U. G. WARD.

GLUE APPLYING MACHINE.

APPLICATION FILED JAN. 7, 1916.

1,184,798.

Patented May 30, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

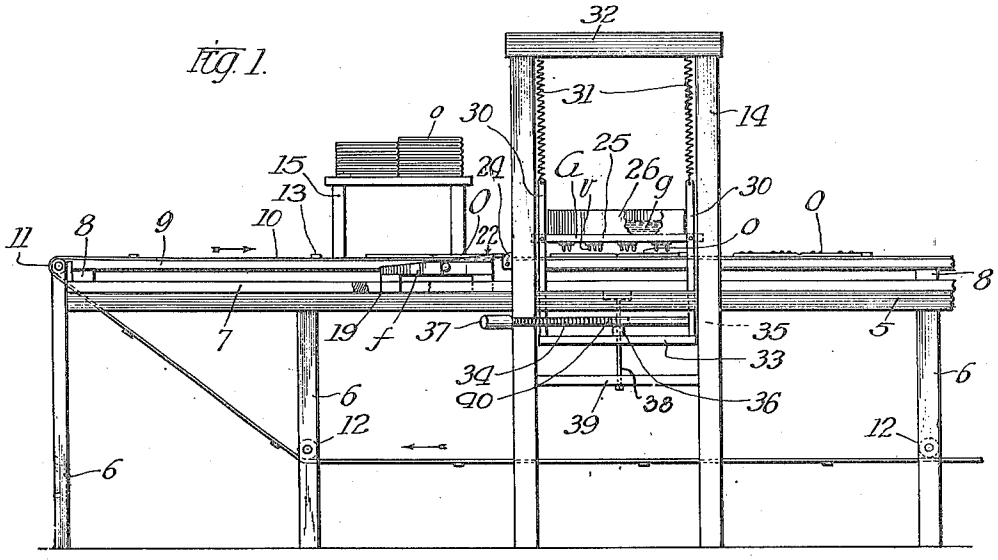
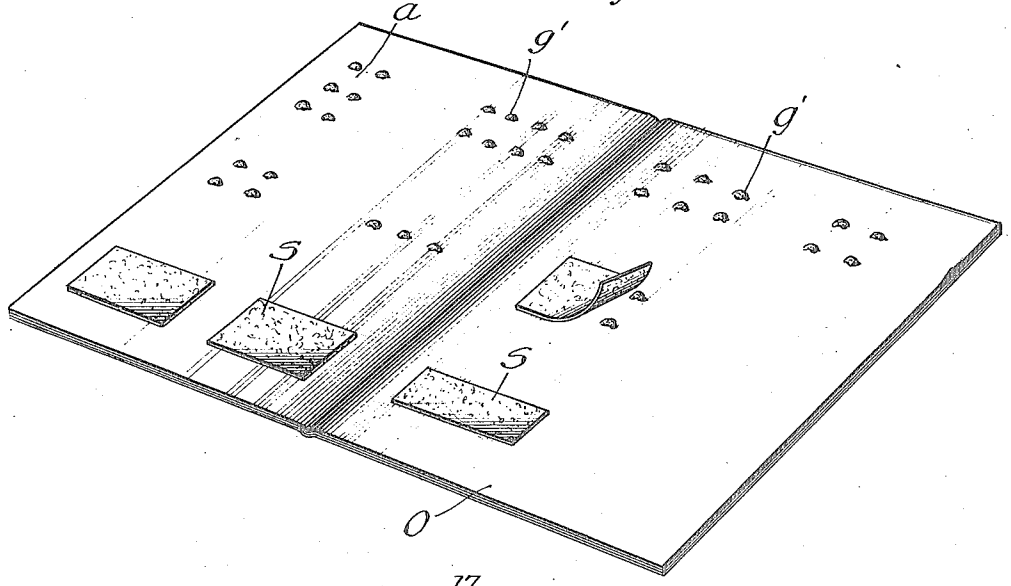


Fig. 2.



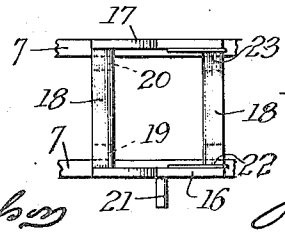


Fig. 5.

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2 SHEETS—SHEET 2.

Fig. 3.

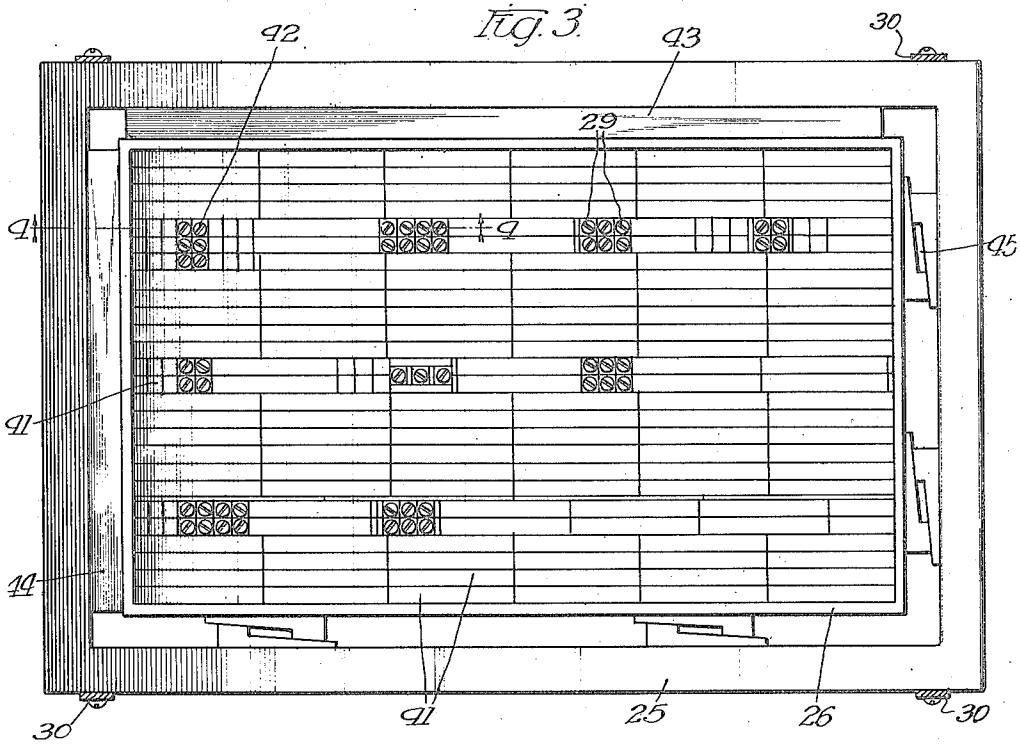
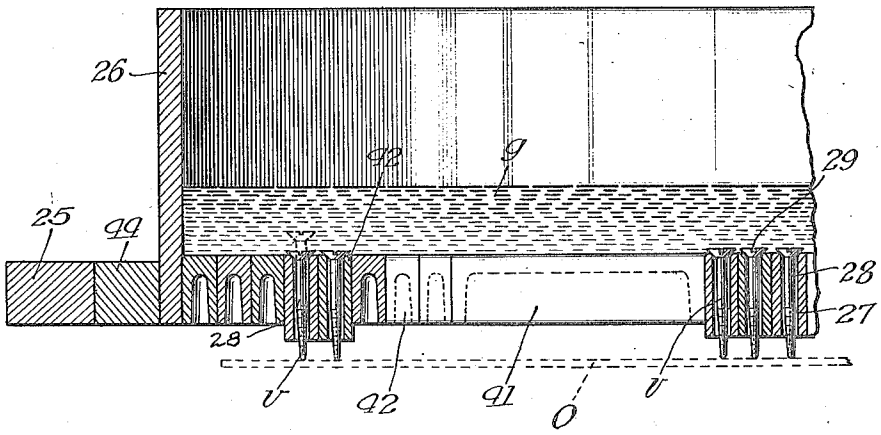


Fig. 4.



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UNITED STATES PATENT OFFICE.

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GLUE-APPLYING MACHINE.

1,184,798. Specification of Letters Patent. Patented May 30, 1916.

Application filed January 7, 1916. Serial No. 70,744.

To all whom it may concern:

Be it known that I, ULYSSES GRANT WARD, a citizen of the United States, and a resident of Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Glue-Applying Machines, of which the following is a specification.

My invention relates to an improved machine for applying glue to mounts for securing samples thereto.

In getting up catalogues, folders, display cards or other mounts, samples of the goods catalogued or advertised are frequently pasted adjacent legends identifying the goods as to material, color, price, etc. In many cases, in new issues of the catalogues, folders, or display cards, the samples appear in different places or in different order or are of different size or shape, this being particularly true in the issue of catalogues where the pages, besides supporting the samples, have advertising, descriptive or other information thereon, and where the location, size and shape of the samples depends upon such printed matter.

The main purpose of my invention is therefore to produce a machine particularly adaptable for taking care of such work by applying glue to the desired areas for securing the samples.

More in detail, one of the objects of the invention is to produce a machine on which the pages to receive the samples can be quickly and accurately shifted into a gluing field.

Another object is to provide improved glue applying mechanism which will apply glue accurately on the desired sample receiving areas in the most economical manner.

Another object is to provide adjustable gluing mechanism whose glue outlets can be quickly and readily adjusted and rearranged to apply glue to the sample receiving areas in accordance with the change of location of such areas and the change in shape and size of the samples.

On the accompanying drawing I have shown a glue applying machine and apparatus embodying the above and other features of my invention, and in these drawings Figure 1 is a side elevational view of the machine, Fig. 2 is a perspective plan view of a booklet to whose pages samples are to be applied, Fig. 3 is an enlarged plan view of the glue containing and dispensing holder, Fig. 4 is an enlarged sectional view on plane 4—4, Fig. 3, and Fig. 5 is a plan view of the belt propulsion frame.

The supporting structure for the gluing apparatus is in the form of a table 5 having the legs 6, 6. On the table top adjacent the sides thereof are the guide strips 7 and above these strips and spaced away therefrom by spacers 8 is the board 9 forming a support for the traveling conveyer belt 10. This belt travels around end rollers 11 on the table, one only being shown, and lower rollers 12 extending between opposite legs of the table. At predetermined intervals cross-strips 13 are secured to the outside of the belt.

Rising above the table at the sides thereof are standards 14, four in number, forming a rectangular guide frame for the glue container and dispenser, designated as a whole G. This glue dispenser is adapted to be brought into association with objects *o* fed into position thereunder by the belt 10 to apply glue thereto for receiving the samples. In Fig. 2 I have shown one of these objects *o* in the form of a booklet or catalogue on whose various pages samples *s* are to be applied. On the page shown the various areas *a* must receive glue for the respective samples. These samples may be pieces of cloth for designating the color of material of the stock, or they may be colored pieces of paper for indicating the color of paint, or they may represent any other stock or characteristics thereof. In Fig. 1 I have shown a stand 15 for receiving a supply of objects and from which the objects can be readily fed to the belt with the desired surfaces up for application of glue thereto. Any suitable means may be provided for propelling the belt to successively carry objects into position below the glue dispenser. I have shown a frame F comprising longitudinal sides 16 and 17 secured together at their under sides by cross-pieces 18. The sides 16 and 17 are at the sides of the belt supporting board 9 and guide extensions 19 and 20 extend downwardly from the ends of the cross pieces 18 and engage against the inner sides of the strips or rails 7, the frame F being shiftable longitudinally on the table and

guided and held true by these extensions 19 and 20. To facilitate shift of the frame a handle 21 may be provided. The strips 13 on the belt extend a distance beyond the sides thereof to be in the path of inclined abutment plates 22 and 23 extending upwardly from the sides 16 and 17 of the frame F, the points of these plates being normally above the belt strips 13. When it is desired to shift the belt forwardly toward the glue mechanism the frame F is first shifted away from the glue mechanism beyond the next belt strip, and the belt being flexible these strips will glide over the plates 22 and 23 to drop into place in front of the plates. Then when the frame F is shifted toward the glue mechanism the front of the plates will abut against the belt strip and the belt will be shifted so that an object which was placed on the belt in advance of the engaged strip will be shifted into the gluing field and accurately positioned below the gluing mechanism. To insure accuracy of positioning of the object in the gluing field abutment plates 24 are secured adjacent the belt to be in the path of the extended ends of the strips 13, the strip in advance of the frame F engaging these plates as the belt is shifted, such engagement indicating that the object has been properly positioned in the gluing field. The top edges of the plates 24 are, however, inclined so that when the frame F is shifted outwardly and brought into abutting engagement with the next cross-strip 13 to shift the belt inwardly the strip in front of the plates 24 will glide over and past the plates. In other words, the plates do not block the progressive shift of the belt but resist such progress only sufficiently to give indication when the belt has been sufficiently shifted to give proper positioning of the object in the gluing field.

With the mechanism described objects can be quickly and accurately shifted into the gluing field, and after the application of glue thereto they will be shifted along so that the samples can be applied to the glued areas before the glue dries. After application of the samples thereto the objects can be delivered by the belt where desired. In the case of booklets, the pages which have received samples are turned over and the booklet is then fed to the belt with the next pages up ready for receiving glue and samples.

The glue container G comprises a bottom 25 and sides 26, and through the bottom are glue outlet passageways 27. Each of these outlet passageways is controlled by a valve v, each shown as comprising a stem 28 and a head 29, the head being of larger diameter than the passageway and the stem being of less diameter than the passageway. The valves are suspended in the passageways with their ends projecting beyond the bottom of the container so that when the container is raised sufficiently the valves may drop to permit their heads to close the passageways, and when the container is lowered sufficiently the valve ends will encounter the object in the gluing field and the valves will be raised to carry their heads away from the passageways so that glue g can flow through the passageways and along the valves to be applied to the object. When the glue container is raised after a glue applying operation, glue spots g' will remain on the areas a of the object to which the samples are then applied after the belt has been shifted to move the object out of the gluing field.

Any suitable mechanism may be provided for raising and lowering the gluing mechanism. As shown, supporting rods 30 are secured to the corners of the container bottom, and springs 31 connecting the upper ends of these rods with the top 32 on the standards 14 serve to normally suspend the containers a sufficient distance above the belt so that the ends of the valves will be above the objects. In order that the glue container may be lowered to bring the valves against the object the lower ends of the rods 30 are secured to the yoke member 33, and a lever 34 is provided for coöperating with this yoke. As shown, the lever extends diagonally across the yoke and is pivoted at its inner end 35 to one of the legs 6 of the table and it engages at an intermediate point with the top of a block 36 on the yoke. With this arrangement when the handle end 37 of the lever is depressed the yoke and the glue container will be shifted downwardly against the pull of the springs 31, and to assure accurate vertical downward movement the corners of the bottom 35 of the container have guiding engagement with the standards 14. Such guiding engagement also assures proper location of the valve ends with reference to the areas to be glued, and when the glue container has been sufficiently lowered the valves will be raised and the passageways opened to the flow of glue which will be accurately applied to the object, the lever being held down until a sufficient amount of glue has been deposited. Then upon release of the lever the springs will restore the glue mechanism to its normal upper position. To assist in guiding the glue mechanism in its vertical reciprocation a vertical guide rod 38 is supported between the bottom of the table and the cross bar 39 between the table legs, the yoke 33 and the block 36 having bearing openings for receiving the rod. In order to guide the lever in its movements it may be provided with a longitudinal slot 40 for receiving the guide rod 38.

It may be desirable to change the locations of the samples in a booklet, folder, or on other mounts, and for each arrangement a separate glue container could be provided

but this would be very expensive and besides considerable time would be wasted in changing containers on the machines. An important object of my invention is therefore to provide an adjustable container in which the passageways through the bottom can be quickly re-arranged to suit any label arrangement. As best shown in Figs. 3 and 4, the floor or bottom of the container is sectional and built up of imperforate blocks 41 and valve blocks 42, each valve block having a passageway 27 and a valve *v*. The various imperforate blocks and the valve blocks are arranged in the rectangular frame 26 which forms the side of the glue container, the blocks then forming the bottom of the container. The blocks are clamped closely together in both directions in the outer frame 25. As shown, filler blocks 43 and 44 are interposed between the adjacent sides of the outer frame 25 and the corresponding sides of the frame 26, and between the opposite sides of the outer frame and the corresponding sides of the inner frame wedges 45 are applied to press the blocks so securely together that there can be no leakage of glue between them. In order that the valve blocks 42 may be accurately located, different shapes of imperforate or filler blocks may be used. Where the adjustable container of Figs. 3 and 4 is used the supporting rods 30 will be secured to the outer frame 25 (Fig. 1).

The valve may be of any desired construction. As shown at Fig. 4, an ordinary wood screw could be used with either a round head or a flat head, and the threads on the screw would serve to retard the flow of glue.

I thus produce a glue applying machine in which objects can be quickly and accurately shifted successively into a gluing field, and gluing mechanism then actuated to glue predetermined areas on the object to which samples may be quickly applied after the glued object is shifted out of the gluing field. By means of the adjustable feature of the container the glue passageways or the glue applying points can be readily re-arranged for different locations or groupings of label receiving areas and a great many labels can be applied accurately and efficiently in a short time without wasting any glue, and the pages after mounting of labels thereon will be clean and neat.

I do not, of course, desire to be limited to the exact construction, arrangement and operation which I have shown and described, as changes and modifications are no doubt possible which would still come within the scope of the invention.

I claim as follows:

1. In glue applying mechanism, the combination of a glue container having a sectional bottom composed of removable and interchangeable valve blocks and filler blocks, each valve block having an outlet passageway for glue, and a valve for each passageway.

2. In glue applying mechanism, the combination of a glue container having a sectional bottom composed of removable and interchangeable valve blocks and filler blocks, each valve block having an outlet passageway for glue, a valve structure for each valve block comprising a valve head for coöperating with the inner end of the valve passageway and a stem for extending through the passageway beyond the lower end thereof whereby when said container is applied to a surface to be glued the valve structures will be raised to open the passageways for the flow of glue.

3. In glue applying mechanism, the combination of a glue container structure comprising an inner container frame having a sectional bottom composed of removable and interchangeable valve blocks and filler blocks, an outer frame and clamping mechanism between the outer and inner frames for clamping the sections of the bottom together, each valve block having a glue passageway therethrough, a valve structure for each block comprising a head for coöperating with the inner end of the passageway, and a stem extending through the passageway and beyond the bottom whereby when said container structure is applied to a surface to be glued the valve structure will be lifted to open the passageways to the flow of glue.

4. In glue applying mechanism, the combination of a glue container having a sectional floor composed of interchangeable valve structure sections and spaced sections, means for clamping such sections rigidly together longitudinally and transversely, each valve section structure having a glue passageway, a valve structure for each passageway comprising a valve head for coöperating with the inner end of the passageway, and a valve stem for extending through and beyond the passageway whereby when said container is applied to a surface to be glued the projecting ends of the stems will engage the passageways and the valve structures will be raised to open the passageways for the flow of glue.

5. In gluing mechanism, the combination of a vertical guide frame having a support for objects to which glue is to be applied, a glue container guided in said frame and vertically reciprocable above said support, springs normally suspending such container away from the support, the bottom of said container having a plurality of spaced apart glue outlet passageways, valve structures for said passageways, means for lowering said container to an object on the support, and means operable during such lowering movement for automatically effecting operation

of the valve structures to open the passageways to the flow of glue.

6. In gluing mechanism, the combination of a supporting table, a conveyer belt adapted to travel over the top of said table and having cross strips thereon, a guide frame above the table through which the belt travels, a belt propelling frame shiftable longitudinally on said table and having inclined abutment plates for passing under the belt cross strips when the propelling frame is shifted away from the guide frame and for abutting against said strips to shift the belt through the guide frame when the propelling frame is shifted toward such guide frame, whereby objects supported on the belt may be shifted into the guide frame, and glue applying mechanism reciprocable vertically in said guide frame and controllable to apply glue to objects conveyed by the belt into said guide frame.

In witness whereof I hereunto subscribe my name this 3rd day of January, A. D., 1916.

ULYSSES GRANT WARD.