

2 Sheets—Sheet 1.

No. 566,819.

Patented Sept. 1, 1896.

F. H. Davis.
J. R. Cole.

Leith D. Tripp
By B. J. Taylor
att'y.

(No Model.)

2 Sheets—Sheet 2.

S. D. TRIPP.
EDGE FINISHING MACHINE.

No. 566,819.

Patented Sept. 1, 1896.

Fig. 3.

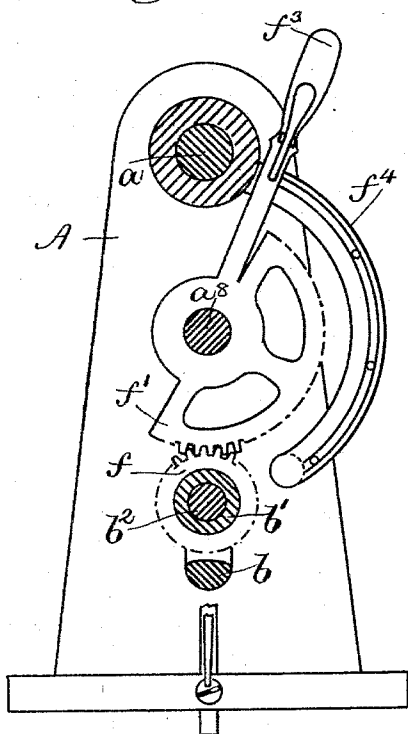


Fig. 2.

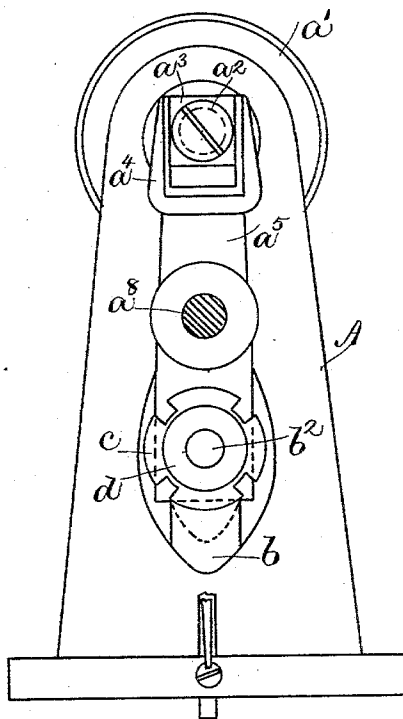
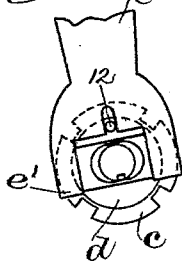


Fig. 4.



Witnesses

F. H. Davis.
J. R. Cole

Inventor

Seth D. Tripp
By B. J. Tracy
att'y

UNITED STATES PATENT OFFICE.

SETH D. TRIPP, OF LYNN, MASSACHUSETTS.

EDGE-FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 566,819, dated September 1, 1896.

Application filed January 10, 1896. Serial No. 574,941. (No model.)

To all whom it may concern:

Be it known that I, SETH D. TRIPP, of Lynn, county of Essex, and State of Massachusetts, have invented an Improvement in Edge-Finishing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention relates to edge-finishing machines adapted for finishing the edges of the soles of boots and shoes. In accordance with this invention the edge-finishing tool is mounted upon an oscillating shaft, which is carried by an oscillating frame, so that the tool has imparted to it an oscillating movement on its own axis in addition to a vibrating or oscillating movement on the axis of the frame carrying it. The edge-finishing tool is provided with a plurality of working faces, and means are provided for adjusting said tool while in operation to bring any one of its working faces into working position. A friction heating device is provided for the edge-finishing tool which comprises friction-plates bearing directly against the opposite sides of the tool, means being provided for holding said plates in such frictional engagement. The shaft carrying the edge-finishing tool is adapted to be raised, or to yield, in a vertical direction, and the tool is also adapted to yield in a longitudinal direction on the shaft which carries it.

Figure 1 shows in side elevation an edge-finishing machine embodying this invention; Fig. 2, a right-hand end elevation of the same, the friction heating device being removed; Fig. 3, a vertical section of the machine, taken on the dotted line $x x$, Fig. 1; Fig. 4, a detail to be referred to.

The main frame A is of suitable construction to support the operating parts. The main shaft a has its bearings in said frame, and has a driving-pulley a' mounted upon it. Formed upon the end of the shaft a is a crank-pin or eccentric a^2 , which receives upon it a box a^3 . The crank-pin is free to rotate in the box, but as it turns said box is moved to correspond with the travel of the crank-pin. The box a^3 is fitted to work within the bifurcated

upper end a^4 of a pivoted arm a^5 , as, for instance, it may project from a sleeve a^7 , placed upon a stud or rod a^8 , which serves as a pivot on which said arm vibrates. The sleeve a^7 has depending from it a frame b , which serves as a bearing or support for the bearing-box b' , which is bored to receive a shaft b^2 . The bearing-box b' and shaft b^2 are arranged obliquely, and the rear end of said shaft b^2 has formed in it a socket which receives a spherical stud 2, secured to a rearwardly-projecting portion of the frame b . A spring 3 is interposed between the bearing-box b' and the sleeve a^7 , the tendency of which is to depress said bearing-box and parts borne by it, yet permitting said box to yield in an upward direction when it is desired to raise the edge-finishing tool c , which is placed upon the shaft. The edge-finishing tool c is made as a hub adapted to be placed upon the forward end of said shaft b^2 , bearing against a washer b^3 , also placed on said shaft, which latter in turn bears against a spring b^4 , likewise placed upon the shaft and next to the front end of the bearing-box b' , so that said spring is interposed between the bearing-box b' and the washer and acts to permit the edge-finishing tool to yield longitudinally on the shaft. The edge-finishing tool is splined onto the shaft b^2 and is thereby permitted to move longitudinally thereon. A washer d is placed on the shaft b^2 next to and bearing against said edge-finishing tool, and a strong flat spring e is attached to the rod a^8 , which is bent more or less U-shaped and provided with a bifurcated end e' , which embraces the shaft b^2 and bears upon the washer d . The washers b^3 and d are held from turning with the shaft, and for simplicity there may be a pin 10 on the depending arm, which projects from and enters a slot formed in the washer b^3 , and a pin 12 on the washer d , which projects forward and enters a slot in the flat spring. The spring e , bearing against the washer d at one side of the edge-finishing tool, and the washer b^3 , bearing against the edge-finishing tool at the opposite side, serve as a friction heating device. As the main shaft a revolves the arm a^5 is vibrated, oscillating the sleeve a^7 on the rod a^8 , and correspondingly oscillating the depending frame

b, and consequently the edge-finishing tool. The edge-finishing tool thus travels in the arc of a circle about the rod a^3 as a center. The edge-finishing tool has a plurality of working
 5 faces, it being herein represented as having four, each differently formed, yet it is obvious that it may have as many as desired. In practice it is frequently necessary to adjust
 10 said edge-finishing tool while it is operating to bring a different working face into working position, and to accomplish this result a toothed gear f is secured to the tool-carrying
 15 shaft b^2 , which is engaged by a toothed sector f' , mounted on rod a^3 and provided with a hand-lever f^3 , by means of which it may be turned on its pivot. A quadrant f^4 is fixed
 20 to the main frame, having as many notches as there are working faces on the edge-finishing tool, and the hand-lever has a locking-detent adapted to enter any one of the
 25 notches, and thereby hold the pivoted sector in different positions. It will be seen that by disengaging the locking-detent and turning the pivoted sector the toothed gear will be
 30 rotated to turn the tool-carrying shaft, and consequently the tool which is splined thereon. This adjustment may be made while the edge-finishing tool is in operation, notwithstanding it may be operating very rapidly.
 35 The toothed gear and toothed sector also enable another most important function to be performed, namely, to oscillate the tool-carrying shaft on its axis, and consequently impart to the edge-finishing tool an oscillatory
 40 motion, for it will be seen that, as the toothed sector is held at rest whenever the frame b , carrying the tool-carrying shaft, oscillates in one direction, the toothed gear will be rotated one way, and as the frame oscillates in the
 45 opposite direction the toothed gear will be rotated in the opposite way. Thus it will be seen that the edge-finishing tool has an oscillating movement on its own axis in addition to the vibratory or oscillatory movement of the frame carrying it. The pivoted sector
 50 instead of being utilized as a coöperative part of the group of mechanism adapted to perform the double function above set forth may be secured permanently to the frame and the hand-lever and locking devices omitted, in
 55 which case the edge-finishing tool will be oscillated as the frame oscillates, but it cannot be adjusted to present different working faces into working position. With a machine constructed in this latter way the edge-
 60 finishing tool, if provided with a plurality of working faces, may be adjusted in any well-known way. Therefore I desire it to be understood that I do not wish to limit my invention to the particular means herein shown for imparting independent oscillatory motion to the oscillating tool.

I claim—

1. In an edge-finishing machine, the combination of an oscillating frame, an oscillating shaft carried by it, and means for oscil-

lating said shaft in unison with the oscillatory movement of the frame, and an edge-finishing tool mounted on said shaft, substantially as described.

2. In an edge-finishing machine, the combination of an oscillating frame, an oscillating shaft carried by it and pivotally connected to it to be moved independently of the frame, and means for oscillating said shaft during
 75 the oscillatory movement of the frame, and an edge-finishing tool mounted on said shaft, substantially as described.

3. In an edge-finishing machine, the combination of an oscillating frame oscillating
 80 shaft carried by it, an edge-finishing tool secured to said oscillating shaft, friction heating-plates on said oscillating shaft bearing directly against said tool, and means for holding said plates in frictional engagement with
 85 said tool, substantially as described.

4. In an edge-finishing machine, the combination of an oscillating frame, an oscillating shaft carried by it, and means for oscillating said shaft during the oscillatory movement of the frame, and an edge-finishing tool
 90 mounted on said shaft having a plurality of working faces, and means for turning said shaft to adjust the tool while it is oscillating, substantially as described.

5. In an edge-finishing machine, an edge-finishing tool having a plurality of working faces, a shaft supporting it, an oscillating frame supporting said shaft, and means for turning said shaft to adjust the tool, consisting of a toothed gear on the shaft, a toothed sector, and means for turning said sector,
 100 substantially as described.

6. In an edge-finishing machine, an edge-finishing tool having a plurality of working
 105 faces, a shaft supporting it, an oscillating frame supporting said shaft, and means for turning said shaft to adjust the tool, consisting of a toothed gear on the shaft, a toothed sector, and means for turning said sector, and
 110 a locking device for said sector, substantially as described.

7. In an edge-finishing machine, the combination of an oscillating frame, an oscillating shaft carried by it, and supported obliquely, as shown, and means for oscillating
 115 said shaft during the oscillatory movement of the frame, and an edge-finishing tool mounted on said shaft, substantially as described.

8. In an edge-finishing machine, the combination of an oscillating frame, an oscillating shaft supported obliquely by it, means for oscillating said shaft during the oscillatory movement of said frame, and an edge-
 120 finishing tool having a plurality of working faces splined on said oblique shaft, and movable longitudinally thereon, substantially as described.

9. In an edge-finishing machine, the combination of an oscillating frame, a shaft borne by it carrying an edge-finishing tool, a toothed

gear on said shaft, and a toothed sector which it engages, whereby the shaft is oscillated on its axis during the oscillations of the frame, substantially as described.

5 10. In an edge-finishing machine, the combination of an oscillating frame, a shaft supported by it carrying an edge-finishing tool, a toothed gear on said shaft, and toothed
10 ing said sector to turn the shaft and adjust

the tool carried by it, and a locking device for said sector, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SETH D. TRIPP.

Witnesses:

F. H. DAVIS,
B. J. NOYES.