

G. F. STEWART.
SHOE SOLE EDGE SETTER.
APPLICATION FILED JUNE 28, 1909.

958,026.

Patented May 17, 1910.
2 SHEETS—SHEET 1.

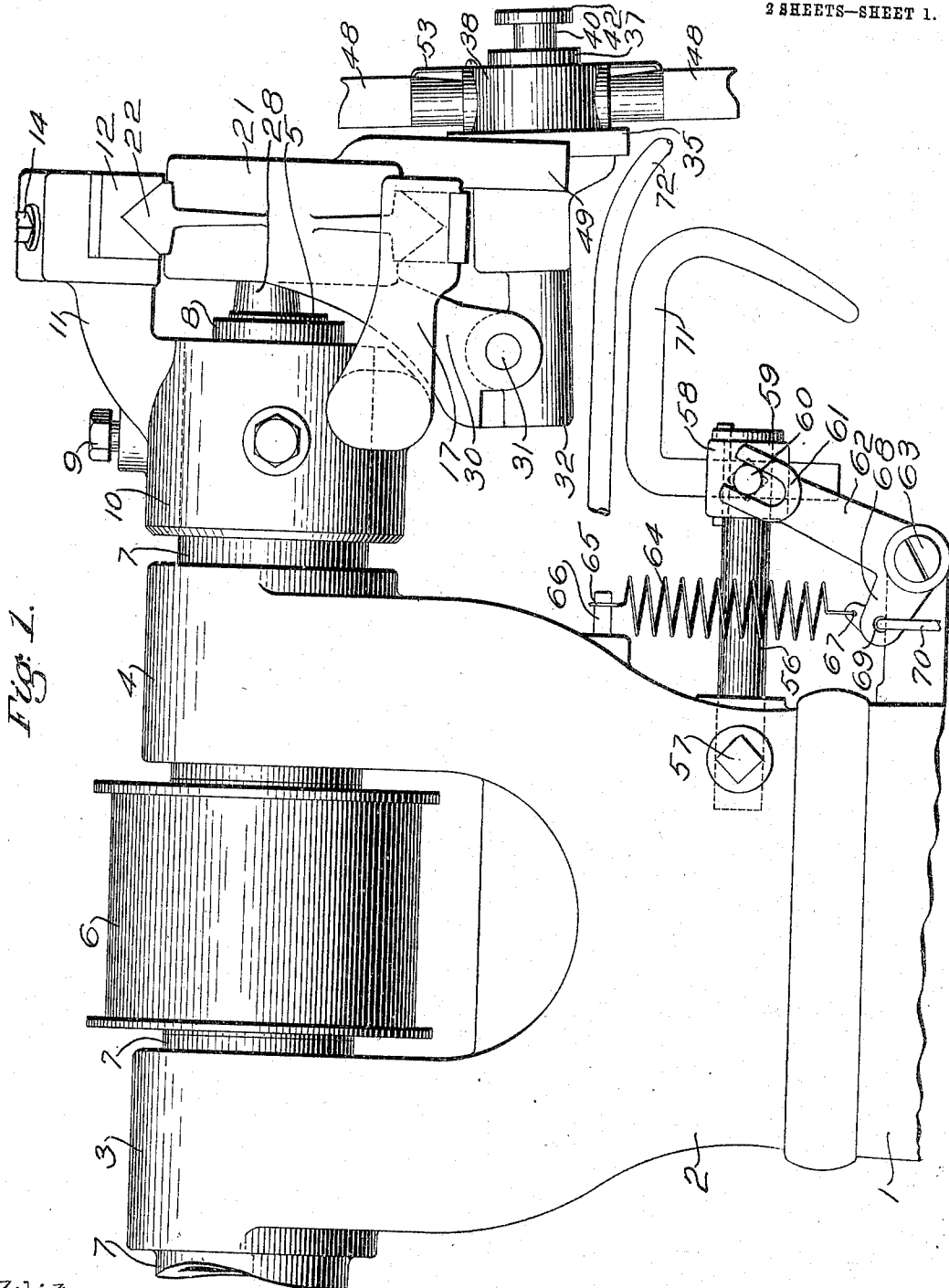


Fig. 1.

Witnesses:
Russell F. Hatch.
Rafael H. Allen

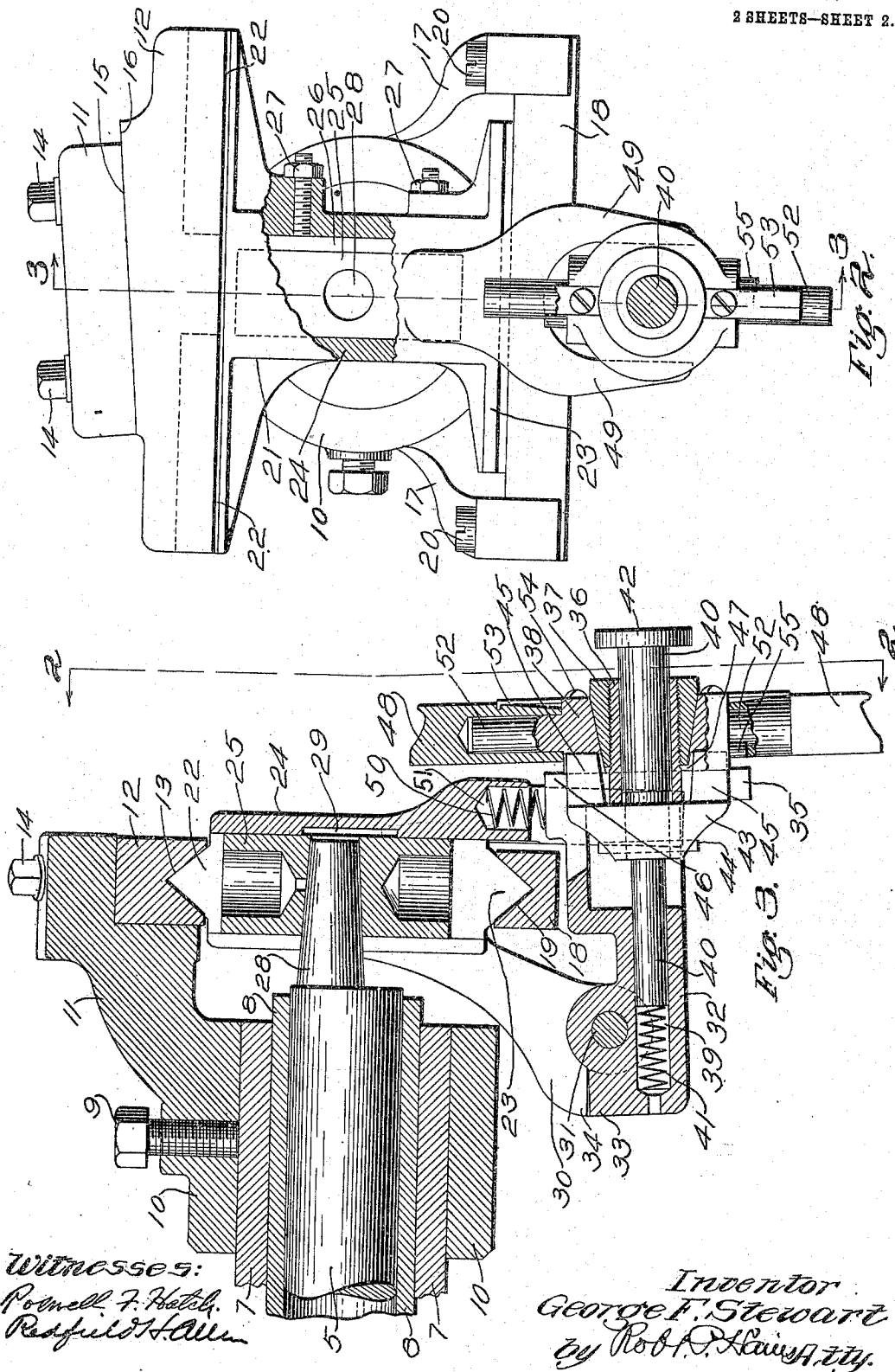
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UNITED STATES PATENT OFFICE.

GEORGE F. STEWART, OF SWAMPSCOTT, MASSACHUSETTS, ASSIGNOR TO THOMAS G. PLANT, OF BOSTON, MASSACHUSETTS.

SHOE-SOLE-EDGE SETTER.

958,026.

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To all whom it may concern:

Be it known that I, GEORGE F. STEWART, a citizen of the United States, residing at Swampscott, in the county of Essex and State of Massachusetts, have invented an Improvement in Shoe-Sole-Edge Setters, of which the following description, in connection with the accompanying drawings, is a specification, like numerals on the drawings representing like parts.

The invention to be hereinafter described relates to edge setters for finishing or treating the edges of boot and shoe soles.

The aims and purposes of the present invention are to provide a machine of the general type above indicated which shall be simple in construction, readily adaptable to the variety of work it is called upon to perform, and be efficient in operation, all of which will best be understood from the following description and accompanying drawings of one form or embodiment of means for carrying the invention into practical effect.

In the drawings: Figure 1 is a side view of the upper portion of a machine and its frame embodying the present invention; Fig. 2 is a section on the line 2—2 of Fig. 3; and Fig. 3 is a section on the line 3—3 of Fig. 2.

The machine frame in the present illustration of the invention comprises a suitable column or standard 1 surmounted by a head 2 having bearings 3, 4 for a shaft 5 to which is secured the driving pulley 6, Fig. 1, to receive a belt from any suitable driving source.

The bearings 3, 4 have projecting therefrom the extensions 7, Figs. 1 and 2, which may, if desired, be formed integral with the machine frame or otherwise, a bushing 8 being interposed between the shaft 5 and the bearings and their extensions.

Mounted on the extensions 7 projecting from the bearing 4 is the adjustable collar 10 which may be adjusted longitudinally of said extensions 7 and held in adjusted position by means of the set screws 9, as will be readily understood.

Projecting upwardly from the collar 10 is the upper arm 11 to which is secured the guideway 12 having a groove 13 for a purpose presently to appear, said guideway being secured to the arm 11 by means of suitable clamping screws 14. It will be noted

that the under surface of the arm 11 is rabbeted or recessed to provide a seat for the guideway 12 and that the upper wall 15 of this recess, Fig. 2, is preferably inclined to correspond to a similar inclined upper surface 16 on the guideway 12, the construction being such that upon loosening the securing means, the guideway 12 may be adjusted transversely of the upper arm 11 and then be secured in fixed position.

Extending from the lower side portions of the adjustable collar 10 are the arms 17, Figs. 1 and 2, between the lower ends of which is disposed the lower guideway 18 having a guiding recess 19 which may be substantially the same as the recess 13 in the upper guideway 12, said lower guideway 18 being secured to the arms 17 by suitable means, as, for instance, screws 20.

Disposed between the upper and lower guideways 12 and 18 respectively is the tool carrying head 21 having elongated bearing portions 22 and 23 adapted to move in the said upper and lower guideways 12 and 18, substantially as indicated in Fig. 3. Extending between the upper and lower bearing portions 22 and 23 of the head is the column 24 provided with a vertical slot in which may reciprocate the block 25. Disposed at one side of the slot in the column 24 is the gib 26 which, by means of the adjusting screws 27, may be adjusted to take up wear due to the action of the block 25 moving in said slot.

Extending from the end of the shaft 5 is a conical pin 28, Fig. 3, which engages a conical recess in the block 25. From the construction thus far described it will be apparent that upon rotation of the shaft 5 the tool carrying head 21 will be reciprocated between the upper and lower guideways 12 and 18, the block 25 rising and falling in the slot of the column 24.

Owing to the wear that may be occasioned between the moving parts, particularly the pin 28 and the recess in the block 25, the front wall of the column 24 is provided with a recess 29, Fig. 3, the construction being such that upon loosening the bolts 9, Figs. 1 and 3, the collar 10 may be adjusted so as to bring the surface of the pin and the wall of the block into intimate coöperating relation, the slot 29 permitting such adjustment even after the parts have become considerably worn.

Projecting downward from the tool carrying head 21 is an arm 30 having pivoted to its lower end, as at 31, the tool carrying arm 32, the said tool carrying arm and the arm 30 having portions 33 and 34 respectively, Fig. 3, to prevent the tool carrying arm from dropping too far, as will be readily understood.

The tool carrying arm 32 at its forward end has formed as part thereof the face plate 35, and extending forwardly from said face plate is a bearing 36, Fig. 3, on which is screw-threaded the conical support 37 for the tool carrier 38, the construction being such that when the tool carrier 28 is free to be rotated, in the manner presently to be described, it may be turned on its conical support 37, and when locked in position it may be properly supported for action upon the shoe, as will be readily understood.

Passing through the bearing 36 and extending into a recess 39 in the tool carrying arm 32 is a pin 40, the inner end of which bears against a spring 41 seated in the recess 39. The pin 40 has a head 42 by which it may be pressed inward against the action of the spring 41 for a purpose that will presently appear.

Secured to the pin 40 by a piece 44 is a collar or head 43 carrying locking members 45, said locking members passing through suitable openings 46 formed in the face plate 35 of the tool carrying arm and being guided in their movement to the right and left, Fig. 3, the construction being such that while the collar 43 may be moved toward and from the tool carrier 38 by means of the pin 40, said collar 43 will be prevented from rotative movement.

The locking members 45 when in their forward position, as indicated in Fig. 3, are adapted to engage in suitable recesses 47 formed in the tool carrier 38, so that when the parts are in position, as indicated in Fig. 3, the tool carrier 38 is prevented from rotating on its support 37, but when said pin 40 is pushed to the left, Fig. 3, and the locking members 45 are withdrawn from the recesses 47, the tool carrier may be rotated in order to bring one or the other of the tools 48 into operative position.

Projecting downward from the tool carrying head are the guide arms 49 which embrace the bearing 36 and thereby guide the tool carrying arm in its movement about its pivotal support 31, a spring 50 contained within the recess 51, Fig. 3, and bearing upon the top of the tool carrying arm 32, serving to cushion the movement of the tool carrying arm as it moves about its pivotal support and to normally hold it in its down position, as will be readily understood.

The tool carrier 38 is provided with the tool supporting pins 52 adapted to engage suitable recesses in the tool 48, a leaf spring

53 secured by a screw 54 to the tool carrier engaging the notch in the tool 48 and serving to hold the tool 48 in position on its carrier. It will be apparent that by a slight outward movement of the spring 53, the tool engaged thereby may be readily removed from its tool carrier. To prevent undue rotative movement of the tools 48 on the tool carrier, the latter is provided with pins 55 which engage suitable recesses in the base portion of the tools, as will be readily understood.

Projecting from the machine head is a guide pin 56 appropriately secured to the head by means of a set screw 57 and having splined thereto a collar 58, so that said collar 58, while non-rotative on the pin 56, may be moved longitudinally thereof, the head 59 on said pin preventing the collar from disengagement therefrom. The collar 58 is provided with lugs 60 extending from the sides thereof, which are engaged by the bifurcated ends 61 of a bell crank lever 62 pivoted at 63 and normally under the influence of a spring 64, one end of which is connected at 65 to a pin 66, and the lower end of which is connected at 67 to the arm 68 of the bell crank, the construction being such that the spring 64 normally holds the collar 58 in the position indicated in Fig. 1. Connected at 69 to the arm 68 of the bell crank is a treadle rod 70 which leads to a suitable treadle, not shown, whereby upon depression of the treadle rod 70 the sleeve 58 may be moved longitudinally of its supporting pin 56.

The sleeve 58 has secured thereto in any appropriate manner a finger rest 71 which may be engaged by the operator in order to steady the shoe as the latter is being treated, especially around the toe portion. As the treatment of the sole edge continues from the forepart to the shank, the heels of shoes, especially where the heels are high, will engage with the finger rest 71 and prevent a proper presentation of the shank portion of the shoe sole to the treatment of the reciprocating tool. To obviate this the finger rest 71 may be withdrawn from its interfering position by depression of the treadle rod 70, thereby moving the sleeve 58 and the finger piece longitudinally of the supporting pin 56.

From the construction described it will be apparent that upon rotation of the driving shaft 5 the eccentric or crank pin 28 will cause the tool carrying head 21 to reciprocate between the upper and lower guide-ways and cause the tool to act reciprocally along the edge of the shoe sole, the operator steadying the shoe as it is being treated about the forepart and toe by means of the finger piece 71, and then withdrawing said finger piece from position of interference with the shoe heel by depression of the

treadle rod 70. It will likewise be obvious that the tools will be held against the work with a yielding action due to the spring 50 and that, by a simple inward movement of the pin 40 to disengage the locking members 45 from the tool carrier 38, the latter may be readily turned to bring the appropriate tool into operative position.

If desired, the tools may be heated when in operative position by means of a flame issuing from the gas or other pipe 72, Fig. 1.

Obviously various changes may be made in the details within the true scope of the present invention which is definitely set forth by the claims.

What is claimed is:

1. In a shoe sole edge setter, the combination of a driving shaft, a reciprocating tool carrying head actuated thereby and having a downwardly projecting bracket arm, a tool carrying arm pivotally connected to the rear portion of said bracket arm, coaxing stops 33 and 34 on said arms, a tool carrier mounted on said tool carrying arm and carrying a plurality of tools, a locking member for holding any one of the tools in operative position, and a spring seated in the outer part of the head and bearing on the supporting arm and acting to hold the stop members 33 and 34 in contact.

2. In a shoe sole edge setter, the combination of a driving shaft, a tool carrying head reciprocated thereby having pivotally connected thereto a tool carrying arm, a tool carrier mounted on said arm and carrying a plurality of tools, a locking member for locking any one of the tools in operative position, means including the stop members 33 and 34 for yieldingly maintaining the tool carrying arm in operative position, and guide arms 49, 49 for guiding the tool carrying arm.

3. In a shoe sole edge setter, the combination of a reciprocating tool carrying head having a bracket arm, a tool carrying arm pivotally connected to said bracket arm, a spring seated in the head and disposed between the head and tool carrying arm to normally depress the tool end of said arm, stops 33 and 34 between the bracket arm and tool carrying arm, guide arms 49, 49 projecting downward from the head, and a bearing 36 on the tool carrying arm embraced by said guide arms.

4. In a shoe sole edge setter, the combination of a reciprocating tool carrying head, a bracket arm 30 disposed at the rear and guide arms 49, 49 disposed at the front of said head, a tool carrying arm pivotally

connected to said bracket arm, and a face plate on said tool carrying arm having a bearing 36 embraced by the said guides 49, 49.

5. In a shoe sole edge setter, the combination of a tool carrying head having a pivoted tool carrying arm provided with a face plate, a bearing 36 projecting from said face plate, a conical tool support secured to said bearing, a tool carrier mounted on said conical support, and yielding means normally acting to lock the tool carrier from rotative movement and force the same toward the larger part of the conical support.

6. In a shoe sole edge setter, the combination of a finger piece normally held in position to be engaged by the hand of the operator to steady the work as it is treated by the tool, and means actuated by the operator for withdrawing said finger piece from operative position as the work is being treated.

7. In a shoe sole edge setter, the combination of a finger piece, means for normally holding the finger piece in operative position, and a treadle rod for withdrawing said finger piece from operative position.

8. In a shoe sole edge setter, the combination of a finger piece for engagement by the operator to steady the work, a spring for normally holding the finger piece in position for such engagement, and treadle means for withdrawing the finger piece from operative position.

9. In an edge setting machine, the combination of a supporting frame, a head carrying a finger piece to be engaged by the hand of the operator to steady the work, a spring normally acting to position the finger piece for such engagement, treadle operated means for withdrawing the finger piece, and a guide to direct the movement of the finger piece during such movement.

10. In an edge setting machine, the combination of a supporting frame, a head carrying a finger piece to be engaged by the hand of the operator to steady the work, a guide pin projecting from said frame and on which said head is mounted, a spring for normally holding the head toward the outer part of said guide pin, and a treadle operated lever for sliding the head on said pin from its operative position.

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

GEORGE F. STEWART.

Witnesses:

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ROSWELL F. HATCH.