May 15, 1934. D. A. URIE 1,958,453

ADHESIVE SPREADER

Filed Feb. 2, 1931 2 Sheets-Sheet 1

Fig. 1.

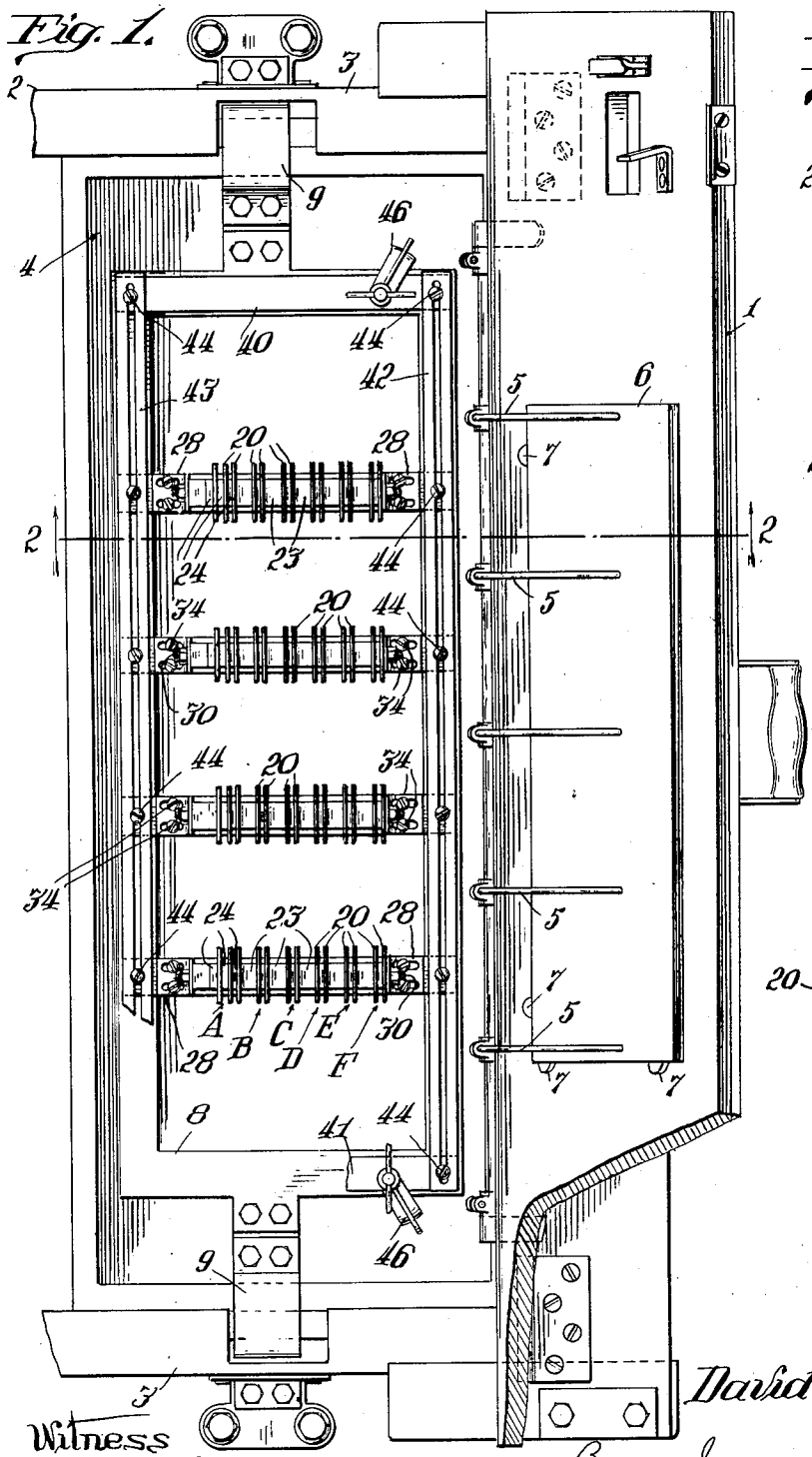


Fig. 6.

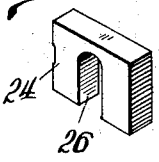


Fig. 7.

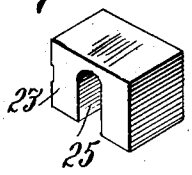
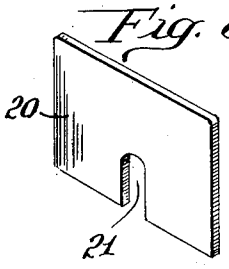


Fig. 8.



Witness
Milton Lenoir

Inventor
David A. Urie

Brown, Jackson, Boettcher & Dennen.
Attorneys.

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Fig. 5.

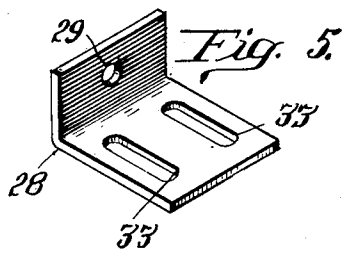


Fig. 2.

Fig. 4.

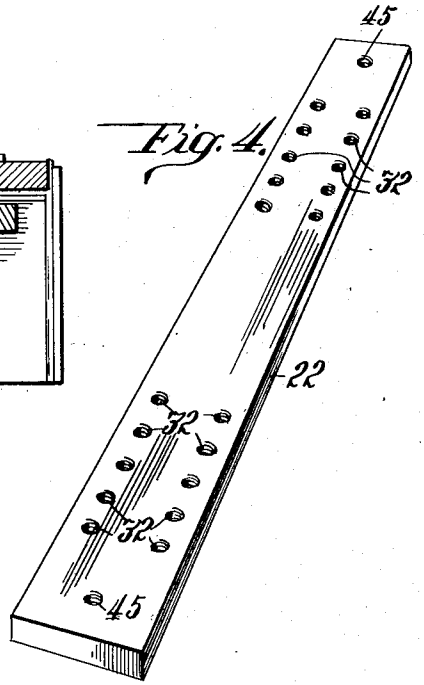
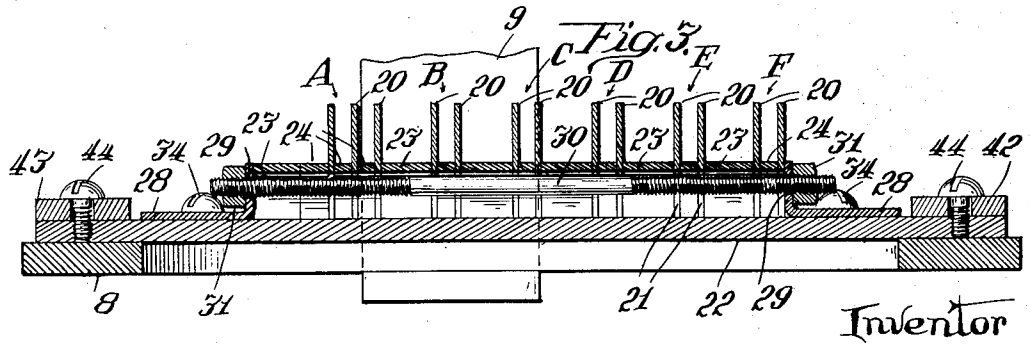


Fig. 3.



Inventor

David A. Urie

Witness

Milton Lenoir

By

Brown, Jackson, Boettcher & Dienner.

Attorneys.

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UNITED STATES PATENT OFFICE

1,958,453

ADHESIVE SPREADER

David A. Urie, Chicago, Ill.; Gertrude M. Urie, executrix of said David A. Urie, deceased, assignor to Robert Urie, Chicago, Ill.

Application February 2, 1931, Serial No. 512,883

8 Claims. (Cl. 91—47)

This invention relates to adhesive spreaders.

In my prior Patent 1,586,864, issued June 1, 1926, I disclose a machine useful for attaching color chips to color cards, and for other similar purposes. Located in and forming a part of this machine is an adhesive spreader which is adapted to be elevated into registration with the cards upon which the samples are to be placed, to deposit thereon a ribbon of adhesive material which adheres to the card and to the sample to hold the latter on the former.

My present invention provides a new and improved spreading device for use in machines similar to the one disclosed in this prior patent, the improved device being advantageous over the prior art devices in a manner that will presently appear.

It is customary for manufacturers of sample cards to arrange these in the form of a folder upon which samples of the produce advertised is glued or pasted to conform to a particular design, and the spaces between the samples are employed for printed matter describing them. Because of this it is necessary that the ribbons of adhesive be accurately placed upon the folder, and that the arrangement for placing these ribbons thereon be readily adjustable to set up the machine for the various folders likely to be encountered.

My present invention has for its principal object a production of a new and improved spreading device which is more readily adjustable than the devices of the prior art, of which I am aware.

In the preferred embodiment of my invention, the spreading device is designed in such a manner that it may be adjusted from one particular set-up to another without removing it from the framework which supports it in the adhesive tank. This is accomplished by elevating the spreader above the adhesive and there adjusting it, the device being arranged so that the operations necessary to adjust it are all performed from its upper or working side, these operations all being capable of performance with simple tools.

My invention can be best understood by reference to the accompanying drawings in which a preferred embodiment of it is shown by way of example, and in which:

Figure 1 is a top side plan view of a portion of a machine with a spreading device installed therein;

Figure 2 is a cross sectional view of the machine taken along the line 2—2 of Figure 1;

Figure 3 is a cross sectional view taken along the longitudinal axis of one of the spreader units;

Figure 4 is a perspective view of the plate upon which the units are mounted;

Figure 5 is a perspective view of the clamping bracket of the unit;

Figures 6 and 7 are perspective views of two of the spacing members employed in the unit; and

Figure 8 is a perspective view of the plate used in the unit.

The details of the machines in which spreader units of this kind are used to place ribbons of an adhesive such as glue upon cards or folders to which color chips or other similar samples are to be attached will be best understood from a reading of my above referred to patent. Briefly, however, the part of a machine of this type pertinent to the present invention consists of essentially the following elements:

A platen 1 is hinged to a suitable framework 2 and arranged to slide transversely of said framework in a track 3. Located near one end of the framework is an adhesive tank 4 in which the spreading device is positioned. Attached to the platen 1 is a card holder 5, by which the cards 6 to which the samples are to be attached, are held in position against stops 7 which accurately locate them upon the platen.

Located within the tank is a framework 8 supported by U-shaped brackets 9 located at the ends of the tank and connected by a suitable link and lever arrangement 10 to a cross shaft 11 by which the framework is raised and lowered to bring it out of and into the adhesive in the tank.

The spreading device is supported upon this framework and is immersed in the adhesive when the framework is lowered to its bottom position. When the cards 6 are placed on the platen, and the platen brought into registration with the tank and closed down into the position shown in the solid lines in Figure 2, the shaft 11 is then operated to elevate the framework 8, thereby bringing the spreading devices into registration with the cards on the platen, causing it to deposit ribbons of adhesive thereon. The framework is then lowered, and the platen with its cards moved forward of the machine on the trackway 3 to bring it into registration with the devices by which the samples are brought into engagement with the ribbons thus deposited. This latter operation and the device for performing it form no part of the present invention and have been omitted as unnecessary.

As will be seen in the drawings, the adhesive spreader of my invention consists of a plurality of rectangular plates 20 which are provided with slots 21 projecting inwardly from one of their

edges, the plates being adapted to be held in a vertical position with respect to the base plate 22, and spaced apart thereon by spacing blocks 23 and 24 which are likewise slotted at 25 and 26 respectively. These spacing blocks, which may be furnished in a plurality of widths, arrange the spreader plates 20 in spaced parallel relation and when so arranged the upper or working edges of the plates lie in a common plane and are therefore brought into engagement with the cards on the platen simultaneously.

Preferably the plates 20 are metallic and composed of rolled steel and are punched or cut to size and shape. The upper or working edges of these plates may be rounded slightly to prevent them from cutting into the cards during the operation of the machine. While metal is the preferred material for these plates, it is not necessary to make them of such material, as other suitable materials, such as, for example, a phenol condensation product, may be used within the teachings of my invention.

Preferably the spacing blocks 23 and 24 are composed of type metal, and are in fact furniture such as is employed by typesetters in blanking in forms. I have found that by providing seven or eight different widths of blocks, of which Figures 6 and 7 are examples, the spreader plates 20 can be arranged in any pattern that may be required. The type metal spacers are sufficiently hard to tightly grip the plates and firmly hold them, and by using printer's furniture, the blocks are true in all directions and will therefore hold the plates truly parallel to each other and at right angles to the mounting plate upon which they are positioned.

At the opposite ends of the row of spreader plates thus formed I place an L-shaped bracket 28 which is perforated in its shorter leg as at 29 to receive a through bolt 30 which projects also through the slot in the plates and spacers and is threaded to receive nuts 31 by which the assembly is tightly drawn and locked together. The unit thus formed is placed upon the base plate 22 and held thereon by machine screws threaded into one of the plurality of pairs of threaded holes 32 provided in this plate. The longer legs of the bracket 28 are provided with slots 33 through which these screws 34 are projected, the length of these slots being equal to the distance between adjacent ones of the pairs of threaded holes 32, so that the units containing the plates can be located on the plate 22 in any desired position.

The number of plates 20 employed in the unit and their position relative to each other will of course depend upon the pattern on the folder into which the samples are to be placed. As shown, six groups of plates are assembled, the first group A consisting of three plates, and the remaining groups B to E inclusive, consisting of two plates, this arrangement being shown by way of example only. The three ribbons of adhesive deposited by the group A are capable of attaching a wide sample to the folder, and the two ribbons deposited by the remaining group are capable of attaching somewhat narrower samples. Obviously by suitable re-arrangement of the plates and spacing members other patterns may be worked out, the pattern containing groups of plates having a greater or lesser number than the number shown in the example.

The assembly thus formed on the plate 22 is arranged to deposit a row of ribbons of adhesive upon the sample card, these ribbons being disposed at right angles to the axis of the row. A number of similar assemblies are made up, one for each of the columns of samples that are to be attached to the card.

The assemblies thus formed are joined together by means of end members 40 and 41 upon which the slotted side rails 42 and 43 are laid and held by machine screws 44 threaded into openings into the bars 40 and 41. These rails are slotted to receive machine screws by which the assemblies are attached to the rails, these screws being threaded into thread openings 45 located adjacent the ends of the cross bars 22 upon which the assemblies are mounted. The ends of these bars are slipped under the rails 42 and 43 so that the screws which hold them to the rails are disposed with their heads uppermost. Obviously by loosening these screws and sliding them in the slots in the rails, the entire column can be shifted transversely of its longitudinal axis, and when properly positioned can be locked in place by tightening these machine screws. The rectangular framework thus formed is rigidly attached to the frame 8 of the machine in any preferred manner such as by screw clamps 46 engaging the end bars 40 and 41 of the spreader frame and the end members of the main framework 8.

With the assemblies thus positioned, the columns are adjusted transversely of their axis by loosening the screws which hold them to the rails and sliding the entire column along the slot. The groups in the column are likewise adjustable longitudinally of the axis of the column by loosening the screws 34 by which they are attached to the cross bars 22. The individual groups in the column may be adjusted with respect to each other by loosening the nuts 31 and altering the spacing blocks to thereby properly position the spreader plates 20 in the groups and to position the groups in the column. All of these adjustments are made from the top or working side of the spreaders and framework upon which they are supported so that they may be made without removing any of the assembly from the machine. This is advantageous under circumstances where it is desirable to change the column or groups in the column after they have been immersed in the adhesive, since they can be elevated out of it and changed without it being necessary for the workman to immerse his hand and the tools with which he works, into the body of adhesive in the tank.

In the drawings, all of the plates 20 are of the same length, so that the samples placed upon the sample chart are all of the same length. Obviously the length of the plates 20 may be varied within the teachings of my invention and certain ones of the assembly, or certain groups in the assembly, may be provided with plates which are longer or shorter than the remaining plates. The length of the cross bars 22, 40 and 41 and of the rails 42 and 43 may of course be varied within the teachings of my invention.

The adhesive most commonly used in the manufacture of sample cards is liquid glue, and when a supply of such cards has been completed the spreader units and their framework can be removed from the machine and thoroughly cleaned by washing in warm water. This prevents the glue from caking on the units and thus rendering them unfit for further use. In instances where other forms of adhesive are used, the plates must be washed in a liquid which is a solvent for that adhesive. Since the plates and other parts of the units are preferably metallic,

they will not be injured by being in contact with any of the cementitious materials commonly used in work of this kind.

While I have chosen to show my invention by illustrating a preferred embodiment of it I have done so by way of example only as there are many modifications and adaptations which can be made by one skilled in the art without departing from the teachings of the invention, and I am therefore not to be limited by the specific disclosure but rather only by the scope of the appended claims.

What is claimed is:

1. An adhesive spreader comprising an open framework, slotted rails on the opposite sides of said framework, said frame being movable into and out of a quantity of adhesive material, base plates extending between said rails, means for adjustably securing said plates to said rails, said means being entirely operable from the upper sides of the plates and rails, spreader units disposed on said plates, each unit comprising a plurality of spreader means, separator means for positively spacing said spreader means, and clamping means holding the unit in assembled position, and means for adjustably securing said units to said plates, said means also being entirely operable from the upper sides of said plates.

2. An adhesive spreader comprising an open framework, slotted rails on the opposite sides of said framework, said frame being movable into and out of a quantity of adhesive material, base plates extending between said rails, means including screws extending through the slots in said rails and threaded into said plates for adjustably securing the plates to the rails, said means being entirely operable from the upper sides of the plates and rails, spreader units disposed on said plates, each unit comprising a plurality of spreader means, separator means for positively spacing said spreader means, and clamping means holding the unit in assembled position, and means for adjustably securing said units to said plates, said means also being entirely operable from the upper sides of said plates.

3. An adhesive spreader comprising an open framework, slotted rails on the opposite sides of said framework, said frame being movable into and out of a quantity of adhesive material, base plates extending between said rails, means for adjustably securing said plates to said rails, said means being entirely operable from the upper sides of the plates and rails, spreader units disposed on said plates, each unit comprising a plurality of spreader means, separator means for positively spacing said spreader means, and clamping means holding the unit in assembled position, brackets on said units having slotted feet resting on said base plates, and means including screws extending through said slots and threaded into said base plates for adjustably securing the units upon the plates, said means also being entirely operable from the upper sides of said plates.

4. An adhesive spreader comprising an open framework, slotted rails on the opposite sides of said framework, said frame being movable into and out of a quantity of adhesive material, base plates extending between said rails, means including screws extending through the slots in said rails and threaded into said plates for adjustably securing the plates to the rails, said means being entirely operable from the upper sides of the plates and rails, spreader units disposed on said plates, each unit comprising a plurality of spreader means, separator means for positively spacing said spreader means, and clamping means for holding the unit in assembled position, brackets on said units having slotted feet resting on said base plates, and means including screws extending through said slots and threaded into said base plates for adjustably securing the units upon the plates, said means also being entirely operable from the upper sides of said plates.

5. An adhesive spreader unit comprising a plurality of spreader plates, means between the plates for positively spacing them with respect to each other, brackets disposed at the ends of said plates, a bolt passing through the brackets, plates and spacing means to clamp the same together as a unit, each of said plates and spacing means being slotted to permit it to be removed from said unit indepedently of the others when said bolt is loosened, a base plate, and means engaging said brackets for adjustably mounting said unit upon said base plate.

6. An adhesive spreader unit comprising a plurality of spreader plates, a plurality of spacing blocks of different widths disposed between said plates to positively space the plates in a particular pattern, brackets at the ends of the plates, a bolt running through said brackets, plates and blocks to clamp the same together as a unit, each of said plates and blocks being slotted to permit it to be removed from the unit independently of the others when said bolt is loosened, a base plate, slotted feet on said brackets engaging said base plate, and screws extending through said slots and threaded into said base plate to adjustably mount the unit thereon.

7. An adhesive spreader unit comprising a base plate, a pair of brackets disposed on said plate and having portions projecting normally therefrom, means for adjustably mounting the brackets upon the plate, a bolt extending between the projecting portions of said brackets, a plurality of spreader plates of uniform height resting on said base plate and slotted to fit over said bolt, spacers disposed between said spreader plates to positively space the plates along the bolt, said spacers being slotted to fit over said bolt, and said bolt when tightened clamping said brackets, spreader plates and spacers together as a unit which is movable with respect to said base plate by adjustment of said bracket mounting means.

8. An adhesive spreader comprising a plurality of plates having planar faces, spacing blocks engaging the planar faces of said plates to positively space the plates, said spacing blocks being of varying widths to permit arranging said plates in a particular pattern, a bolt for clamping said plates and blocks together as a unit, each of said blocks and plates being slotted to permit its removal from the unit when said bolt is loosened, a base plate, L-shaped brackets engaging said unit and having slotted feet engaging said base plate, and screws extending through said slots and threaded into said base plate for attaching the unit thereto, said slots permitting limited movement of the unit on the base plate when the screws are loosened.

DAVID A. URIE.