March 16, 1965 M. M. ROCKMORE 3,173,746

FOOT SIZE ASCERTAINING APPARATUS

Filed Jan. 21, 1964

FIG. 1

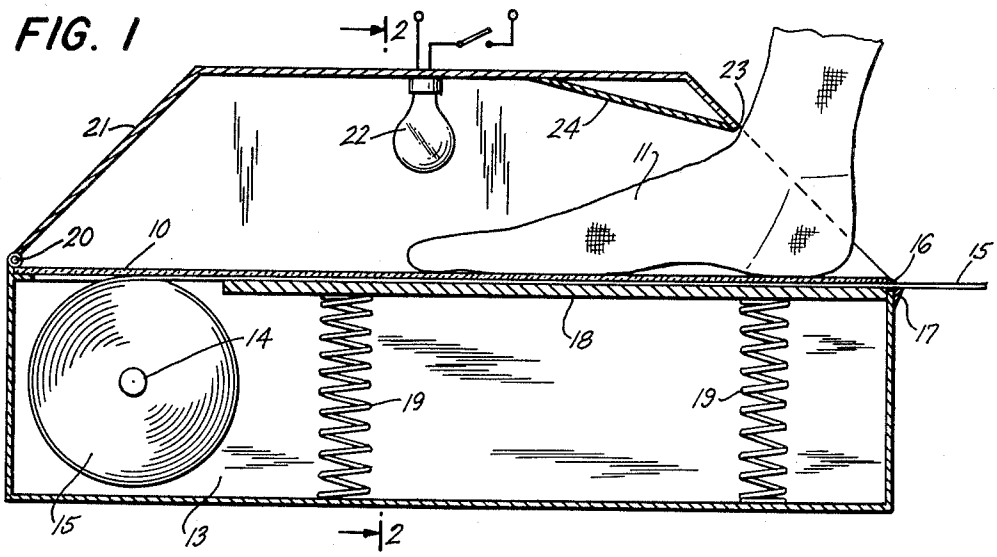
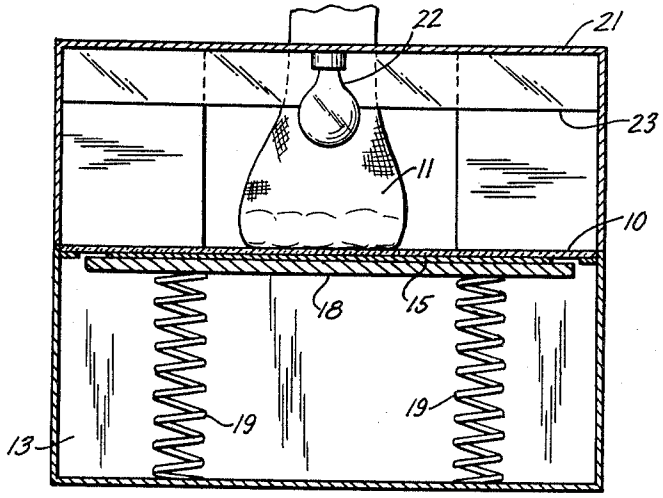


FIG. 2



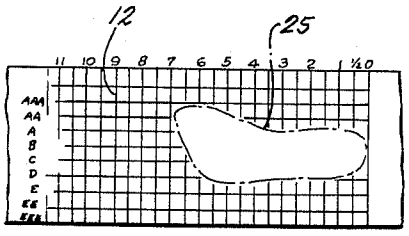


FIG. 3

INVENTOR:
MILTON M. ROCKMORE

BY
Frederick Breitenfeld
ATTORNEY

United States Patent Office 3,173,746 Patented Mar. 16, 1965

3,173,746

FOOT SIZE ASCERTAINING APPARATUS

Milton M. Rockmore, 102 Brookby Road, Scarsdale, N.Y.

Filed Jan. 21, 1964, Ser. No. 339,192
1 Claim. (Cl. 346—107)

This invention relates to a method and apparatus by means of which foot sizes can be readily ascertained and recorded.

While the procedure and apparatus are primarily useful in connection with the fitting of shoes, especially children's shoes, certain phases of the invention are not necessarily restricted to this purpose, and may be applicable to, or useful in, other fields, e.g., for diagnostic, therapeutic, statistical, or other purposes.

It is an object of the invention to provide a practical and relatively inexpensive means for quickly creating a graphic permanent record of the contour and dimensional characteristics of a person's foot. Such a record is highly useful at the time of purchase of a pair of shoes, since it avoids human error in gauging shoe sizes, but its utility is by no means limited to this advantage, nor in fact to such a time or environment.

A more particular objective of the invention is to provide a safe and efficient apparatus in the form of a recording instrument adapted in simple and rapid fashion to create an inexpensive photographic record of information relating to a foot whose contours and dimensions are to be made note of. The record is preferably made upon paper or similar sheet material adapted to receive additional written or typed notations, if desired, and the record is of a size and kind which can be readily handled, mailed or preserved.

In the field of shoe fitting and selling, it is a more particular object of the invention to provide a record which may be readily preserved by the seller of the shoes, or by the purchaser, or mailed by the seller to the purchaser, for re-checking the suitability of a particular pair of shoes after the expiration of a time period during which the wearer's feet may have grown larger.

The achievement of these objects is predicated upon a novel combination of elements whereby a full-size outline of a foot can be effectively produced, quickly, in a unique juxtaposition to dimensional indicia, by a single activation of an energy source associated with a supply of special sheet material sensitive to such energy. Preferably the energy employed is light, and the sheet material is photographically sensitive.

One of the features of the invention resides in the employment of a thin light-transmitting panel having an outer face against which a foot may be placed, and an inner face bearing relatively opaque dimensional markings. Means are provided for holding a light-sensitive sheet against the inner face, and for directing light inwardly through the panel. In this way the foot intercepts some of the light and allows a photographic impression to be made only of the indicia remaining uncovered. The inner margin of the impression is thus an outline representation of the foot which appears in direct informative relation to the adjacent size indicia.

One way of achieving the objectives of the invention in a commercially feasible and practical manner is illustrated in the accompanying drawings, in which—

FIGURE 1 is an elevational cross section of an apparatus embodying the features of the present invention, showing a foot in position for making a photographic impression;

FIGURE 2 is a cross sectional view along the line 2—2 of FIGURE 1; and

FIGURE 3 is a face view of a fragmentary part of the light-sensitive web after an impression has been made on it.

A thin light-transmitting panel **10** is provided, having an upper face against which a foot **11** is adapted to be placed, and bearing on its under side a series of relatively opaque size markings. These markings are not readily observable in FIGURES 1 and 2, but the nature of the markings is indicated by the reference number **12** in FIGURE 3. The panel **10** may be composed of any suitable rigid material, and it is adequately supported so that it will not yield or break under pressure.

A convenient way of mounting the panel **10** is to build it into association with a substantially rectangular chamber or compartment **13**, with the panel **10** defining the top wall of the compartment. The other walls of the compartment may be composed of any suitable material, such as wood or metal, and they are joined and assembled in such a way that the compartment is light-tight except for the top panel **10**.

Within the compartment there is a spindle **14** upon which a supply roll **15** of low sensitivity light-sensitive paper is mounted. This paper is in the form of a continuous strip, and in order to condition the apparatus for use the end region of the strip is guided beneath the panel **10** and out of the compartment through a slit **16**. Adjacent to the slit it is preferable to provide a tearing edge **17** so that whenever a predetermined length of the strip has been pulled out through the slit **16**, it may be readily torn off at the cutting edge **17**.

In order to hold the strip of sensitized material firmly against the under side of the panel **10**, a backing element **18** is provided, preferably supported on compression springs **19** or the like.

Hinged to the compartment **13** along the edge **20** opposite to the slit **16** is a housing or cover **21** within which a light source is mounted. A small electric lamp **22**, energized by a suitable source of current through a switch, has been depicted by way of example. The housing is provided with an aperture or opening **23** to afford space for the foot **11**. The housing may also be provided, if desired, with an interior reflecting surface **24** adapted to direct the light from the lamp **22** downwardly toward the panel **10**.

The sensitized strip of material on the supply roll **15** may be composed of paper or equivalent backing with a light-sensitive coating on the surface that is exposed upwardly to the light; or the light-sensitive material may be of any other known kind, adapted to change color, or otherwise change its appearance, upon subjection to light or equivalent energy. Preferably the sensitive sheet is of the currently-available kind which requires no additional treatment to develop a latent image or to make the photographic impression more stable.

When the device is standing idle, the cover or hood is preferably in the position shown in FIGURE 1, with the light **22** extinguished, and with the opening **23** preferably covered to exclude light. When the apparatus is to be used, the housing **21** is first swung upwardly to allow the foot **11** to be properly placed on the top surface of the panel **10**, and the housing **21** is then restored to the position shown in the drawings. The foot is positioned with its heel portion in a predetermined relationship to the markings on the under surface of the panel **10**, these markings being readily visible from the top since the panel **10** is of a light-transmitting character. On the assumption that a length of light-sensitive material is in position directly beneath the foot, and adjacent to it, being firmly held against the panel **10** by the backing **18**, the light source **22** is activated for a predetermined short duration, then extinguished again. The end of the strip is then pulled out through the slit **16**, so that the entire region that was exposed to the light or equivalent energy can

be torn off. If the material is the kind that requires no special treatment to develop the image, it is immediately ready to receive appropriate markings as to the date, the name of the shoe purchaser, etc. If the sensitive material is of a kind that requires developing, these markings can be placed on the sheet at a later time, or applied to a card or other element clipped to or otherwise associated with the strip. Ultimately the element bears impressions of the character shown in FIGURE 3. In the region that was directly beneath the foot 11 no photographic impression has been made, but in the surrounding region the dimensional markings or similar notations on the under surface of the panel 10 have caused corresponding impressions 12 to be made. The inner boundary of these impressions has a shape similar to that shown by the dot-and-dash line 25, and this constitutes an informative superposition of the outline of the foot 11 upon the size markings 12. These size markings may be of any desired kind, including, for example, heel-to-ball indicia.

The value of this type of convenient visible record for any of a number of different purposes will be readily appreciated. It is particularly useful as a time-saving and error-eliminating device in the proper fitting of shoes. It is effective as a promotional item, too. For example, it may bear the name or trademark of the seller of the shoes, or it may bear other advertising or embellishment as may be desired. If the record is delivered to the purchaser of the shoes it may be re-used at time intervals to re-check the fit and suitability of the shoes. If the record, or perhaps a duplicate one, is retained by the shoe store, it may be mailed to the purchaser after a selected time interval as a reminder that the wearer may perhaps have outgrown the shoes. Other ways in which the invention may be used, for shoe-fit-checking or advertising purposes will readily suggest themselves.

In the specific field of shoe selling, the invention affords several other advantages, not heretofore attainable:

(1) It makes it possible to provide an immediate and separate permanent record for each foot. These records can be visually compared at the time of purchasing shoes, to allow for the common situation in which one foot is larger than the other. Also, the ability visually to inspect and compare the foot contours serves as a sound basis for selecting the particular style or last which is best suited for each particular pair of feet.

(2) Persons thoroughly trained in the fitting of shoes are not always available, and the invention helps to avoid mistakes by less experienced personnel.

(3) A single experienced manager of a shoe store or department, with several less experienced assistants, can function more efficiently with the help of this invention. For example, he might remain posted at a central location, ready to receive and interpret records submitted to him by the selling personnel, thus saving the time that would be required personally to check each customer or transaction. Also, the records are of a kind which permit him to write his instructions or comments directly upon each print. In this respect, therefore, the invention is a distinct labor-saving and time-saving device.

(4) The invention affords an efficient and unusually fast means for obtaining a visible record, almost at once, of each of a pair of feet. Moreover, it is a permanent record, and it can provide information regarding any desired dimension, e.g., length, width, heel-to-ball measurements (particularly important in fitting children's shoes), etc.

The invention has been illustrated and described in a preferred form only, and merely by way of example, but it will be apparent that many variations may be made without necessarily departing from the spirit and scope of the invention as expressed in the appended claim.

What is claimed is:

A foot size ascertaining and recording apparatus comprising a light-transmitting panel upon which a foot may be placed, said panel carrying relatively opaque dimensional indicia, a roll of low sensitivity light-sensitive paper near one end of said panel, a web of paper extending from said roll and beneath said panel with its light-sensitive surface facing said panel, means at the opposite end of said panel for severing desired lengths of paper from said web, means for holding said web flat against the lower face of said panel, a housing over said panel in hinged relation thereto, and a source of light within said housing, means for activating said light source, the wall of said housing having a cut-out region through which the leg of a person whose foot is on said panel may pass, whereby when a foot is to be measured said housing may be swung away from said panel, the foot placed upon said panel, said housing swung back over said panel, said light source activated to record the indicia not covered by the foot on the length of paper present under said panel, and said length of paper pulled from beneath said panel and severed from the remainder of said web to form a permanent visual record of the size and contour of the foot.

References Cited by the Examiner

UNITED STATES PATENTS

605,959	6/98	Henderson.	
1,649,042	11/27	Ritter	346—107
2,096,551	10/37	Johnson	33—32
2,178,933	11/39	Davis	95—73 X
2,382,131	8/45	Cameron	88—74
2,549,150	4/51	Willis	346—107 X
2,650,518	9/53	Zaroff et al.	33—3.2 X
3,082,669	3/63	Jones	95—73 X

LEO SMILOW, *Primary Examiner.*