March 11, 1930. C. F. GLASS 1,750,100

FINGERPRINT MACHINE AND METHOD

Original Filed Oct. 23, 1920 4 Sheets-Sheet 1

Fig 1

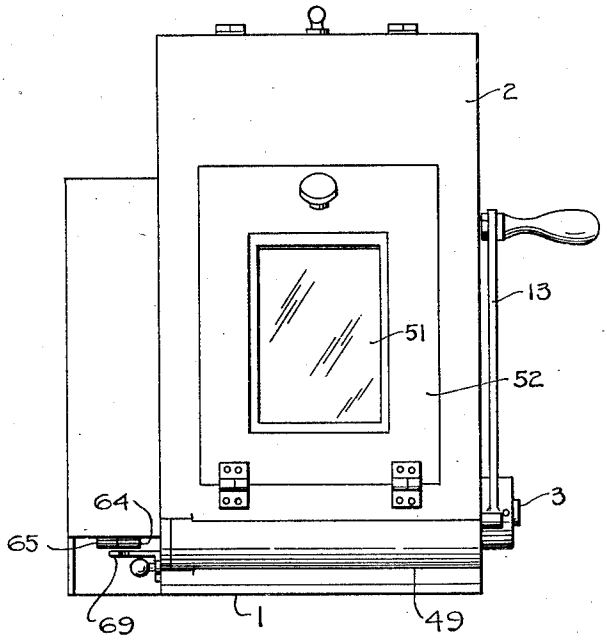
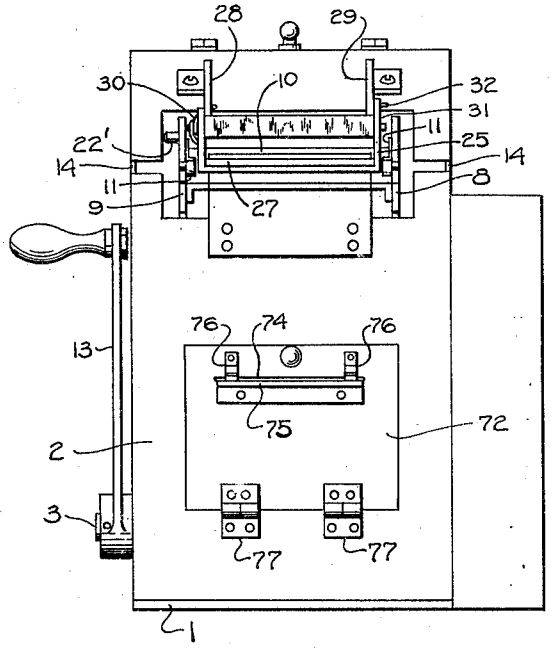


Fig 2



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FINGERPRINT MACHINE AND METHOD

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FIG 3

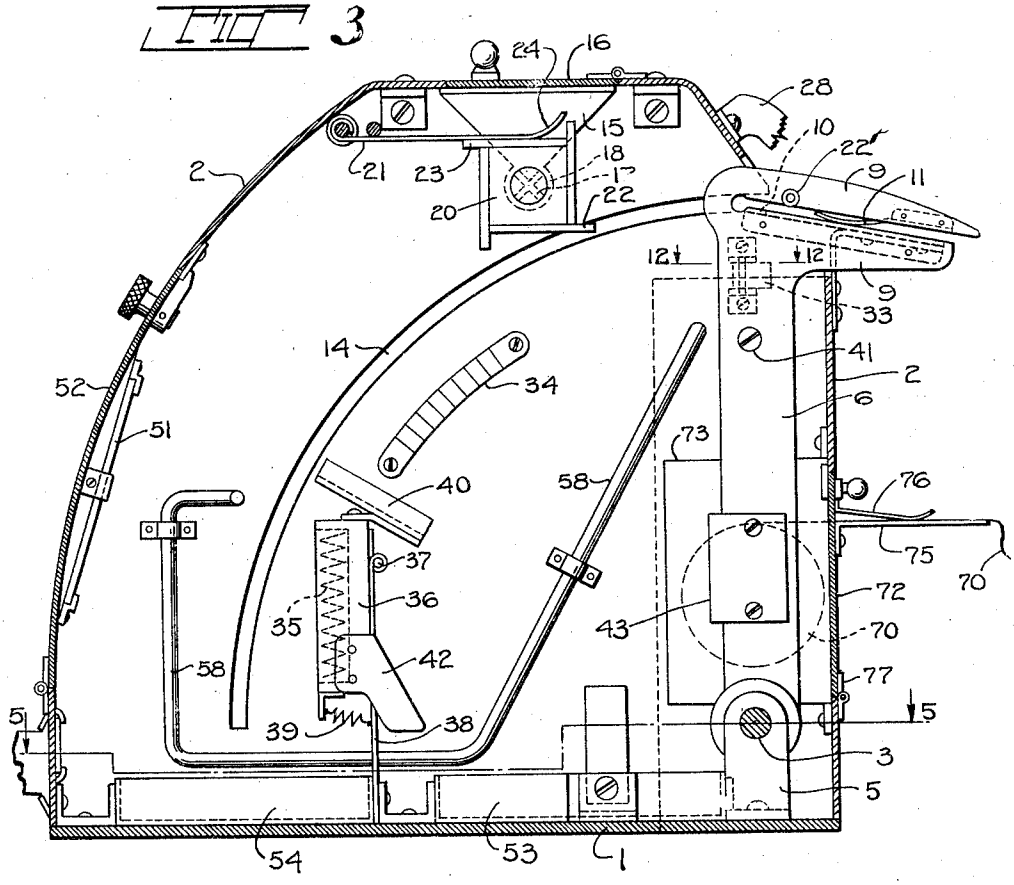


FIG 8

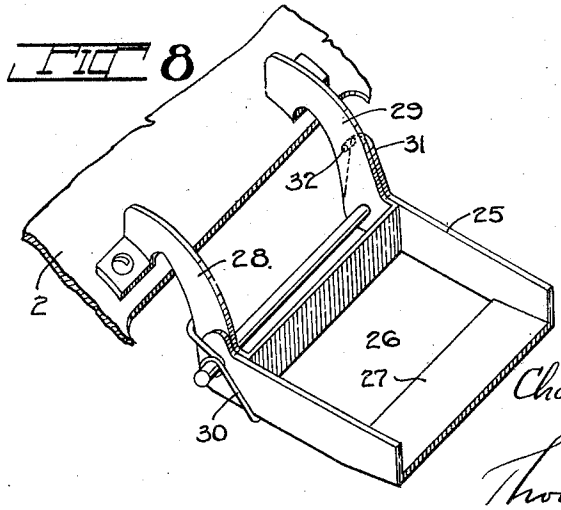
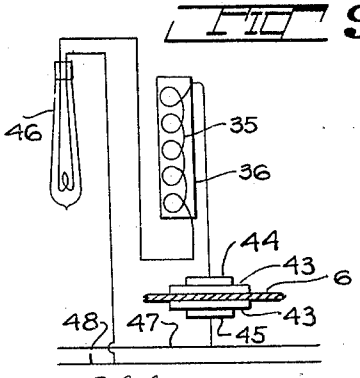


FIG 9



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FINGERPRINT MACHINE AND METHOD

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FIG 4

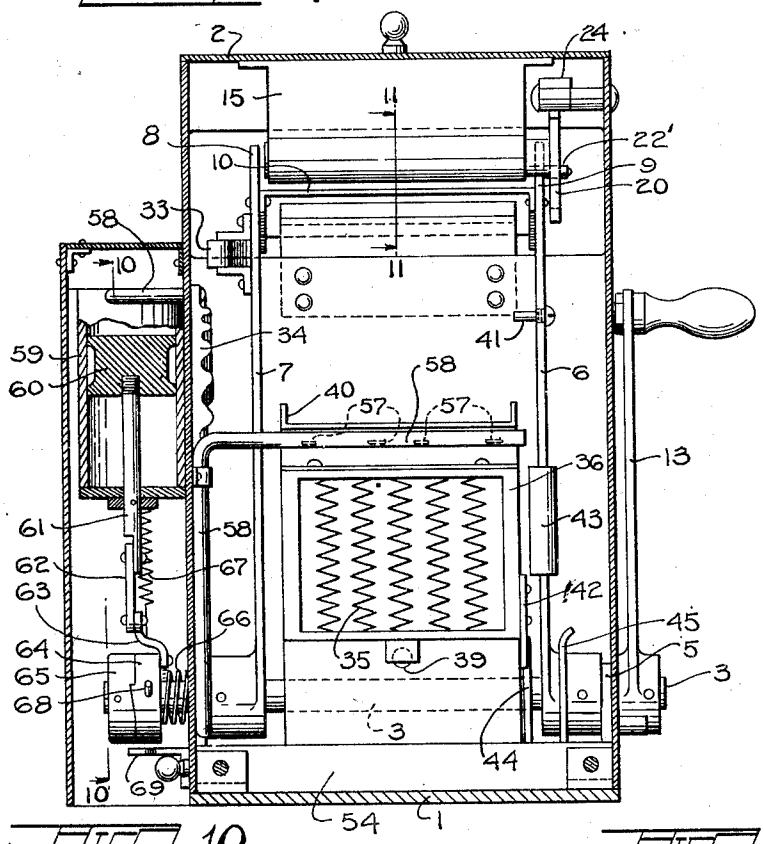


FIG 10

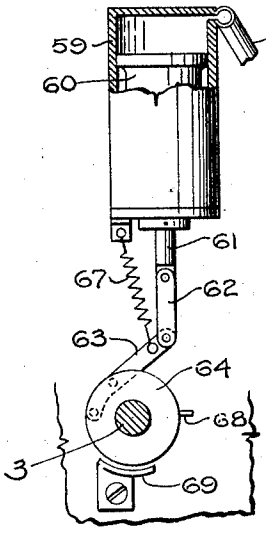


FIG 12

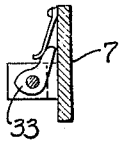
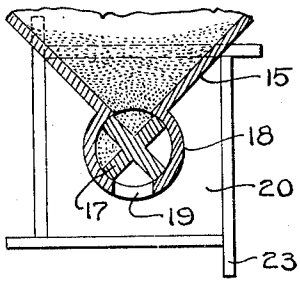


FIG 11



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March 11, 1930. C. F. GLASS 1,750,100

FINGERPRINT MACHINE AND METHOD

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FIG 5

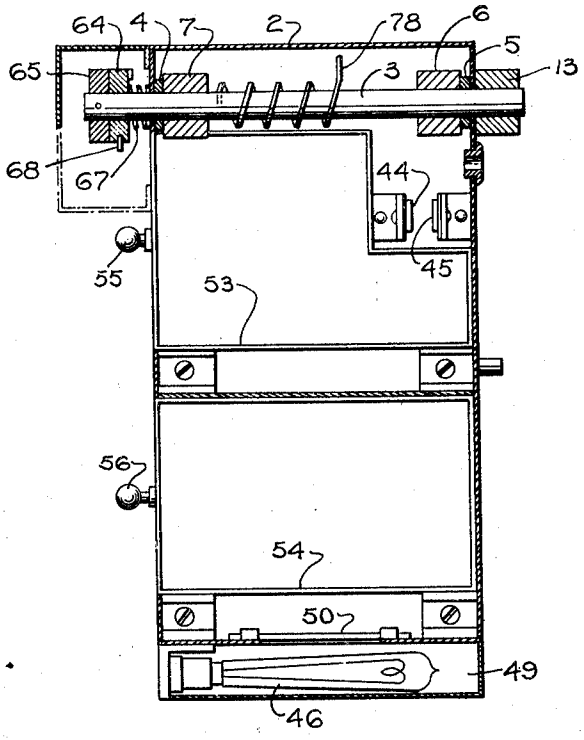


FIG 7

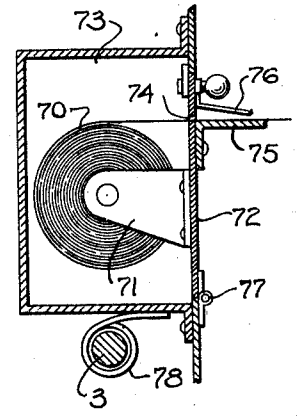


FIG 13

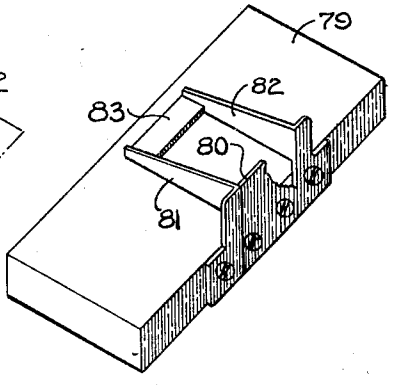
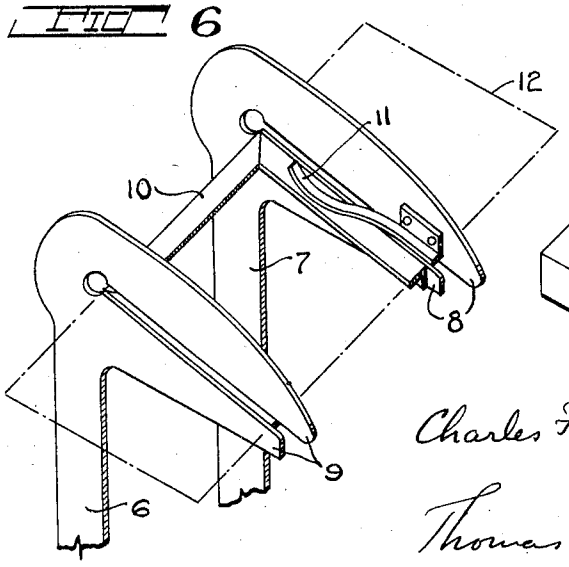


FIG 6



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Patented Mar. 11, 1930

1,750,100

UNITED STATES PATENT OFFICE

CHARLES F. GLASS, OF BROOKLYN, NEW YORK, ASSIGNOR TO FINGERPRINT MACHINE CORPORATION, A CORPORATION OF NEW YORK

FINGERPRINT MACHINE AND METHOD

Application filed October 23, 1920, Serial No. 418,867. Renewed March 24, 1924.

This invention relates to machines whereby finger print records may be readily and accurately obtained.

The object of the present invention is to provide improvements upon the machine as set forth in my application for patent Serial Number 320,593, filed August 29th, 1919, as will be set forth in the following specification in connection with the accompanying drawings and particularly pointed out in the appended claims.

Other and ancillary objects of the invention will appear hereinafter.

In the accompanying drawings, which illustrate the invention,

Fig. 1 is a front elevation of the machine;

Fig. 2 is a rear elevation of the machine;

Fig. 3 is a side elevation of the machine with the casing sectioned and a portion removed to show the interior;

Fig. 4 is a front elevation of the interior of the machine, the casing being sectioned and the front portion removed and also a portion of the apparatus being shown in section;

Fig. 5 is a section on the line 5—5 of Fig. 3, on a reduced scale;

Fig. 6 is a showing on an enlarged scale and in perspective of the holding means for the check or other paper upon which the finger print is to be recorded;

Fig. 7 is a section of a fragment showing the arrangement for supplying the finger or fingers of which a print is to be taken with additional coating if this is thought necessary;

Fig. 8 is a perspective view, on an enlarged scale, of the means for properly locating the fingers to be printed with reference to the paper on which the record is to be made;

Fig. 9 is a diagram of the electric connections of the heating and lighting means;

Fig. 10 is a partial section on the line 10—10 of Fig. 4;

Fig. 11 is a section on the line 11—11 of Fig. 4;

Fig. 12 is a fragmentary section on the line 12—12 of Fig. 3; and

Fig. 13 is a perspective view of a paper holder and finger guide for taking a finger imprint as will be hereinafter referred to.

Referring to the drawings and first to Figs. 1 to 12 inclusive, the apparatus comprises a base plate 1 upon which is mounted the casing 2.

The device for holding the check or other paper upon which the finger print is to be recorded comprises a shaft 3 rotatably mounted in brackets 4 and 5 which are mounted upon the base plate. Fixed to the shaft 3 are two arms 6 and 7 having at their upper ends the pairs of jaws 8 and 9. Between the jaws is a U-shaped frame 10 secured at its sides to the lower ones of the pairs of jaws 8 and 9. Fixed to each of the upper jaws is a spring 11 which bears against a leg of the U-shaped piece 10 so that when the check 12 is inserted edgewise between the pairs of jaws as shown in dotted lines in Fig. 6, the springs grip the check against the legs of the U-shaped piece, so that as the shaft 3 is rotated by the handle 13 fixed thereon the jaws will move and carry the check or other piece of paper in the arc of a circle. The path of the check will be obvious from considering the drawings especially Fig. 3 from which will be apparent the arc in which the check will be moved and a slot 14 is provided in the casing so that if the paper is long enough it may project out to one side so that the capacity of the device, as regards the size of paper which it may receive is not limited.

With the paper held in the pairs of jaws 8 and 9 and the jaws in the position as best indicated in Fig. 3, the finger, or fingers, to be printed is pressed upon the paper between the pairs of jaws and between the legs of the U-shaped piece 10. To ensure proper application of the fingers a device as shown most clearly in Fig. 8 is employed. This consists of a frame 25 having an opening 26 through which the fingers may be applied to the check and a plate 27 upon which the fingers may rest. This frame is inserted between the pairs of jaws 8 and 9 so that the opening 26 is in registry with the opening between the legs of the U-shaped piece 10. The frame 25 is pivotally supported upon the arms 28 and 29 which are secured to the casing and the

frame 25 is pressed upwardly by means of a spring 30, the upward movement of the frame being limited by the projection 31 coming against a stop pin 32 upon the frame 29. Normally therefore the frame 25 is yieldingly held in a slightly elevated position. To effect an imprint upon the paper, the fingers are laid upon the plate or bar 27 and then depressed into contact with the paper. If the fingers were pressed directly upon the paper without the use of any finger guiding or holding means they might have a sliding movement, that is a movement slightly along the surface of the paper. This might result in a blurred impression with a correspondingly imperfect record. With a finger guiding device as just described, however, the fingers having been laid upon the member 27, when that member is depressed to permit the fingers to engage the paper and then rises as the fingers are withdrawn, the frictional contact of the fingers with the plate 27 prevents the sliding of the fingers with relation to the paper and so avoids the objection referred to.

The device operates in a manner similar to that of my prior application above referred to, that is to say the finger to be printed is first impressed upon the paper, the pigment is then applied to the printed surface, then any surplus pigment which may exist is removed and that pigment remaining which outlines the print is fixed by heat.

The paper having been impressed by the finger or fingers as described it passes on to the point where the pigment is supplied to it. To supply the pigment to the paper a hopper 15 is provided which is accessible by means of a lid 16 in the casing. The pigment is supplied in the form of a powder which may consist in asphaltum 6 parts by volume, wheat flour 4 parts by volume, talc powder ¼ part by volume and silicon ⅛ part by volume. The feed from the hopper is controlled by a rotary and measuring device 17 which divides the chamber 18 at the base of the hopper into four compartments as shown, the top part receiving a supply from the hopper and after being turned through 180° discharges its contents through the opening 19. Secured to the device 17 and rotating therewith is a square member 20 with the faces of which the spring 21, (which is mounted in the casing), successively engages as the device is turned. The turning of the device is accomplished by the engagement of the stud 22′ projecting from the side of the upper jaw of the pair 9 which, as the arms 6 and 7 are moved to pass the check beneath the hopper, engages with one of the projections which is at each of the four corners of the device 20, say the projection 22, and turns the member 20 and its connected member 17 until another of the projections, say 23, is passed into contact with the curve 24 on the spring when the spring will force the device 20 into the position where it lies flat against one of the surfaces of the square, and one of the chambers of the member 17 filled with the pigment compound will be brought into registry with the opening 19 and discharged upon the surface of the check below.

It will be understood that the member 20 is so fixed with relation to the member 17 that when the spring 21 is in engagement with the flat side as shown in Fig. 3, the part 17 will be in the position as shown in Fig. 11, so that the device 17 in its position of rest will have one compartment in position to receive powder from the hopper 15 while another is adapted to deliver its contents through the opening 19 upon the check or other paper beneath. The action of the spring 21 completes the movement of the member 17 initiated by the stud 22′. On the return, the projection lying in the path of the stud gives slightly to permit the passage of the stud without moving the member 17 to effect discharge of any powder.

By reference to Fig. 11 it will be seen that on the return movement of the stud it tends to turn the member 17 in the reverse direction so that its tendency to turn that member is only in such direction as would bring an empty compartment opposite the discharge opening 19 if the movement were carried far enough, which it is not.

The check having been impressed with the finger and pigment applied thereto as described, continues its movement from beneath the discharge opening 19 for the pigment compound moving always in the arc of a circle as will be apparent and assuming more and more of a vertical position so that surplus pigment not adhering to the impressed finger lines will more and more tend to slide off and this is facilitated by agitating the paper by means of a spring dog 33 mounted upon the check support, which imparts a vibratory motion to the check support as it undulates laterally in its passage over the rounded teeth of the rack 34 fixed on the casing.

Continuing its movement, the check assumes a substantially vertical position in front of the electric heater 35 which may consist in the usual resistances, heated by current passing through them and arranged in a suitable casing 36 which is pivotally mounted at 37 upon an upright 38 secured to the base 1, and the frame 36 is normally maintained in a vertical position as shown by means of a spring 39. Secured to the top of the frame 36 is an inclined plate or shield 40 which receives all of the pigment powder which slides off the paper prior to the front edge of the paper passing beyond the front face of the heater. Accordingly the shield 40 is shown as extending at least to the front face of the heater when it is in its vertical

position. There is thus effectual protection against any of the powder lodging upon the heater. In this normal position of the heater, however, it is not in the most efficient relationship to the paper to fix the print. It will be seen that the upper end of the heater is quite close to the check while the lower end is quite far from it. It is accordingly desirable that the lower end of the heater should be advanced toward the check so that the front face of the heater as a whole will be closer to the paper and will be approximately parallel thereto. This necessitates a turning of the heater on its pivot 37 so that its lower end is thrown forward. This is accomplished by having the stud 41 near the end of the movement of the check, come against an arm 42 fixed to the heater frame 36 so that the latter is turned on its pivot 37 against the tension of the spring 39 into a position with relation to the check as above indicated namely, having its forward face closer thereto as a whole, and substantially parallel thereto. By the time the lower end of the heater is thus thrust forward the edge of the check has passed beyond it so that none of the powder which may fall from the check can fall upon the heater.

It is inconvenient to construct the machine so that the heater will permanently occupy its operating position as indicated without complicating the structure because, under such circumstances, in order for the shield to extend to a point in a vertical line with the bottom of the heater to prevent powder from falling on the latter, it would be necessary to thrust the shield 40 so far forward that it would be likely to interfere with the movement of the check. In moving into its final position wherein the check is before the heater as just described, the contact 43 upon the arm 6 moves in between and connects the contact clips 44 and 45 which are mounted upon the base 1. This, it will be seen from the diagram of Fig. 9, connects the heater 35 in series with a lamp 46 across the mains 47 and 48 of a suitable electric circuit.

The lamp 46 mounted in a compartment 49 at the front of the casing, throws its light through the window, which may be closed by a glass pane 50 onto the front of the paper as it stands in front of the heater, and this may be observed through the opening (closed by a pane of glass 51) in the hinged door 52 in the front of the casing.

Sliding on the base 1 are two drawers 53 and 54 movable by means of the handles 55 and 56. These drawers catch the powder which falls from the paper and also any which falls on the shield 40 is deflected into them.

In order to thoroughly clean the paper of all particles of powder except those which adhere to the finger print lines, a puff of air is blown across the paper after it has reached or approximately reached its position in front of the hopper. This air is blown across the surface of the paper through holes 57 in a pipe 58 which is connected with the upper portion of a cylinder 59 within which reciprocates the piston 60. The apparatus for operating the piston is as follows:

The lower end of the piston rod 61 has pivoted to it the link 62 which is also pivoted to the link 63 which at its other end is pivoted to the collar 64 loosely mounted on the shaft 3. Fixed upon the shaft 3 is a similar collar 65, the collars 64 and 65 comprising cooperating ratchet teeth as shown in Fig. 4. The collar 64 is pressed into engagement with the collar 65 by a spring 66 so that as the handle 13 is operated to move the paper from the finger impress to the pigment fixing position, the collar 64 will turn with the collar 65 and thereby draw the piston downwardly against the tension of the spring 67 until the pin 68 upon the collar 64 is carried to the right (see Fig. 4) by coming against the cam 69. This movement of the collar 64, by reason of the cam and pin, causes the ratchet teeth to disengage when the spring 67 will immediately throw the piston to its uppermost position, thereby forcing the air, which was drawn into the cylinder on the down stroke of the piston, out through the pipe 58 and holes 57 so that a puff of air is blown across the surface of the paper as before referred to.

Ordinarily the secretions upon the skin of the fingers is sufficient to treat the paper when the fingers are impressed thereon so that it is only necessary in making a record to press the finger in its natural condition upon the paper. Under some circumstances, however, it may be desirable to apply additional matter to the fingers so as to ensure proper action upon the paper. To this end a roll of treated paper 70 is rotatably mounted in a suitable holder 71 secured to the door 72 of a compartment 73 which is located on the casing just below the impression position for the paper. This paper may be drawn outwardly through a slot 74 in the door 72 over a shelf 75 and beneath a spring 76 which will hold it in position and prevent the end from getting lost by being withdrawn inside the compartment. The paper may be mildly treated with oil so as not to be in any way smudgy but just having sufficient oil to impart a slight film to the fingers when pressed upon it.

In making use of this auxiliary means the finger is pressed upon the oiled paper lying upon the shelf 75 prior to applying the finger to the paper upon which an impression is to be recorded. For sanitary reasons, each user may tear off the area of paper previously used and draw out a fresh area to use himself.

It will be seen that by opening the door 72 on its hinges 77 the roll holder will be moved outwardly with the door so that the roll is

readily accessible for inspection or adjustment, and also rolls may be readily taken out or new ones inserted.

The paper carrier is normally held in the position as indicated in Fig. 3 by a spring 78.

It will now be seen that in the operation of the machine the check or other paper to be imprinted is inserted within the jaws 8 and 9 of the paper carrier and is held therein by the springs at 11. The finger to be imprinted is then pressed upon the paper between the jaws, there being no support under the paper directly beneath the imprint so that the paper may adjust itself to the finger. The handle 13 is then pulled toward the front as far as it will go and upon being released will return to the position as shown in Fig. 3 when the check may be withdrawn from the holder with the finger print recorded upon it. During the movement from the position as shown in Fig. 3, the check passes under the pigment powder feeding means which is operated by the moving check support, as before described, to deposit a certain quantity of pigment powder upon the check. In this position the check is not substantially out of horizontal. As the movement then progresses the paper passes through the arc of a circle and makes a greater and greater angle with the horizontal, so that the particles not adhering to the finger lines are likely to slide off and this action is promoted by vibration of the holder as the check approaches the heater in a substantially vertical position. The check then moves on to a position in front of the heater and in order to adjust the heater to the best position with relation to the check, the holder near the end of its movement engages the pivotally mounted heater and swings it into the proper position with relation to the check as has been already described.

Also nearing the end of the movement of the paper, the circuit for the heater is established so that when the paper has reached its final position the heater causes the pigment powder to become softened and sink into the structure of the paper. Also the lamp 56 is lighted so that the condition of the check in front of the heater may be observed.

Just before the check is subjected to the action of the heater to incorporate the pigment with the body of the paper as described, the puff of air, as before referred to, is blown across the surface of the paper so as to remove all surplus particles of the pigment powder. The check or other paper need remain in front of the heater but a few seconds and this will be a matter of almost involuntary action on the part of the operator in working the machine, but where desirable the operation taking place upon the paper by the heater can be observed through the window 51. The pigment having been fused and incorporated in the paper as described, the handle 13 may be released when the holder and paper will be turned to the position as shown in Fig. 3, when the paper may be removed with the finger print record fixed upon it.

The effects of pressing a finger upon a piece of paper whereby a pigment powder will be caused to adhere to the impressed lines of the finger, will endure for a considerable time so that if it is desired to take a finger print record where the machine is not present, this can be done by taking the impression at a suitable location on the paper so that it may later be inserted in a machine as described and the impression fixed.

In order that, under such circumstances, the finger impression may be made at the proper point, a device as shown in Fig. 13 may be employed which consists of a wooden or other suitable block 79 on which is secured a frame consisting of the back 80, sides 81 and 82, and a front bar 83. The paper may be inserted beneath this frame upon the top of the block 79. The block bears a known relation to the jaws of the paper holder so that the relation of the check to the paper holder of the machine may be gaged by its relation to the block, and having been appropriately placed thereon a finger laid upon the bar 83 may be impressed upon the paper which lies in the opening between the sides 81 and 82, this frame fixing the appropriate position of the impression upon the check. Where the device is to be used for checks only, the block 79 may be made to correspond to one end of the check, and when the check end is placed in proper relation thereon, the finger print effective as described will be properly located when the check is placed in the machine.

While the invention has been illustrated in what are considered its best applications, it may have other embodiments without departing from its spirit and is not, therefore, limited to the structures shown in the drawings.

What I claim is:

1. In a finger print machine, the combination with means for supplying pigment, of means for fixing said pigment and means for passing a finger impressed sheet from said pigment supplying means to said fixing means, said sheet making a greater angle with the horizontal when in the fixing position than when in the pigment receiving position.

2. In a finger print machine, the combination with means for supplying pigment, of means for fixing said pigment and means for passing a finger impressed sheet from said pigment supplying means to said fixing means, said sheet moving in the arc of a circle in passing from one of said positions to the other.

3. In a finger print machine, the combination with means for supplying pigment, of

means for heating said pigment and means for passing a finger impressed sheet from said pigment supplying means to said heating means, said sheet making a greater angle with the horizontal when in the heating position than when in the pigment receiving position.

4. In a finger print machine, the combination with means for supplying pigment, of means for heating said pigment and means for passing a finger impressed sheet from said pigment supplying means to said heating means, said sheet moving in the arc of a circle in passing from one of said positions to the other.

5. In a finger print machine, the combination with means for supplying pigment, of means for holding the sheet to receive the impression and means for heating the sheet to fix the pigment, said means for holding the sheet permitting its movement successively to the positions of pigment supply and pigment heating, the said sheet moving in the arc of a circle.

6. In a finger print machine, the combination with a rotatable shaft, of sheet-holding means extending therefrom and adapted to turn in the arc of a circle as said shaft is turned, a pigment supplying means and a heating means successively approached by said sheet as the holder is turned.

7. In a finger print machine, the combination with a rotatable shaft, of sheet-holding means extending therefrom and adapted to turn in the arc of a circle as said shaft is turned, a pigment supplying means and a heating means successively approached by said sheet as the holder is turned, the feed of the pigment being controlled by the movement of the sheet holder.

8. In a finger print machine, the combination with a rotatable shaft, of sheet-holding means extending therefrom and adapted to turn in the arc of a circle as said shaft is turned, a pigment supplying means and a heating means successively approached by said sheet as the holder is turned, said heater being controlled by the sheet holding means.

9. In a finger print machine, the combination with a rotatable shaft, of sheet-holding means extending therefrom and adapted to turn in the arc of a circle as said shaft is turned, a pigment supplying means and a heating means successively approached by said sheet as the holder is turned, the pigment supplying means and said heater being controlled by the sheet holding means.

10. In a finger print machine, the combination with a sheet carrier, of means for supplying pigment and a heater for fixing the pigment, said heater being controlled by the movement of the sheet carrier.

11. In a finger print machine, the combination with a sheet carrier, of means for supplying pigment and an electric heater for fixing the pigment, the circuit of said heater being controlled by the movement of the sheet carrier.

12. In a finger print machine, the combination with means for supplying pigment to a finger impressed sheet, of means for supplying a current of air across said sheet to remove superfluous pigment.

13. The combination with a finger print machine, of means for supplying pigment to an impressed sheet, of a sheet carrier adapted to move the sheet from pigment supplying position to a position where an air current is supplied, said pigment supplying means and said means for supplying the air current being controlled by the sheet carrier.

14. In a finger print machine, the combination with a rotatable shaft, of a sheet carrier mounted thereon, a pigment supplying means, a heater for fixing the pigment and means for supplying a current of air to remove superfluous pigment from the sheet, the said carrier as said shaft is turned causing the sheet to successively occupy a position in which the finger is impressed upon it, a position in which pigment is supplied to the impression, a position in which the pigmented impression is subjected to heat to fix the pigment, said sheet moving through the arc of a circle in passing between the positions mentioned, said air-current-supplying means, said pigment-supplying means and said heater being controlled by the sheet carrier.

15. In a finger print machine, the combination with a casing, of a sheet holder, a pigment supplying means and means mounted on said casing for treating the finger before making the impression.

16. In a finger print machine, the combination with a casing, of a sheet holder, a pigment supplying means and means mounted on said casing for treating the finger before making the impression, said finger treating means comprising a roll of prepared paper.

17. The method of recording a finger print which consists in causing the finger to be impressed upon the sheet, applying pigment to the impression, increasing the angle of the sheet to the horizontal to facilitate the sliding off of the surplus pigment particles and fixing the pigment to the sheet.

18. The method of recording a finger print which consists in causing the finger to be impressed upon the sheet, applying pigment to the impression, increasing the angle of the sheet to the horizontal to facilitate the sliding off of the surplus pigment particles and heating the pigment to fix it to the sheet.

19. The method of recording a finger print which consists in causing the finger to be impressed upon the sheet, applying pigment to the impression, increasing the angle of the sheet to the horizontal to facilitate the sliding off of the surplus pigment particles, shak-

ing or vibrating the sheet during the turning movement and fixing the pigment to the sheet.

20. The method of recording a finger print upon a sheet which consists in causing the finger to be impressed upon the sheet, moving the sheet into a different position, applying pigment to it in that position, moving the sheet into a third position, and heating the pigment in the third position, the sheet moving in the arc of a circle between the said positions.

21. In a machine for recording finger prints, the combination with means adapted to support a surface in position to be impressed by a finger, of means adapted to apply pigment to the impression made by the finger and means adapted to fix the pigment to the lines of the finger impression.

22. In a machine for recording finger impressions, the combination with means for supporting a surface upon which the print is to be made, of means for applying pigment to the said surface at a place where the finger has been pressed, means for moving the impressed surface from the finger impressing position to the pigment supplying position, means for protecting the impressed surface in its movement from the impressing position to pigment applying position and means for fixing the pigment to the surface.

23. In a machine for recording finger impressions, the combination with means for supporting a surface upon which the print is to be made, of means for applying pigment to the surface at a place where the finger has been pressed, means for moving the impressed surface from the finger impressing position to the pigment applying position, means for protecting the impressed surface in its movement from the impressing position to the pigment applying position and means for fixing the pigment to the surface by heat.

24. In a finger printing machine, the combination with means adapted to support a surface in position to have a finger impressed upon it, of means adapted to apply pigment to the finger print, means adapted to fix said pigment to the lines of the finger upon said surface, means for conveying the impressed surface from the impression point to the pigment applying point and from the pigment applying point to the fixing point, and means for protecting the impressed surface between the pigment applying and fixing points.

25. In a finger printing machine, the combination with means adapted to support a surface in position to have a finger impressed upon it, of means adapted to apply pigment to the finger print, means adapted to fix said pigment to the lines of the finger upon said surface, means for conveying the impressed surface from the impression point to the pigment supplying point and from the pigment supplying point to the fixing point, and means for protecting the impressed surface between the pigment applying and fixing points and between the impression and pigment supplying points.

26. In a machine for recording finger impressions, the combination with means adapted to support a surface in position to receive a finger impression, of means adapted to apply pigment to the finger impression, means for heating the pigment to fix it to the finger lines on said surface, means for conveying the impressed surface from the point of impression to the point of pigment application and thence to the point of pigment fixation, and means for protecting the impressed surface from the point of impression to the point of fixation and means between the point of pigment application and the point of fixation for removing surplus pigment.

27. In a finger print machine, the combination with means adapted to support the surface in position to be impressed by a finger, of a shielding means, means for applying pigment to the impressed surface and means for fixing said pigment, the last two mentioned means being within said shielding means.

28. In a finger print machine, the combination with a casing, of a support for the surface to be printed within said casing, means for applying pigment and means for fixing said pigment to the impressed surface within said casing.

29. In a finger print machine, the combination with a supporting means for a surface on which the print is to be made, of means for applying pigment to said surface at the place where the finger has been pressed and electric means for heating the pigment while on the surface to fix it thereon.

30. In a machine for recording finger impressions, the combination with pigment applying means, of means adapted to hold a surface in position to receive an impression of a finger, means for fixing the pigment in the impression, and means adapted to deliver the finger impressions unchanged into position for receiving pigment from said pigment applying means and for conveying the pigment-treated finger-impressed surface to the point of fixation including a movable means adapted to carry the impressed surface from the point of finger impression to the point of pigment application and thence to the fixation position, and means for removing the surplus pigment from the said surface.

31. In a machine for recording finger impressions, the combination with means adapted to support a surface in position to receive the impression of a finger, of means for applying pigment to the impressed surface, means for removing the surplus pigment, means for fixing the said pigment to the said surface on the lines of the finger impression and a conveyor movable through the points

of impression, pigment application and pigment fixation to carry the impressed surface through said points successively.

32. In a machine for recording finger prints, the combination with means adapted to support a surface in position to be impressed by a finger, of means adapted to apply pigment to the impression made by the finger and means adapted to fix the pigment to the lines of the finger impression, the surface being held in an inclined position to facilitate removal of the surplus pigment.

In testimony whereof I have signed this specification this 29th day of September, 1920.

CHARLES F. GLASS.