PORTABLE DEMONSTRATION SHOE MEASURING DEVICE

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INVENTOR
ROSARIO FUSCO

BY
Pachek & Stanley

ATTORNEYS
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INVENTOR. ROSARIO FUSCO

ROSARIO FUSCO

ATTORNEYS
This invention concerns a foot measuring device for fitting shoes. According to the invention there is provided a device in the general shape of a shoe having a sole, heel and upper flanges to which a shoe upper can be attached. The device has parts which can be extended laterally and lengthwise from each other for widening and lengthening the device to accommodate feet of different sizes. Suitable means on parts of the device indicate the width and length of the device in extended positions. It is therefore one object of the device to provide a foot measuring device in the general form of a shoe to receive a person's foot, parts of the device being extensible laterally and lengthwise to accommodate the device to different sizes of feet.

Another object is to provide a device as described with a linkage assembly under the device to permit the parts to be extended and retracted with respect to each other. A further object is to provide scales on the links of the assembly for indicating the size of a person's foot as measured by the device.

Still another object is to provide a device as described to which various uppers can be attached.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

FIG. 1 is a perspective view of a foot measuring device embodying the invention, with an attached shoe upper.

FIG. 2 is a perspective view of the device with the shoe upper removed.

FIG. 3 is a bottom plan view of the device on a reduced scale.

FIG. 4 is a reduced side view of the device.

FIG. 5 and FIG. 6 are enlarged cross-sectional views taken on lines 4-4 and 5-5, respectively, of FIG. 4.

FIG. 7 is a perspective view of a shoe upper in an inverted position.

FIG. 8 is a perspective view of the device with parts in extended positions.

FIG. 9 is a reduced bottom plan view of the device with parts extended.

FIG. 10 is a perspective view of the device in extended position with an attached shoe upper.

Referring to the drawings, there is shown the foot measuring device 10 including a main central section 12, heel portion 15 and two sides portions 17. The main central section 12 has a long, flat, generally rectangular sole 12' extending rearwardly from a curved toe end 13 to a rear instep end 16. The device has a curved flange wall 18 extending upwardly from toe end 14 of the sole and defining a toe portion of an upper flange for the shoe-shaped device. Side portions 17 have flat, elongated sole portions 20, 20' located laterally of sole 12' at opposite edges thereof. These sole portions carry upwardly extending curved flange walls 22, 22' defining upper side flanges of the shoe-shaped device. Heel portion 15 has a sole portion 23 at the rear end 16 of sole 12' to serve as a heel support for a foot to be measured in the device.

A curved rear flange wall 24 serves as a back for the device. It extends upwardly at the rear end of the heel portion 15. A depending heel 25 is formed at the underside of heel portion 15.

On the several flange walls 18, 22, 22' and 24 are outwardly extending studs 29 which can be detachably engaged by snap fastener eyes 31 located on the inner side of an upper U shown in FIGS. 1 and 7. This upper can be removed and another upper of different design can be attached to the device 10. The combination of upper U and the shoe-shaped measuring device simulates a shoe so that a person being fitted with a shoe can visualize how a particular shoe will look as well as how it will fit.

In FIGS. 1-6 the parts of device 10 are shown closed or retracted so that the device has minimum size. In FIGS. 8 and 9 the parts are shown extended to accommodate a foot of maximum size. In order to effect extension and retraction of the sole, heel and upper portions, there is provided a linkage assembly at the underside of the device shown to best advantage in FIGS. 2-5 and 7, to which reference is now made.

The heel portion 15 of the device is movable rearwardly from the main central portion 12 by means of a pair of flat links 30 slidably engaged in two trackways 32 secured to the underside of sole 12'. The links 30 are secured at their outer rear ends by pins 34 to the underside of heel portion 15 just forwardly of heel 25. Graduated scales 28 are provided on both upper and lower sides of the links 30 for indicating the length of the device in various positions of extension of the heel portion of the device.

The side portions 17 are guided in moving laterally by two pairs of flat links 35, 35' and 36, 36'. One pair of links 35, 35' are located near the toe end of the device and slidably engage in a trackway 38, extending laterally across the toe end of sole 12' and secured thereto by screws 39; see FIG. 5. The other pair of links 36, 36' are longitudinally slidably in a trackway 40 located near the center of sole 12' and secured thereto in a transverse position. Thus, each of the trackways 38 and 40 has two aligned links which can slide outwardly thereof. To limit outward movement of these links there are provided pins 41 secured to inner ends of the links and engaged in longitudinal slots 42, 43 formed in outer or bottom sides of the trackways. Outer ends of links 35, 35', 36, 36' are secured by rivets 37 to undersides of sole portions 20, 20'.

Pins 44 are secured to inner ends of links 30. These pins are slidably engaged in slots 45 formed in bottom sides of trackways 32, and limit outward movement of heel portion 15 of the device.

In order to prevent any tendency of the side portions 17 of the device to twist or skew in moving outwardly and inwardly laterally with respect to the central sole 12', there is provided another pair of links 48, 49 pivotedly secured together at their rear ends by a pin 47 near the center of sole 12' just forwardly of trackway 40. This pin is slidably fitted in a central groove 52 formed in the bottom of sole 12'. The forward ends of the links 48, 49 are pivotally secured by pins or rivets 53, 54 to forward points at the bottoms of sole portions 20, 20'.

A cross bar 57 extends across intermediate portions of overlapping links 48, 49. This bar has a central slot 55 in which are slidably engaged two rivets 56, 58 secured to links 48, 49. A further rivet 59 is slidably engaged in central groove 52. When the side portions 17 are extended laterally of the main central portion 12, rivets 56, 58 move laterally outward to the ends of slot 55 in the extreme outer positions shown in FIG. 7. At the same time, rivet 59 moves rearwardly of the sole 12'.

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while remaining perpendicular to the lengthwise direction of the sole.

Graduated scales 60 are provided on both sides of links 35°, 35° and 36°, 36° so that indications of the width of the device are provided in all positions of the side portions 17.

In FIGS. 1 and 7, the upper U is a low-cut type with a strap loop 65 at the rear engaged on flange wall 24. In FIG. 10 another upper U' is provided having a high boot portion 66 for enclosing the wearer's ankle. Snap fastener eyes 31 engage on the studs 29 of the wall flanges of the device 10. The device 10 is shown in an extended position with rear and side portions extended outwardly of the main central section 12. For each type of upper to be applied to the device there should be provided a full range of sizes and styles of ladies', children's and men's uppers that can be attached to the device to simulate a complete shoe in appearance in all positions of extension of the parts of the device 10. Instead of snap fasteners, slide fasteners or other means may be used for interchanging different uppers on the shoe device.

The device can be used while resting on a floor or other horizontal surface. A person whose foot is being measured can step into the device and rest his weight thereon so that accurate measurements can be obtained. The upper U or U' should be applied to the device before the person inserts his foot into the device. For uppers such as upper U' the lacing 68 can be tightened after the device is properly adjusted to size. After the device 10 is properly sized and the upper is laced, the person being fitted can feel how a shoe having the same size as that of the adjusted device will fit. He can also see how the shoe having an upper of the same type as that of the applied upper will look.

When the device is used by shoe retailers, fitting and selling of shoes are expedited since the one device is used to measure the foot and to show how a shoe of the design selected will appear.

The device 10 can be made entirely of metal or plastic; or some parts can be made of metal and some parts can be made of plastic. The uppers will be made of leather, fabric or composition material.

The device is light in weight, inexpensive to manufacture, easy to use and provides accurate indications of length and width of any normal foot measured thereby. If desired, the device can be made up in a large size for measuring a range of adult foot sizes; and in a small size for measuring a range of children's foot sizes.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

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

1. A device for measuring a person's foot, comprising a main central section, a heel portion, and two side portions defining a generally shoe-shaped structure; said central section having a flat, elongated generally rectangular main sole, and an upstanding curved flange wall at one end of said sole defining a toe for said structure; said heel portion having a first sole portion, and an upstanding curved other flange wall at the rear end of said sole portion defining a back for said structure; said side portions having an elongated generally rectangular main sole and an upstanding curved further flange wall defining a side for said structure; and a linkage assembly movably connecting said heel and side portions to said sole for adjusting said structure in length and width, said linkage assembly comprising a first pair of links secured to and transversely of said main sole and said side thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other side portions, a third trackway secured to and transversely of said main sole near said other end thereof and slidably receiving said second third links respectively, whereby the side portions are guided in movement laterally with respect to said main central section, a fourth pair of links pivotally connected together by a pin at rear end thereof said side portions, said fourth links being slidably respectively to intermediate points of said other sole portions, said main sole having a longitudinally extending groove slidably receiving said pin to guide said fourth links, a cross bar extending transversely of said main sole, said cross bar having a central slot, two other pins respectively engaged with said fourth pair of links and slidably disposed in said central slot, and a third other pin engaged in said central slot and said groove, whereby the side portions are prevented from twisting in the plane of said main sole when the side portions are moved laterally with respect to said main central section.

2. A device for measuring a person's foot, comprising a main central section, a heel portion, and two side portions defining a generally shoe-shaped structure; said central section having a flat, elongated generally rectangular main sole, and an upstanding curved flange wall at one end of said sole defining a toe for said structure; said heel portion having a first sole portion, and an upstanding curved other flange wall at the rear end of said sole portion defining a back for said structure; said side portions having an elongated other sole portion, and an upstanding curved further flange wall defining a side for said structure; and a linkage assembly movably connecting said heel and side portions to said sole for adjusting said structure in length and width, said linkage assembly comprising a first pair of links secured to said first sole portion, a pair of trackways secured to and longitudinally of said main sole and slidably receiving said first links for guiding said heel portion in movement lengthwise of said main central section; a second pair of links secured respectively to forward ends of said other sole portions, a second trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near the other end thereof and slidably receiving said third pair of links respectively, whereby the side portions are guided in movement laterally with respect to said main central section, a fourth pair of links pivotally connected together by a pin at rear ends thereof said side portions, said fourth links being slidably respectively to intermediate points of said other sole portions, said main sole having a longitudinally extending groove slidably receiving said pin to guide said fourth links, a cross bar extending transversely of said main sole, said cross bar having a central slot, two other pins respectively engaged with said fourth pair of links and slidably disposed in said central slot, and a third other pin engaged in said central slot and said groove, whereby the side portions are prevented from twisting in the plane of said main sole when the side portions are moved laterally with respect to said main central section.

3. A device for measuring a person's foot, comprising a main central section, a heel portion, and two side portions defining a generally shoe-shaped structure; said central section having a flat, elongated generally rectangular main sole; said heel portion having a first sole portion;
said side portions each having an elongated other sole portion disposed laterally of the main sole, and a linkage assembly movably connecting said heel portion and side portions to said sole for adjusting said portions defining a generally shoe-shaped structure; said central section having a flat, elongated generally rectangular main sole, and an upstanding curved flange wall at one end of said sole defining a toe for said structure; and said heel portion having a first sole portion, and an upstanding curved other flange wall at the rear end of said sole portion defining a back for said structure, said side portions each having an elongated other sole portion, and an upstanding curved further flange wall defining a side for said structure; and a linkage assembly movably connecting said heel portion and side portions to said sole for adjusting said structure in length and width, said linkage assembly comprising a first pair of links secured to said first sole portion, a pair of trackways secured to and longitudinally of said main sole and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively.
ally with respect to said main central section, a fourth pair of links pivotally connected together by a pin at rear ends thereof, forward ends of said fourth links being connected respectively to intermediate points of said other sole portions, said main sole having a longitudinally extending groove slidably receiving said pin to guide said fourth pair of links along a generally shoe-shaped structure; said central section having a flat, elongated generally rectangular main sole, and an upstanding curved flange wall at one end of said sole defining a toe for said structure; said heel portion having a first sole portion, and an upstanding curved other flange wall at the rear end of said sole portion defining a back for said structure; said side portions each having an elongated other sole portion, and an upstanding curved further flange wall defining a side for said assembly, said central section having a cross bar extending transversely of said main sole, said cross bar having a central slot, two other pins respectively engaged with said fourth pair of links and slidably disposed in said central slot, and a third other pin engaged in said central slot and said groove, whereby the side portions are prevented from twisting in the plane of said main sole when the side portions are moved laterally with respect to said main central section, each of the flange walls having fastener means thereon; and a shoe upper having other fastener means thereon detachably engaged with the fastener means on the flange walls to enclose an upper part of the person's foot.

7. A device for measuring a person's foot, comprising a main central section, a heel portion, and two side portions defining a generally shoe-shaped structure; said central section having a flat, elongated generally rectangular main sole, and an upstanding curved flange wall at one end of said sole defining a toe for said structure; said heel portion having a first sole portion, and an upstanding curved other flange wall at the rear end of said sole portion defining a back for said structure; said side portions each having an elongated other sole portion, and an upstanding curved further flange wall defining a side for said structure extending along said central section; and graduated scales on said first, second and third links for indicating length and width of said structure in extended positions of the heel and side portions with respect to the main central section.

8. A device for measuring a person's foot, comprising a main central section, a heel portion, and two side portions defining a generally shoe-shaped structure; said central section having a flat, elongated generally rectangular main sole, and an upstanding curved flange wall at one end of said sole defining a toe for said structure; said heel portion having a first sole portion, and an upstanding curved other flange wall at the rear end of said sole portion defining a back for said structure; said side portions each having an elongated other sole portion, and an upstanding curved further flange wall defining a side for said structure; and a linkage assembly movably connecting said heel portion and side portions to said sole for adjusting said structure in length and width, said linkage assembly comprising a first pair of links secured to said first sole portion, a pair of trackways secured to and longitudinally of said main sole and slidably receiving said first links for guiding said heel portion in movement lengthwise of said main central section; a second pair of links secured respectively to forward ends of said other sole portions, a second trackway secured to and transversely of said main sole near said one end thereof and slidably receiving said second pair of links respectively, a third pair of links secured to rear ends of said other sole portions, a third trackway secured to and transversely of said main sole near the other end thereof and slidably receiving said third pair of links respectively, whereby the side portions are guided in movement laterally with respect to said main central section, a fourth pair of links pivotally connected together by a pin at rear ends thereof, forward ends of said fourth links being connected respectively to intermediate points of said other sole portions, said main sole having a longitudinally extending groove slidably receiving said pin to guide said fourth links, a cross bar extending transversely of said main sole, said cross bar having a central slot, two other pins respectively engaged with said fourth pair of links and slidably disposed in said central slot, and a third other pin engaged in said central slot and said groove, whereby the side portions are prevented from twisting in the plane of said main sole when the side portions are moved laterally with respect to said main central section, each of said flange walls having fastener means thereon for detachably engaging mating fastener means on an upper to enclose an upper part of the person's foot, and graduated scales on said first, second and third links for indicating length and width of said structure in extended positions of the heel and side portions with respect to the main central section.

References Cited by the Examiner

UNITED STATES PATENTS

1,010,451 12/1911 O'Sullivan
2,068,946 1/1937 Ferguson.
2,153,968 4/1939 Loufbahn.
2,520,248 8/1950 Klaassen

FOREIGN PATENTS

10,880 11/1879 Germany.

LEONARD FORMAN, Primary Examiner.