Sept. 25, 1951 I. E. HITT 2,569,310

APPARATUS FOR USE IN FINGER PRINTING

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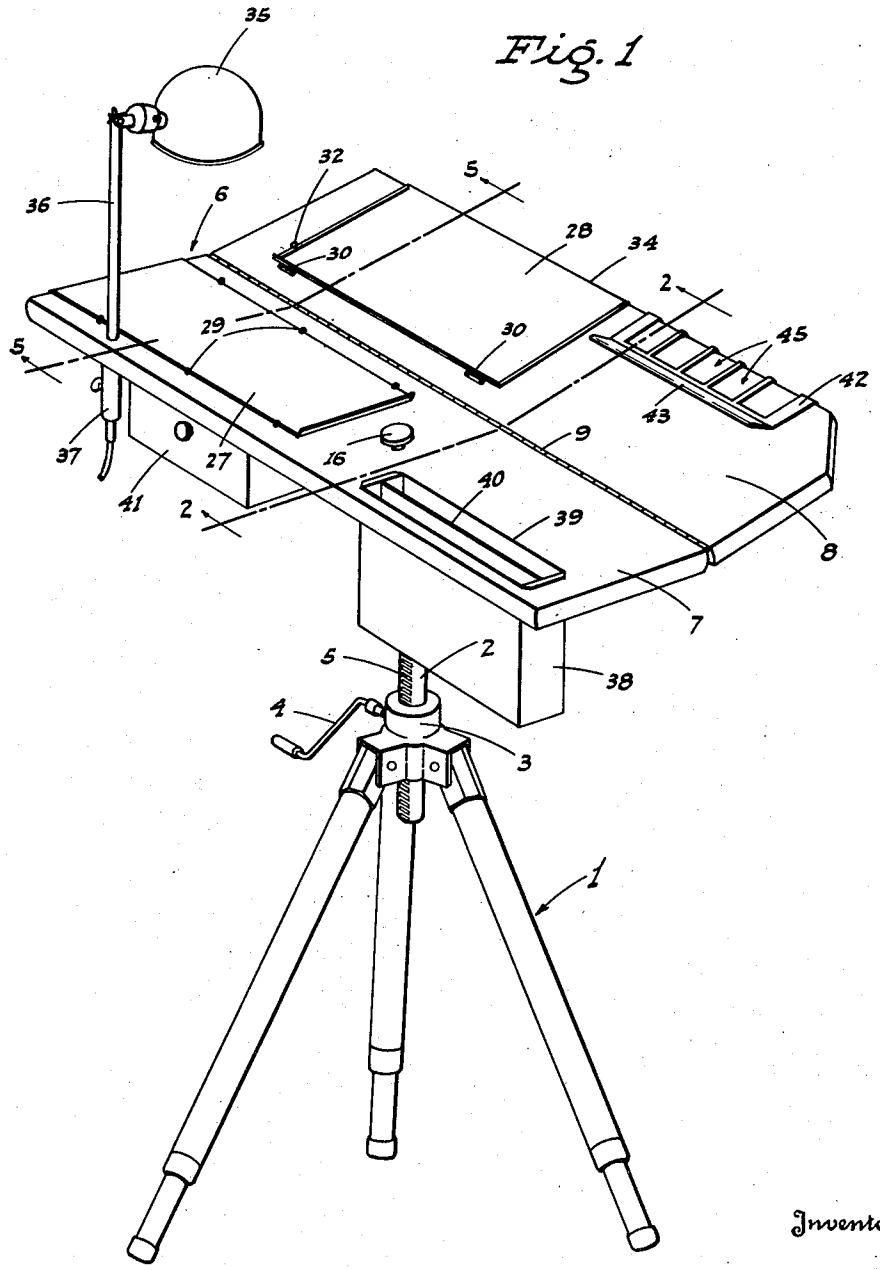
Fig. 1



Inventor

Ivan E. Hitt

By

ATTORNEY

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Fig. 2

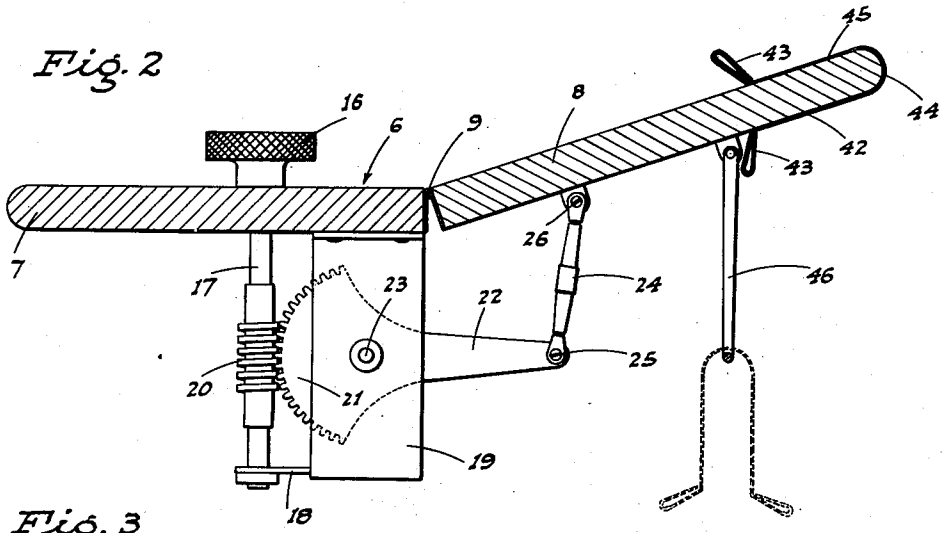


Fig. 3

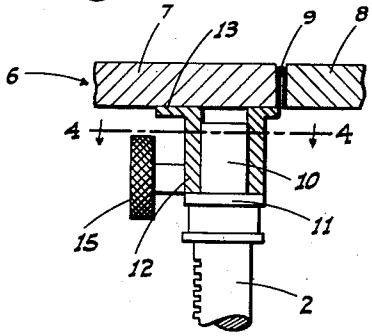


Fig. 4

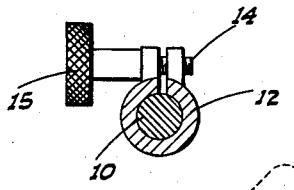


Fig. 5

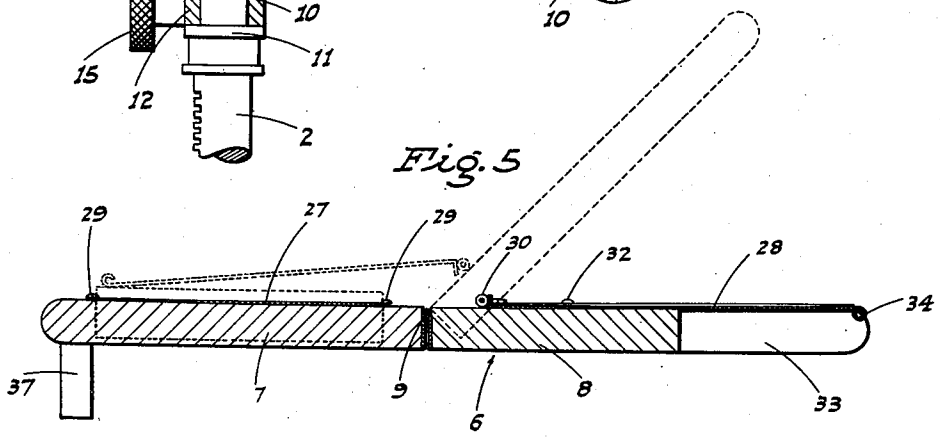
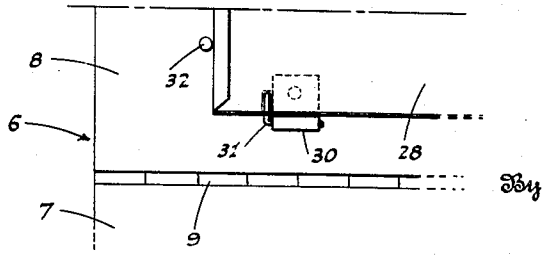


Fig. 6



Inventor

Ivan E. Hitt

By

Wright & Wright

ATTORNEYS

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UNITED STATES PATENT OFFICE

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APPARATUS FOR USE IN FINGER PRINTING

Ivan E. Hitt, Stockton, Calif.

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7 Claims. (Cl. 41—4)

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This invention is directed to, and it is an object to provide, a portable, fingerprinting machine of novel construction; the machine being compact, relatively light weight, easy to erect from a knocked-down, carrying position, and convenient to use.

A separate object of the invention is to provide a fingerprinting machine which is arranged for multiple adjustments with respect to the person whose fingerprints are to be taken; it being unnecessary for the person to move or change position during the fingerprinting process as the parts of the machine are adjusted relative to said person.

A further object of the invention is to provide a fingerprinting machine, as above, which makes possible the convenient taking of fingerprints with the person's arm extended substantially straight forward, as is desirable to the production of effective prints and which requires rolling of each finger at a predetermined point on the record card; and similarly to accomplish proper fingerprinting of persons whose fingers may be crippled, crooked, or otherwise deformed.

Another object of the invention is to provide a fingerprinting machine which provides a novel assembly of ink platens arranged to prevent dirt and dust from accumulating on the platens and keeping the ink moist when the machine is not in use, thereby avoiding the necessity of daily cleaning of the platens.

The machine is also provided with effective artificial illumination arranged in a manner which facilitates proof reading of the print which remains on the finger inking platen after a person's finger is rolled thereon.

An additional object of the invention is to provide a fingerprinting machine which includes a novel detachable clamp for holding the fingerprint record card on the machine during printing of individual fingers; such clamp—when multiple fingerprints are taken—being easily detached and then suspended in a readily accessible manner from the machine for subsequent use.

It is also an object of the invention to provide a fingerprinting machine designed for ease and economy of manufacture; the machine being sturdy in construction and stable when in use.

Still another object of the invention is to provide a practical and reliable fingerprinting machine and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts

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as will fully appear by a perusal of the following specification and claims.

In the drawings:

Fig. 1 is a perspective view of the fingerprinting machine as set up for use.

Fig. 2 is a cross section on line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmentary sectional elevation of the turnably adjustable connection between the tripod stem and the table top.

Fig. 4 is a sectional plan on line 4—4 of Fig. 3.

Fig. 5 is a cross section of the table top taken on line 5—5 of Fig. 1.

Fig. 6 is an enlarged fragmentary plan view showing particularly one of the separable hinges which secures the finger inking platen to the table top.

Referring now more particularly to the characters of reference on the drawings, the novel fingerprinting machine comprises a tripod, indicated generally at 1, which tripod is of an adjustable, folding type. A vertically adjustable stem 2 projects upwardly from the head 3 of the tripod; such stem 2 being adjusted by a crank 4 which actuates a rack and pinion mechanism between said head and stem, the rack being on the stem and indicated at 5.

Above the tripod 1 and stem 2, the machine includes a table top unit, indicated generally at 6; such table top unit being rectangular in plan but elongated transversely.

The table top unit 6 comprises a pair of side by side, longitudinal sections; the inner or back section, indicated at 7, being stationary and horizontal, while the outer or front section, indicated at 8, is vertically tiltable. The stationary section 7 and the vertically tiltable section 8 of the table top unit 6 are connected together, at adjacent edges and for the full length thereof, by a piano hinge 9.

The above described table top unit 6 is rotatably and removably supported on the upper end of the stem 2 as follows:

At its upper end the stem 2 is formed with an upwardly projecting trunnion 10 having an enlarged stop collar 11 at its lower end. The trunnion 10 projects, in relatively turnable relation, into a vertical-axis, clamping collar 12 which is secured in connection with the bottom of the stationary section 7 by means including an attachment flange 13.

The collar 12 is of split type and a clamping screw 14 is adapted to clamp said collar 12 to the trunnion 10 to normally control rotation therebetween. The clamping screw 14 includes a finger knob 15.

With the above mounting arrangement between the stem 2 and table top unit 6, the latter can be turnably adjusted about a vertical axis.

The section 8 of the table top unit 6 is tiltably adjustable by means of the following mechanism:

Substantially centrally thereof the stationary section 7 is provided with a finger knob 16 accessible from above said section, and said finger knob is secured to the upper end of a depending spindle 17 which projects some distance below said section 7, being turnably supported in a lower horizontal leg 18 of a depending mount 19.

A worm 20 on the spindle 17 meshes with a segmental gear 21 which is formed as one end of a forwardly projecting lever 22. The lever 22 is pivoted, intermediate its ends, as at 23, to the mount 19 for vertical swinging motion.

A link 24 pivotally connects between the forward end of the lever 22, as at 25, and a pivotal anchor point on the under side of the tiltable section 8, as at 26.

By rotating the finger knob 16, with resultant motion of the worm 20 and segmental gear 21, the lever 22 and link 24 act to tiltably adjust the section 8 upwardly or downwardly, at the selection of the operator.

On the left hand halves thereof the stationary section 7 and the tiltable section 8 of the table top unit 6 are fitted with rectangular, metallic platens 27 and 28, respectively; such platens being preferably of stainless steel. The platen 27 is for the purpose of initially preparing or spreading the printing ink, while the platen 28—especially the outer portion thereof—is for the finger inking step of the fingerprinting process; the person whose fingers are to be printed standing in front of the table top unit 6 in facing relation thereto.

The platen 27 is removably held in place on the stationary section 7 by headed hold-down pins 29 along opposite side of said platen. The platen 27 is removable from the headed hold-down pins 29 by sliding said platen lengthwise in a laterally outwardly direction; the platen being slightly tapered to normally wedge against the pins 29, but readily freeing therefrom when slid as above.

The platen 28 is held in place on the tiltable section 8 by transversely spaced hinges 30 connected between the inner longitudinal edge of the platen 28 and said section 8.

In order to permit of removal of the platen 28 from the section 8, as is desirable when the machine is knocked down and placed in a carrying case for transport, the hinges 30 are each of separable type, including a pull-out hinge pin 31. By shifting the platen 28 laterally toward the adjacent end of the table top unit 6 the pins 31 pull out and the hinges 30 separate. In order to prevent such occurrence under normal conditions, a relatively short stop pin 32 upstands from the section 8 for normal abutment by the laterally outer end of the platen 28. To permit escape from said stop pin 32 the platen 28 is merely lifted slightly and then shifted laterally outwardly to separate the hinges 30.

The portion of the tiltable section 8 directly below the central outer portion of the platen 28 is cut away, as at 33, to permit a person's hand to be positioned close to the outer edge of said platen 28 for the inking of a finger or fingers thereon; such outer edge being rounded, as at 34.

In order to prevent the fingerprinting ink on platens 27 and 28 from becoming dirty or dry when the machine is set up but not immediately in use, the platen 28 is swung or folded over on its hinges to closely overlie but not actually contact platen 27; the transverse upstanding lip on the platen 27 at is inner end being engaged by platen 28 to prevent such contact.

While his folding over may be performed when section 8 is upwardly tilted as indicated in Fig. 5, it is preferably carried out when section 8 is flat, since a closer approach of the platens, with a smaller air circulating passage therebetween, is thus provided.

The table top unit 6 is illuminated from above by an adjustable light fixture 35, with suitable reflector—as shown—adjustably mounted on the upper end of a post 36 which is detachably supported in a socket 37 on the stationary section 7 between the platen 27 and the rear edge of said section toward the left hand end thereof.

In addition to illuminating the entire table top unit 6, the light fixture 35 can be set so that the operator can readily see or proofread the fingerprint which shows on the finger inking platen 28 with each use thereof. Thus, if the fingerprint is not complete at the time of inking, the operator can again ink the finger before the print is taken, so as to save time.

A fingerprint record card holding box or bin 38 is suspended from the stationary section 7 and opens through a slot 39 in the right hand half thereof; such card box being separated into front and rear compartments by a partition 40. One half of the card box is adapted to hold new or unused cards, whereas the other half is adapted to receive cards upon which a fingerprint record has been made.

A utility drawer 41 is suspended from the stationary section 7 below the platen 27; such drawer being adapted to hold the fingerprinting supplies, such as the brayer, spatula, tube of printing ink, wiping cloths for the platens, etc.

The outer edge portion of the tiltable section 8 to the left of the finger inking platen 28 is the point on the machine where the actual fingerprinting is accomplished; such portion of the section 8 being adapted to be straddled by a generally U-shaped, transversely elongated card holding clamp 42 of spring metal. Such clamp has laterally outwardly flaring flanges 43 on its inner edges to facilitate straddling engagement of the clamp over the section 8 from its outer edge; the latter being rounded, as at 44, to permit a fingerprint record card to be bent around said edge within the confines of said clamp. In other words, the clamp 42 serves to properly position the fingerprint record card on the outer edge portion of the section 8 for use; such clamp being formed, in the upper part thereof, with a transverse row of openings 45 shaped and spaced to match and expose the print receiving spaces of the fingerprint record cards.

With the above described fingerprinting machine set up as in Fig. 1, it is used as follows:

Fingerprinting ink is first spread upon the platen 27 with a spatula, and is then worked out with a brayer and transferred to the finger inking platen 28; the final and relatively thin course of the ink being applied to said platen 28 adjacent its outer edge.

As previously indicated, the person whose fingerprints are to be taken stands in front of the machine; i. e. in front of section 8 facing the same. Without such person being required to move, the operator adjusts the machine to the most convenient position by first raising or lower-

ing the table top unit 6 to proper height by manipulation of the crank 4, and then by turning the finger knob 16 tilts the section 8 to the best working angle. Thereafter, the operator rotates the table top unit 6 about the trunnion 10, controlling such rotation by manipulation of the clamping screw knob 15, so as to position the finger inking platen 28 directly in front of the person; all adjustments being made so that such person can conveniently reach the outer edge portion of the section 8 when the person's arm is extended substantially straight from the body.

With the arm thus extended a finger can be easily placed on the finger inking platen 28 and rolled to properly ink such finger. After this is done the operator turns the table top unit slightly about the trunnion 10 so as to present the fingerprint record card, as held by the clamp 42, directly in front of the person. The print of the inked finger is then made through one of the openings 45 directly on the fingerprint record card. Here again, as the person's arm is extending substantially straight forward from the body, rolling of the finger, as is necessary for proper printing, can be accomplished with ease, and without much of the labor and manipulation required under conventional fingerprinting practices.

This process of inking and printing, between the platen 28 and clamp-held record card, is continued step by step; i. e. finger by finger until all fingers of both hands have been printed; the table top unit 6 being turned slightly with each such step so as to permit of the best positioning of each finger, without the necessity of the person changing position, for rolling said finger to accomplish a print which includes the necessary "deltas" which are essential to classification.

After this is done it is desirable to obtain a full print of each hand. To do this the operator removes the clamp 42 and hangs it on a swing bar 46 which depends below the section 8. See the dotted-line position of clamp 42 as in Fig. 2. With the clamp 42 thus suspended in an out-of-the-way but readily accessible position, the record card is manually held atop the section 8 adjacent its outer end for making of the full hand prints.

As each fingerprint record card is completed, it is placed in one compartment of the card box 38, and a new card is removed from the other compartment and affixed to the section 8 by the clamp 42 for the start of the next fingerprinting process.

By reason of the fact that the section 8 of the table top unit 6 is vertically tiltably adjustable, and as said table top unit is rotatable, the operator's task is greatly minimized, especially in those instances where a person has fingers which are crippled, crooked, or otherwise deformed. The described adjustments make it possible for the operator to adjust each of the openings 45 to the most convenient point for taking a print, and without attempting to alter the hand or arm position of the person whose prints are being taken.

When the described fingerprinting machine is not in use, the several parts thereof are readily detachable and may be placed in compact relationship in a carrying case (not shown) for ease of transport from place to place.

When knocked down for transport, the tripod 1 is folded; the trunnion 2 is detached from the clamping collar 12; and the light fixture post 36 is detached from the table top unit 6.

The platens 27 and 28 are removably mounted so that they may be taken from the table top unit 6 for cleaning and polishing.

The described fingerprinting machine provides a most effective, practical, and reliable device for the making of fingerprint records in an expeditious manner; the machine accelerating the process, and which process has to date been very cumbersome and slow in its practice.

From the foregoing description it will be readily seen that there has been produced such a device as substantially fulfills the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the following is claimed as new and useful and upon which Letters Patent are desired:

1. Apparatus for use in finger printing, comprising an upstanding support, a table top unit, such unit including a first flat section and a second flat section, such sections being hinged together along one edge, the second section being substantially free of obstruction along its opposite edge, the first section being turnably mounted on the upper end of the support for adjustment of both sections about the vertical axis of such support, separate means between the sections for vertically adjusting the angle of the second section relative to the first section, means for holding a print receiving card adjacent the free edge and one end of the second section, and an inking platen disposed adjacent the free edge and the opposite end of such second section.

2. An apparatus as in claim 1 including means associated with the support and the first section for adjusting the table unit vertically.

3. An apparatus as in claim 1 in which the means for adjusting the angle of the second section relative to the first section comprises a vertical spindle journaled in the first section, a finger knob on the spindle above such first section, a worm on the spindle below said first section, a support depending from said first section, a lever fulcrumed on said last named support for swinging movement in a vertical plane, a segmental gear on one end of the lever meshing with the worm on the spindle, and a link pivoted at one end to the opposite end of the lever and pivoted at the other end to the under side of the second section.

4. In an apparatus for use in finger printing, an upstanding support and a table top unit on the support, said unit including a horizontal back section and a front section sloping upwardly from its back edge; and a finger engaging inking platen on the front section extending to the forward edge thereof.

5. Apparatus, as in claim 4, with means to adjust the upward slope of the front section and including a control member mounted on and exposed for operation above the back section.

6. In an apparatus for use in finger printing, a table top having a front section and a relatively thin finger platen on said section extending to the front edge thereof; said section being cut back from its forward edge beneath the platen to facilitate finger access to the latter from the front.

7. In an apparatus for use in finger printing, a table top having front and back sections, an ink platen on the back section on which to initially prepare and spread the printing ink, a separate finger-engaging ink platen on the front section extending to the forward edge thereof, and hinge means mounting the last named platen along its back edge on the table top; the platens being disposed relative to each other so that the last named platen may be swung over to substantially cover the first named platen when the apparatus is not in use.

IVAN E. HITT.

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