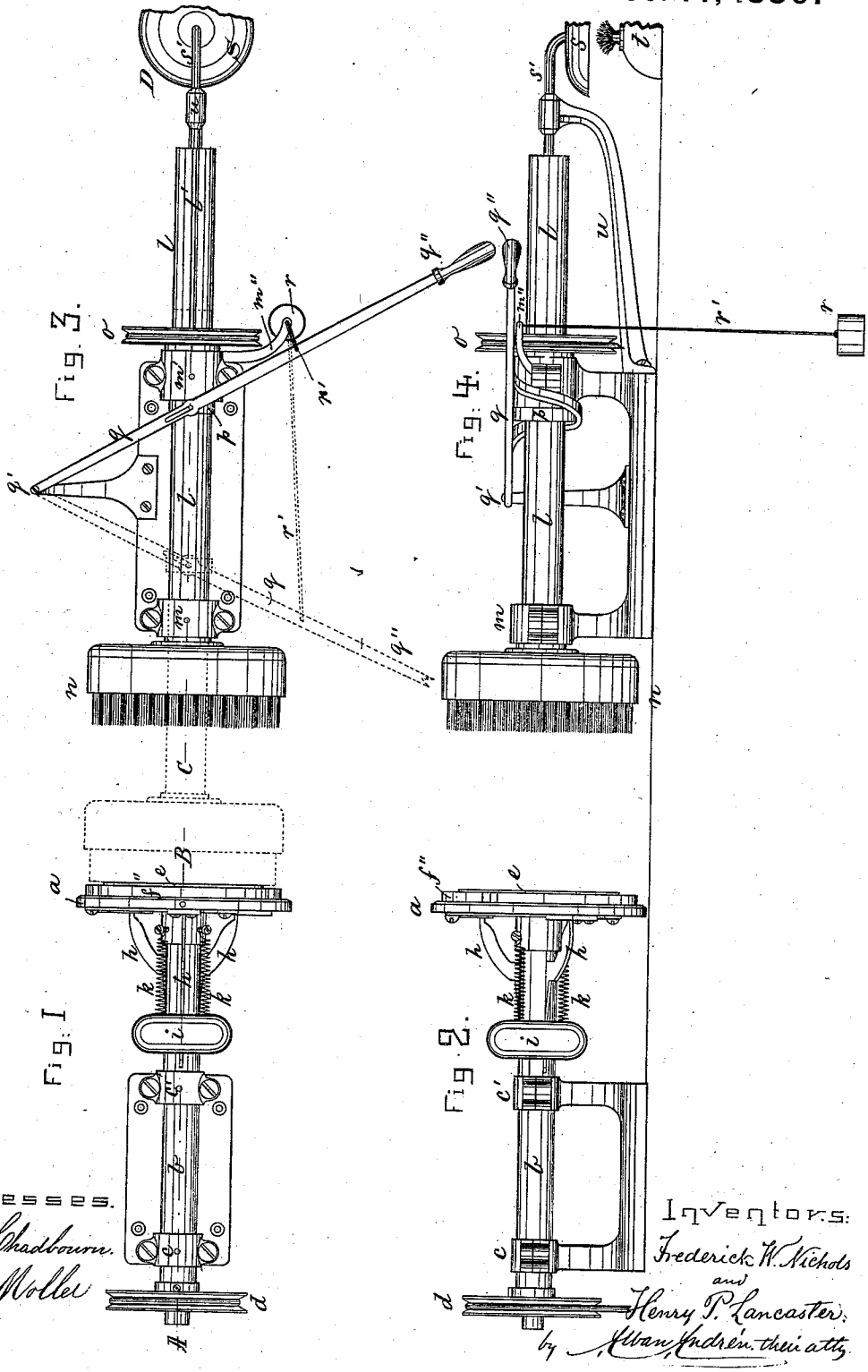


Fig. 3.

Fig. 4.

Fig. 1.

Fig. 2.

Witnesses.
Henry Chadbourn.
Carl Moller

Inventors:
Frederick W. Nichols
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by Wilkinson, Andrews & Pierce their attys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 6.

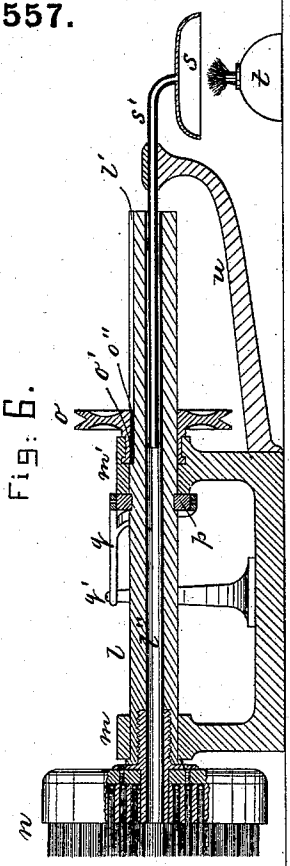


Fig. 8.

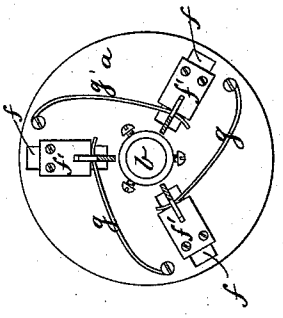


Fig. 7.

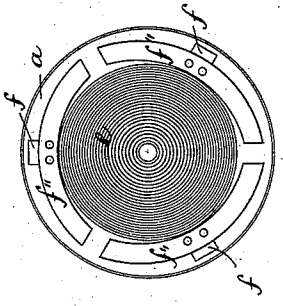
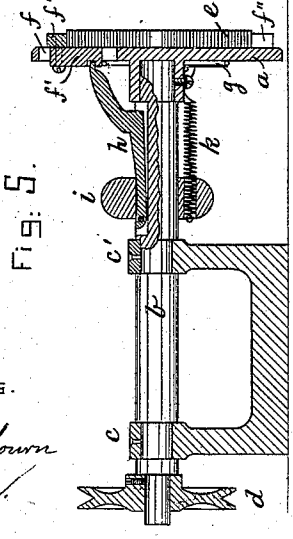


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

FREDERICK W. NICHOLS AND HENRY P. LANCASTER, OF LYNN, MASS.

MACHINE FOR BLACKING AND BURNISHING THE EDGES OF SEAM-STAYS.

SPECIFICATION forming part of Letters Patent No. 235,557, dated December 14, 1880.

Application filed November 8, 1880. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK W. NICHOLS and HENRY P. LANCASTER, both citizens of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have jointly invented certain new and useful Improvements in Machines for Blacking and Burnishing the Edges of Outside Seam-Stays for Boots and Shoes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in machines for blacking and burnishing the edges of outside seam-stays for boots and shoes. Such seam-stays are put up and prepared for the market in the form of coiled rolls or blocks; and it is the design of our invention to blacken and burnish the faces of such coils—that is, the edges of the seam-stays—by which we are able to finish outside seam-stays so as to present the appearance of what are termed "folded stays," and as by the use of our improved machine the edges of the stays are highly burnished, we are able to produce common stays as serviceable as the more expensive folded stays.

Our invention consists, principally, of a rotary face-plate and chuck, adapted to hold the stay-coil during the process or method of blackening and burnishing it, which face-plate is secured to a spindle which is set in a quick rotary motion, and a rotary brush that is secured to the end of a spindle or shaft located diametrically opposite the face-plate and chuck aforesaid, which brush-shaft is set in a quick rotary motion in an opposite direction to that of the stay-coil held by the chuck on the rotary face-plate. The rotary brush-shaft is laterally adjustable in its bearings to and from the rotary face-plate, so that the brush can be brought to bear against the stay-coil and rotated during the process of blackening and burnishing it, a suitable ink or blacking having first been applied to the face of the coil by means of a brush or sponge. When one face of the stay-coil has been properly blackened and burnished, the rotary brush is withdrawn and the faces of the coil reversed in its position on the clutch, and the same operation is gone through with so as to finish equally the two opposite faces of the coil. In the aforesaid process of burnishing the edges of stays for boots and shoes, it is desirable to apply a proper degree of heat to the coil, and for this purpose the rotary brush-shaft is provided with a central perforation, which also extends through the brush, and into the rear end of said perforated brush-shaft is fitted a tube, the outer end of which terminates as a hood or shield, beneath which a lamp or gas-jet is kept burning, by which arrangement the heat from the flame of the lamp or gas-jet is conveyed through the rotary brush-shaft and its brush to the rotary stay-coil, for the purpose set forth.

The invention is carried out as follows, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan view of the chuck or stay-coil holder. Fig. 2 represents a side elevation of the same. Fig. 3 represents a plan view of the rotary brush-shaft and the mechanism for its operation, and Fig. 4 represents a side elevation of the same. Fig. 5 represents a central longitudinal section on the line A B shown in Fig. 1. Fig. 6 represents a central longitudinal section on the line C D shown in Fig. 3. Fig. 7 represents a front view of the rotary chuck and face-plate, and Fig. 8 represents a rear view of the same.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a is the face-plate for the clutch, which face-plate is secured to the shaft *b*, that is movable in the bearings *c c'*, and set in a quick rotary motion by means of cord or belt power applied to the pulley *d*.

The clutch mechanism for holding the stay-coil *e* in place on the face-plate *a*, is carried out as follows: *f f f* are radial slots on the circular face-plate *a*, in which the blocks *f' f' f'* are movable in and out, and to which the curved clutches *f'' f'' f''* are secured by means of suitable screws. *g g g* are springs secured to the back of the face-plate *a* and having their free ends acting on the inner ends of the

movable blocks f' f' f', so as to keep the latter as well as the curved clutches f'' f'' f'' expanded to their fullest extent previous to clamping a stay-coil between them. h h h are the clutch-levers, having their rear ends hinged to the shaft b, and their forward ends resting within recesses on the rear of the expansive blocks f' f' f', as shown in Fig. 5.

i is a laterally-adjustable clamping-ring surrounding the shaft b, as well as the shanks of the clutch-levers h h h; and k k k are coiled springs extending from the ring i to the hub of the face-plate a, as shown in Fig. 5, which springs act upon the ring i and cause it to be drawn over the shanks of the levers h h h toward the face-plate a, and thereby to bring the free ends of said levers, as well as the blocks f' f' f' and clutches f'' f'' f'', together, so as to hold firmly the stay-coil in place on the face-plate a, as shown, and for the purpose set forth.

To release the coil after it has been burnished, it is only necessary to grasp the ring i and to slide it toward the bearing c', when the levers h h h are released and expanded with the blocks f' f' f' and clutches f'' f'' f'' by the influence of the springs g g g, as described.

l is the rotary and laterally-adjustable brush-shaft, that is movable in the bearings m m', as shown in Fig. 6. To the forward end of the rotary shaft l is the brush n, attached as shown. The shaft l is set in a rotary motion by means of cord or belt power applied to the pulley o, which pulley is provided with a grooved hub, o', resting within a correspondingly-shaped recess in the bearing m', and having a key, o'', fitting into a longitudinal groove, l', on the periphery of the shaft l, by which arrangement the said pulley can be rotated in the same position to impart a rotary motion to the shaft l and its brush n, and at the same time to allow said shaft and brush to be moved laterally in the direction of their common axis, for the purpose set forth.

p is a ring, resting loosely in a groove on the shaft l, to which ring the lever q is jointed, which lever is movable on its fulcrum q', and provided with a handle, q'', by which arrangement a lateral motion can be imparted to the shaft l and its brush n.

For the purpose of automatically holding the shaft l, brush n, and lever q in the positions shown in full lines in Figs. 3 and 4, we employ a weight, r, and cord, r', the upper end of which is attached to the lever q after being passed over the end of the stationary guide-projection m'', as shown in Figs. 3 and 4.

The dotted lines in Figs. 1 and 3 show the position of the lever q, shaft l, and brush n during the operation of burnishing the stay-coil.

l'' is a central perforation within the shaft l, as shown in Fig. 6, and s' is a heat-conveying tube projecting within the rear end of the shaft l, as shown in Fig. 6, which tube s' terminates as the hood or shield s, beneath which the lamp or other heater t is located, as shown, for the purpose of conveying heat through the central perforation, l'', to the brush n and the stay-coil that is being burnished.

u is a stationary arm or bracket for holding the tube s' in a permanent position during the rotary and lateral motion of the shaft l.

What we wish to secure by Letters Patent, and claim, is—

1. The herein-described apparatus for holding and rotating stay-coils, consisting of the shaft b, bearings c c', pulley d, face-plate a, with its radial slots f f f, movable blocks f' f' f', clutches f'' f'' f'', springs g g g and k k k, clutch-levers h h h, and clamping-ring i, as and for the purpose set forth.

2. In combination, the rotary and laterally-adjustable brush n, its shaft l, with central perforation l'', pulley o, heater t, hood s, and central conveying-tube s', as and for the purpose set forth.

3. In combination with the rotary and laterally-adjustable brush n, its perforated shaft l, and heating device s s' t, as described, the rotary shaft b, with its face-plate a, and clutch f f' f'' g h i k, as and for the purpose set forth and described.

4. The herein-described method of blacking and burnishing the faces of stay-coils, consisting in securing them upon a rotary face-plate, applying a suitable ink or blacking thereto, and finishing by means of a quickly-rotating brush that is adjusted to bear against the stay-coil and supplied with heat during the manipulation, as and for the purpose set forth.

In testimony whereof we have affixed our signatures in presence of two witnesses.

FREDERICK W. NICHOLS.
HENRY P. LANCASTER.

Witnesses:
ALBAN ANDRÉN,
WM. S. NEWHALL.