

June 12, 1934.

H. SOUSA ET AL

1,962,413

MACHINE FOR FORMING COLOR CARDS

Filed Feb. 20, 1933

3 Sheets-Sheet 1

FIG. I.

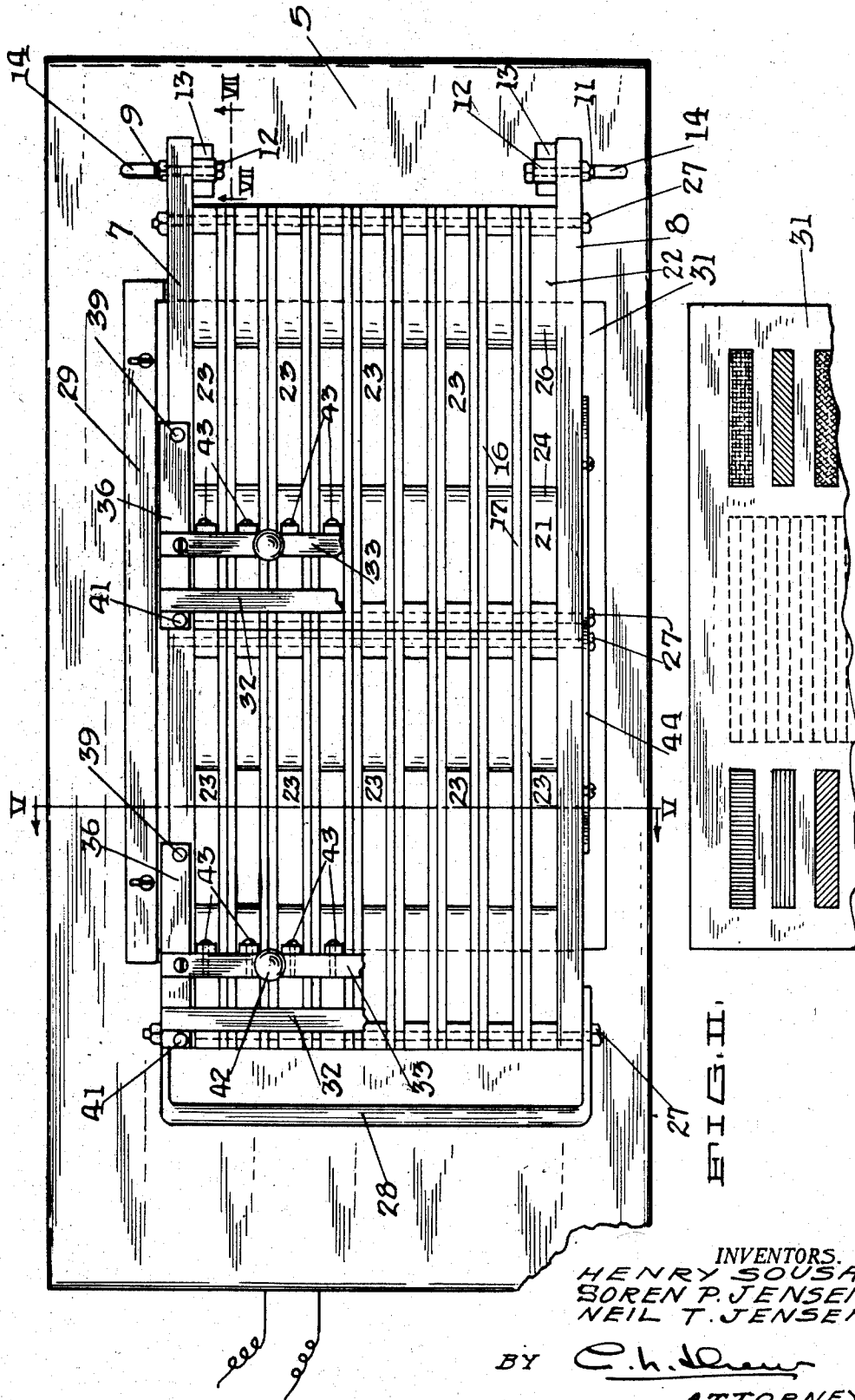


FIG. II.

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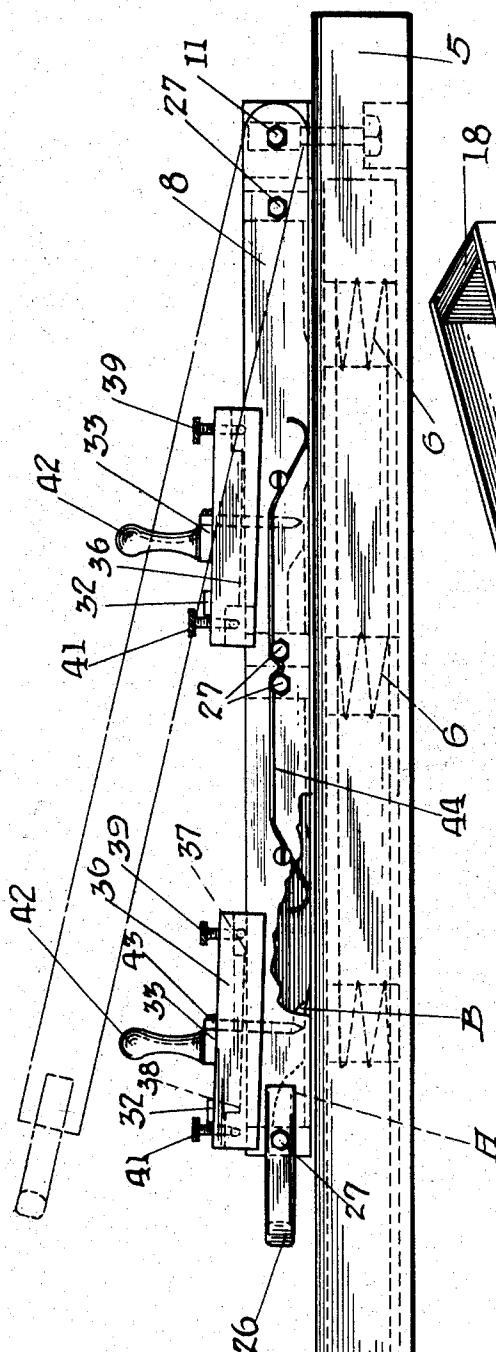
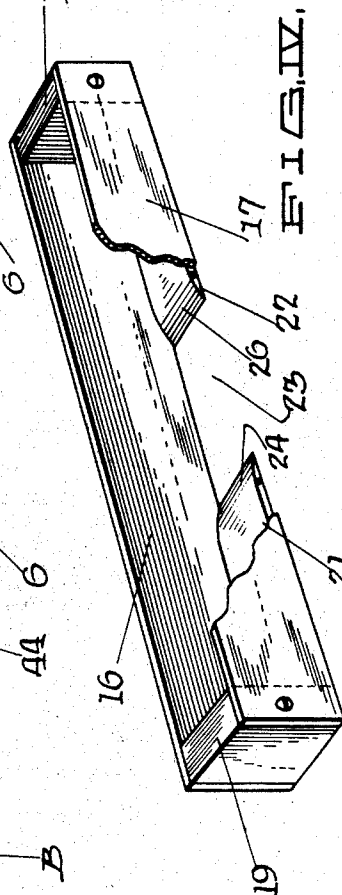
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3 Sheets-Sheet 3

FIG. V.

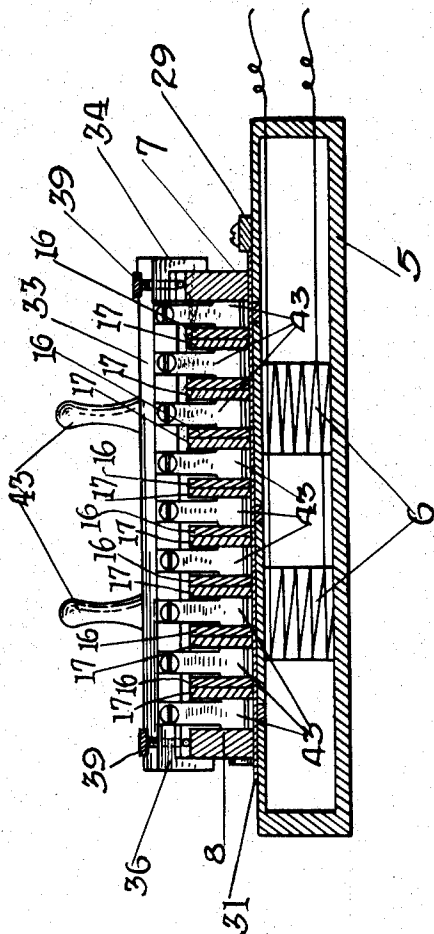
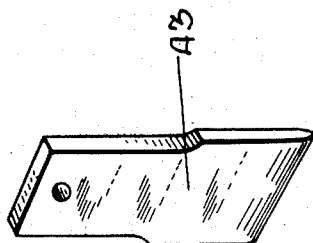


FIG. VI.

FIG. VIII.

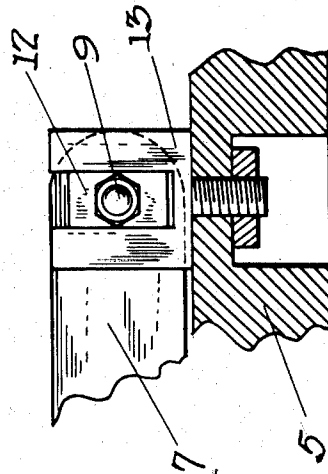
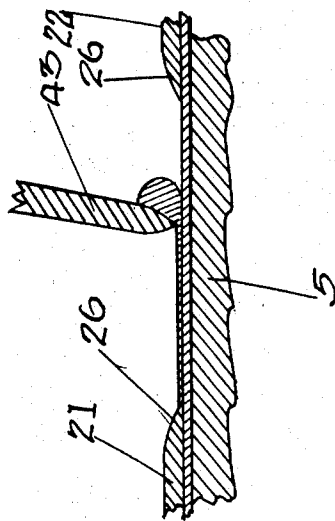


FIG. VII.



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1,962,413

MACHINE FOR FORMING COLOR CARDS

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Application February 20, 1933, Serial No. 657,546

7 Claims. (Cl. 101-115)

This invention relates to improvements in machines for forming color cards.

The principal object is to produce a machine which will deposit upon a card a plurality of different samples illustrating different colors of paint, calcimine and the like.

A further object is to produce a machine which is simple to operate.

A further object is to produce a device wherein the spacing of the colors may be varied to suit the user of the color cards.

A still further object is to produce a device wherein the deposited color will have a definite thickness and a clear-cut margin.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. I is a top plan view of our machine,

Fig. II is a fragmentary view of a color card such as would be produced by our machine,

Fig. III is a side elevation of Figure I,

Fig. IV is a perspective view partly broken away, of one of the color holder units,

Fig. V is a cross sectional view on the line 5-5 of Fig. I,

Fig. VI is a perspective view of one of the wipers,

Fig. VII is an enlarged fragmentary detail view, showing the hinge connection between the platen and the color assembly, and

Fig. VIII is an enlarged fragmentary detail cross sectional view illustrating the manner in which the color is deposited upon the card at a definite thickness.

In preparing color cards, such as are used by paint manufacturers, to illustrate the colors which they manufacture, it has been customary to deposit upon large sheets, these various colors and after drying, these sheets are cut up into small pieces known to the trade as chips. These chips are then arranged upon cards in a definite order, the cards bearing printed information relative to the color and also other information which the manufacturer wishes to convey to the purchaser. It will be apparent that this method of forming color cards is a very expensive one and one which has many disadvantages. For instance, if a single chip is lost from the color card, the remainder of the card becomes practically useless as far as the store selling the paint is concerned. Consequently the card must be thrown away. As this happens to thousands of

cards per year, it is evident that the loss to various manufacturers must be tremendous. It is also true that some manufacturers, such as the large mail-order houses, use an over-print process in order to effect various color combinations. Due to the limitation of this process it is almost impossible to reproduce colors which in any way approach the article being sold.

Applicants have therefore, devised a machine which will deposit upon the color cards a plurality of colors which are duplicates of the colors being sold by the manufacturer of the paint, calcimine, etc., thus producing a color card giving the true color values and a color card from which none of the colors can be lost, as in the case with the chips.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of our invention, the numeral 5 designates a platen or base plate which has incorporated therein a plurality of magnets 6, the effect being that the base becomes a magnetic chuck similar to the chucks employed in grinding machines. Applicants make no claim to the construction of this base, other than the effect that the magnetism has upon the remainder of the apparatus.

The numerals 7 and 8 refer to bars which are pivoted as at 9 and 11, respectively. These pivots are each mounted in a sliding block 12 (see Fig. VII). This block 12 is movable up and down in a bearing member 13, which bearing member is mounted in a slot 14 formed in the base 5. This construction permits the bearing members 13 to be moved toward or away from each other for the purpose of increasing or decreasing the width of the machine, as will be later brought out. Mounted between the bars 7 and 8 is a plurality of color holding units which are built up of side plates 16 and 17 and end pieces 18 and 19. The bottom is formed of spaced members 21 and 22, thus providing an opening 23. It will be noted by viewing Fig. IV that the ends of the bottom members 21 and 22 adjacent the opening 23 are beveled as shown at 24 and 26, respectively.

By again referring to Figs. I and IV it will be noted that a plurality of these color holding units are clamped between the bars 7 and 8 and are held in fixed position by bolts 27. A handle 28 is secured to the bars 7 and 8 at their opposite ends from the pivots 9 and 11. At 29 we have shown an adjustable card gauge which has an L-shaped end, and it will be evident by viewing Fig. I that this gauge serves to position the card

upon the base so that the color will be deposited thereon in its proper relation to any printing which may be upon the card. With the arrangement shown in Fig. I, it will be noted that there are two sets of color holding units in end to end relation, and on each of these sets we position a wiper carrying element. As both of these are identical but one will be described.

Referring now to Figs. I, III and IV, it will be noted that cross bars 32 and 33 serve to connect sliders 34 and 36 which sliders have their ends cut away as shown at 37 and 38 so as to provide fulcrum points upon which the sliders may be fulcrumed. In order to accurately determine the amount of tipping upon the fulcrums, adjusting screws 39 and 41 are provided. Handles 42 are mounted upon the cross bar 33 and enable the operator to push the wiper carrying element as a whole from one end of the color holding unit to the other. Depending from the bar 33 is a plurality of wiper elements 43 which elements depend into the color holding units a sufficient distance to ride upon the bottoms 21 and 22 of the color holding unit when in the position of Fig. III, but not a sufficient distance to come into contact with the paper being coated as illustrated in Fig. VIII. By adjusting the screws 39 and 41, the thickness of the coating or the closeness to which the wiper approaches the paper may be adjusted. A spring 44 attached to one side of the bar 8 serves to contact the paper resting upon the base 5 and to act as a stripper. In other words should for any reason the paper or card being operated upon, tend to adhere to the bottom of the color units this spring will prevent such action.

The operation of our device is as follows—

Assuming that the apparatus has been assembled as shown in Fig. I, and a quantity of paint, calcimine or other similar coating material is deposited as shown at A in Fig. III, in each one of the color holding units, it is of course, understood that a different color is placed in each unit, the operator now raises the handle 28 so as to move the bars and their associated parts to the dotted line position of Fig. III. A sheet of paper 31 is now placed upon the base 5 and brought into engagement with the paper guide 29. The handle 26 is now lowered and current is turned on to the magnets 6. As these magnets are exceedingly strong it will be evident that as the color holding units are made of magnetic material the same will be drawn tightly into engagement with the surface of the paper lying between the base and the color holding units. The operator now grasps the handle 42, lifts the wiper assembly and moves it toward the left of the drawing in order to pick up a small quantity of color from the pile A and to move it into the position B. By now continuing the movement of the assembly in a forward direction or toward the right of the drawing, it will be apparent that a tipping action will take place on the fulcrum 37, which tipping action will be limited by the screws 39. This will cause the wipers 43 in each one of the units to assume the position of Fig. VIII and to move the paint or other material over the card as shown in this view. As soon as the cam surface 26 is encountered, the wiper will move the surplus paint up onto the bottom piece 22. The operator now grasps the next set of handles 42 and moves that assembly toward the right end of the machine. This act completes the forming of the color card and the operator now releases the current with the result that the

handle 26 may be elevated and the completed color card removed therefrom. A new card is placed on the base and the same operation is performed, with the exception that the wiper assembly in this instance will be moved from the right of the drawing toward the left of the drawing. The hinge construction shown in Fig. VII permits the color holding units to move upwardly and downwardly in parallelism with the base 5, thus accommodating for any thickness of paper being placed in the machine.

It will thus be seen that we have produced a machine which will accomplish all the objects above set forth.

It is to be understood that the form of our invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described our invention, we claim:—

1. In a device of the character described, an electro-magnetic base, a coating carrying receptacle hinged to said base and having a sliding support whereby said receptacle and said base are parallel when cards of different thickness are positioned between said base and said receptacle, wiper means for spreading a coating of color from said receptacle directly to a card positioned on said base, and means for positively regulating the thickness of said coating said means comprising an adjustable wiper movable in said receptacle in a direction parallel to said base, and screws for adjusting the distance between the lower extremity of said wiper and the surface of said base.

2. A color card forming mechanism comprising a base, a plurality of sets of color carrying units, each of said units having an opening formed in the bottom thereof, and adjustable means for spreading a color coat through each of said openings directly to the surface of a card positioned upon said base, said means comprising an adjustable wiper movable in said receptacle in a direction parallel to said base, and screws for adjusting the distance between the lower extremity of said wiper and the surface of said base.

3. A color card forming mechanism comprising a base, a plurality of sets of color carrying units, each of said units having an opening formed in the bottom thereof the extremities of the bottom defining the opening being bevelled, and adjustable means for simultaneously spreading a color coat through the opening of each color carrying unit directly to the surface of a card positioned thereunder.

4. A device of the character described, comprising a card supporting means, a coating material holding receptacle associated with said supporting means and having a bottom provided with an opening therein, the edges of the bottom defining the opening being bevelled, said opening exposing a definite area of the card, and a non-flexible vertically adjustable wiper element carried by said receptacle and adapted to transfer the coating material from said bottom and through said opening directly to the exposed area of the card.

5. In a device of the class described, an electro-magnetic base, a color carrying receptacle positioned above said base and adapted to be magnetically attracted thereby, said receptacle having a bottom with an opening formed therein, the ends

of the bottom defining said opening being bevelled, a wiper carrying element associated with said base and tiltable relative thereto, a wiper carried by said wiper carrying element and movable in said receptacle in a direction parallel to said base, and means carried by said wiper carrying element for adjusting the distance between the lower extremity of said wiper and the surface of the base.

6. In a device of the class described, an electromagnetic base, a color carrying receptacle positioned above said base and adapted to be magnetically attracted thereby, said receptacle having a bottom with an opening formed therein, the ends of the bottom defining said opening being bevelled, a wiper carrying element associated with said base and tiltable relative thereto, a wiper carried by said wiper carrying element and movable in said receptacle in a direction parallel to said base, means carried by said wiper carrying element for adjusting the distance between the

lower extremity of said wiper and the surface of the base, whereby when said wiper is moved over the opening in said bottom it is moved into wiping position by the tapered ends of the bottom to spread a coating of pigment directly upon the card in said exposed area. 80

7. In a device of the class described, a coating material carrying receptacle positioned above a card to be coated, said receptacle having a bottom therein and an opening formed in said bottom, the edges defining said bottom being bevelled, a wiper element movable along said bottom and adapted to be lowered by said tapered edges to a predetermined position above said card and again raised thereby, and means associated with said wiper for gauging the lowest or operative position thereof. 85 90

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