June 5, 1928. 1,672,139

W. C. STEWART

GAUGING MECHANISM

Original Filed Jan. 4, 1923

Fig. 1.

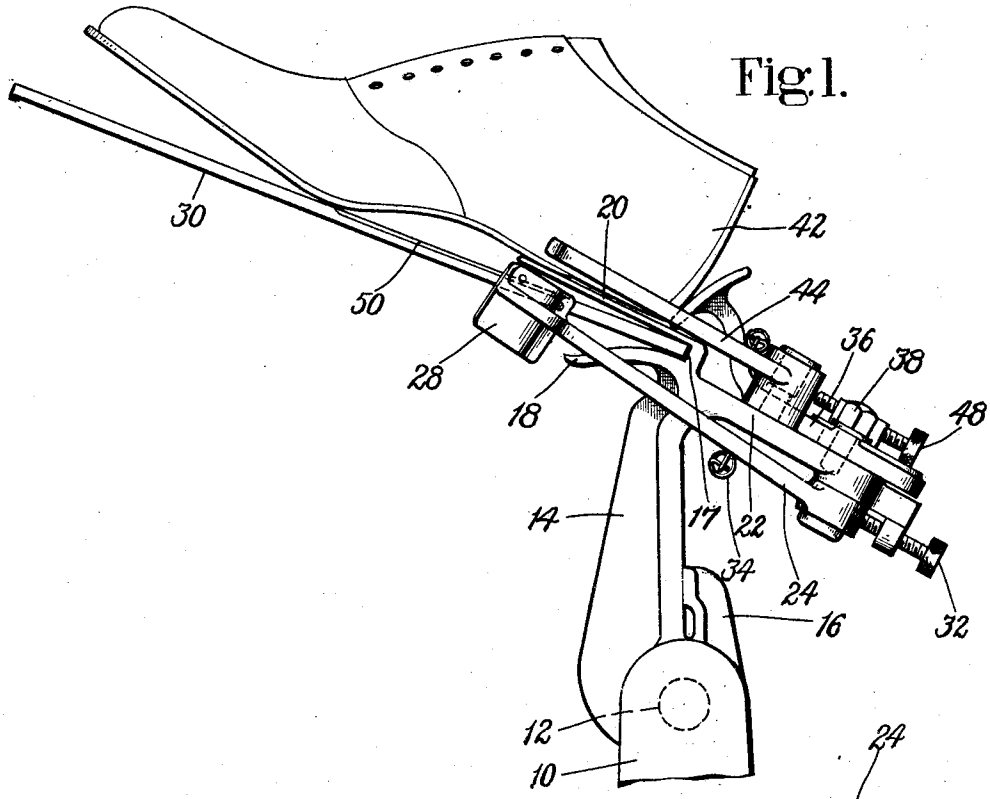
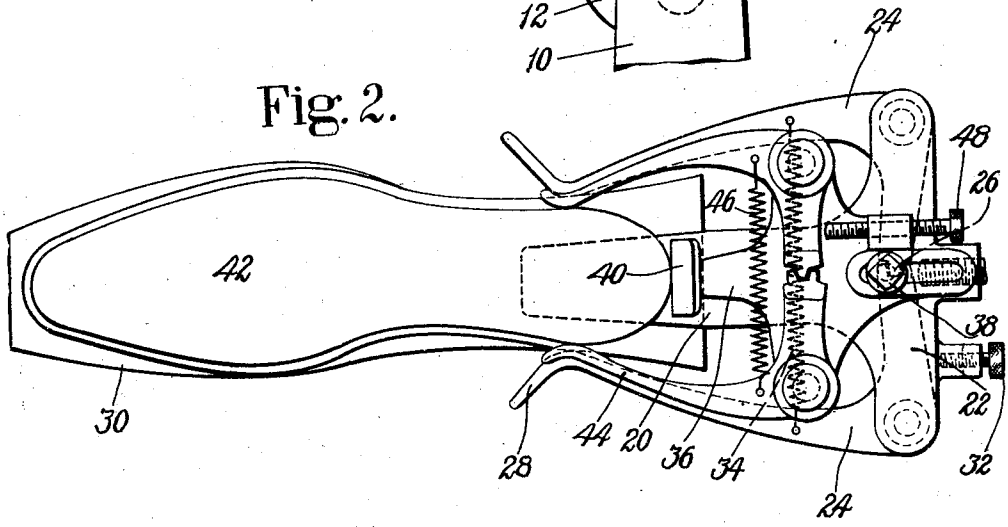


Fig. 2.



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UNITED STATES PATENT OFFICE.

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GAUGING MECHANISM.

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This invention relates to sole locating devices and is illustrated in connection with a device for locating outsoles with relation to lasted shoes, in preparation for the sole laying operation.

Under some conditions, it is necessary to adjust the shoes and the outsole relatively with a considerable degree of accuracy before inserting them into the sole laying machine. It is accordingly an important object of the invention to provide means for relatively adjusting a shoe and an outsole with accuracy and despatch, and to this end an important feature of the invention resides in a novel organization of gauges for relatively adjusting the shoe and the sole. In the illustrated device are disclosed gauges for adjusting the shoe and the sole relatively in both longitudinal and transverse directions, and provision is preferably made for relatively adjusting these gauges in order to accommodate the device to different conditions of work.

One condition which has rendered accuracy in relative adjustment of considerable importance results from the practice of skiving away or reducing the shank portions of outsoles to render easy the production of a close shank in the finished shoe. This skived away portion of the outsole must therefore be accurately placed upon the shoe especially in relation to its ball line. To facilitate such accurate relative location of the sole and shoe, the instrumentalities provided in the illustrated embodiment of the present invention are arranged to gauge the heel-ends of shoes and of outsoles, thus taking advantage of the fact that the heel-ends of shoes and outsoles of different sizes and styles differ relatively little in shape and dimensions as compared with the wide variations of the corresponding foreparts in these respects.

In accordance with another important feature of the invention, there are provided a set of fingers arranged to engage and center a shoe; another set of fingers arranged to engage and center an outsole and rear end gauging mechanism for relatively positioning the shoe and sole in a longitudinal direction.

In accordance with a still further feature of the invention, a finger is provided to extend between the shoe and the sole at their gauging ends in order to prevent the already cemented sole from sticking to the shoe at this point before proper relative adjustment has been effected.

In accordance with another feature of the invention, the illustrated device is provided with a pivotal mounting whereby the gauging instrumentalities may hold the shoe in a convenient position for relative adjustment of the shoe and sole by the operator and may move from that position in order to facilitate the removal of the shoe and sole from the apparatus.

These and other features of the invention comprising certain combinations and arrangements of parts will be understood from the following description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawings in which,

Fig. 1 is a side elevation of the device, and

Fig. 2 is a plan view.

A standard 10 is mounted in any convenient situation, preferably in connection with the machine, such as a sole laying machine, with relation to which the device is to be used. Pivoted upon this standard at 12 is a bracket 14 which rests against a stop 16 on the standard 10 at one extremity of its movement and can be tipped downwardly and to the left (looking at Fig. 1) around the pivot 12. In using the device the operator will preferably stand behind it, that is, to the right of it (considering it as shown in Fig. 1) with the heel of the shoe toward him, and the tipping movement will be downward and away from him.

The bracket 14 has at its upper end a notch 17 formed by a horizontally extending tongue 18 and a tongue or finger 20 making an acute angle with it and located above it. An arm 22 extends downwardly toward the operator from the top of the bracket 14 and carries pivotally mounted at its lower end two gauge arms or fingers 24 in the form of bell cranks each having an arm extending toward the other with gear teeth 26 on its end engaging the teeth of the other arm, which causes the two arms 24 to move in opposite directions at equal speeds whereby objects of various sizes may be centered between them. These arms extend upward-

ly and forwardly and have on their ends plates 28 of considerable lateral extent to insure their contacting with an outsole 30 which has been inserted in the notch 17. These arms will center that part of the sole, as shown the heel end, which is resting in the notch. A screw 32 resting against one of the short arms of one of the gauge members 24 prevents complete closure of the front ends of the arms under the pull of a spring 34 which has its ends fastened to the two gauge arms respectively, and thus permits an adjustment of the minimal opening of these arms to fit various conditions of work.

On the upper face of the arm 22 is mounted a sliding bracket 36 adjustable lengthwise of the apparatus by means of a bolt and slot at 38 and carrying a gauge 40 at its forward end against which the rear end of the shoe 42 is intended to rest. This bracket 36 also carries two pivoted gauge arms or fingers 44 shaped similarly to the arms 24 and geared together as described in the case of those arms to insure similar and oppositely directed movements at all times. These arms are pulled together by a spring 46 and their minimal opening is adjusted by a screw 48 mounted on the bracket 36.

The bracket 36 and the parts carried by it are intended to engage the rear end or counter portion of a shoe which is inserted in the device with its heel end resting upon the tongue 20. The heel end of the shoe will therefore be centered and positioned lengthwise in the same manner as described in regard to the outsole 30 and relative longitudinal adjustment of the shoe and sole can be effected by suitably adjusting the upper bracket 36 by the device 38. The two sets of fingers are arranged to center the shoe and sole with relation to the same median axis so that they will center the heel ends of the shoe and the sole with regard to each other. The reduced shank of the outsole is shown at 50.

In using the device, the operator will take the cemented sole 30 and the shoe 42 to which it is to be applied and place them in the machine as described, thus centering and longitudinally positioning their rear ends. With them still in the apparatus he will grasp their foreparts with his hand, centering these at the forward end of the shoe by the pressure of his fingers, the tongue or finger 20 preventing any sticking together of the shoe and the sole at their rear ends which might trouble him in centering the forward ends or which might cause a loss of adjustment at the rear ends. Having centered the forward ends with his hand, while holding them firmly together, he removes the shoe and sole from the apparatus by moving them downward and away from him, the pivot at 12 facilitating this step, and places them in the sole laying machine where they are next to be treated.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. A gauging mechanism comprising two independent devices, one constructed and arranged to engage the sides of the counter portion of a shoe and the other arranged to engage the heel end of a sole, the said two devices being arranged for relative adjustment.

2. A gauging device comprising two independent devices one for engaging the sides of the heel end of a shoe and the other for engaging a sole for relative longitudinal and lateral positioning of said shoe and sole, and means for relatively adjusting the shoe and sole engaging devices.

3. A gauging device for relatively positioning a shoe and a sole with the shoe positioned bottom downward comprising fingers for centering one of said objects, an end gauge for that object, and independent means for relatively centering and end-gauging the other said object.

4. A gauging device comprising members for engaging the end and the adjacent sides of a shoe to position it laterally and longitudinally, and members for similarly engaging a sole for the same purpose, the two sets of members being relatively adjustable.

5. A gauging device comprising means for relatively gauging a shoe and a sole, and means for supporting the shoe and the sole out of contact with each other in the neighborhood of the portions being gauged.

6. A gauging device comprising a bracket carrying two fingers arranged for equal and opposite movements to center a shoe placed between them, and a second bracket adjustable relatively to the first said bracket in a direction extending lengthwise of the shoe and carrying two similar fingers for centering a sole.

7. A gauging device comprising a bracket carrying two fingers arranged for equal and opposite movements to center an object placed between them, and a second bracket adjustable upon the first said bracket carrying two similar fingers for centering a second object, both pairs of fingers being symmetrically arranged with respect to the same plane.

8. A gauging device comprising a tongue arranged to separate a shoe and a cemented sole, and an end gauge on each side of the tongue for the shoe and sole respectively.

9. A gauging device comprising a tongue arranged to separate a shoe and a cemented sole, and lateral positioning gauges on each side of the tongue for the shoe and sole respectively.

10. A gauging device comprising a tongue arranged to separate a shoe and a cemented

sole, and lateral and end positioning gauges on each side of the tongue for the shoe and sole respectively.

11. A gauging device comprising a tongue arranged to separate a shoe and a cemented sole, and an end gauge on each side of the tongue for the shoe and sole respectively, said gauges being relatively adjustable.

12. A gauging device comprising a tongue arranged to separate a shoe and a cemented sole, and a set of lateral and end positioning gauges on each side of the tongue for the shoe and sole respectively, the sets of gauges being relatively adjustable.

13. A gauging device comprising a standard and a bracket movably mounted thereon, said bracket carrying shoe and sole gauging devices arranged to present the shoe in an upright upwardly pointing position and to permit a substantial downward movement of the toe of the shoe in removal from the device.

14. A gauging device comprising a standard and a bracket pivoted thereon, and sole and shoe gauging devices mounted on the bracket arranged to present the shoe in an upright upwardly pointing position and to permit the toe of the shoe to be swung downwardly to a substantial degree as it is removed from the device.

15. A gauging device comprising a standard and a bracket pivoted thereon, shoe and sole gauging devices on the bracket arranged to hold the shoe and sole by their heel ends with their toe ends extending away from the apparatus, and a stop supporting the bracket with the shoe extending upwardly from the apparatus, the said pivotal mounting permitting the shoe and sole and their holding devices to be tilted downwardly by the operator as he removes them from the device.

16. A gauging device comprising a pair of fingers arranged to center the end of a shoe, a second pair of fingers arranged to center the corresponding end of a sole, and heel-end gauging mechanism for relatively positioning the shoe and sole in a longitudinal direction.

In testimony whereof I have signed my name to this specification.

WILLIAM C. STEWART.