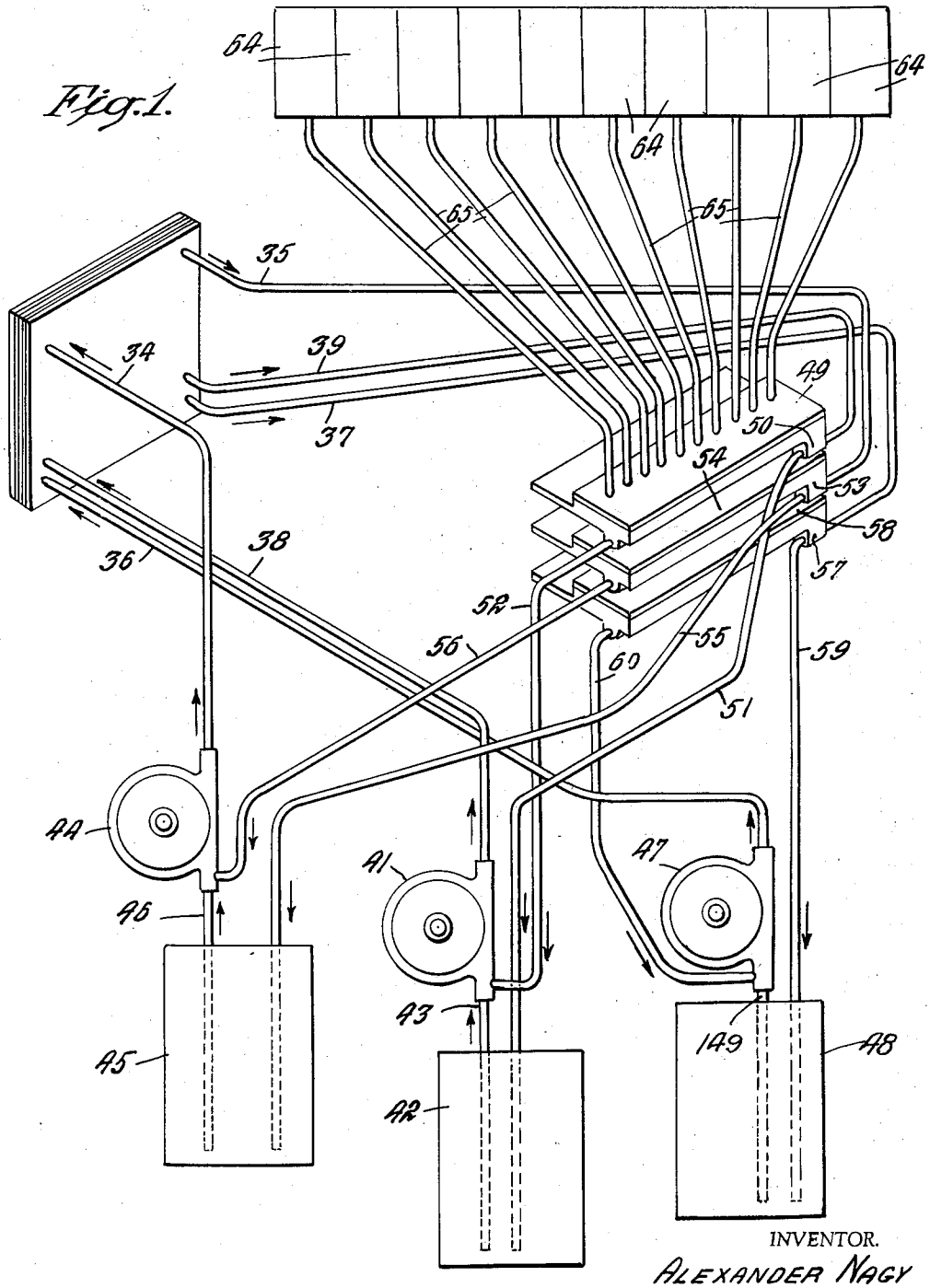
Dec. 23, 1958 A. NAGY 2,865,614

MACHINE FOR COLORING PAINTS

Filed Jan. 30, 1957 3 Sheets-Sheet 1

Fig. 1.



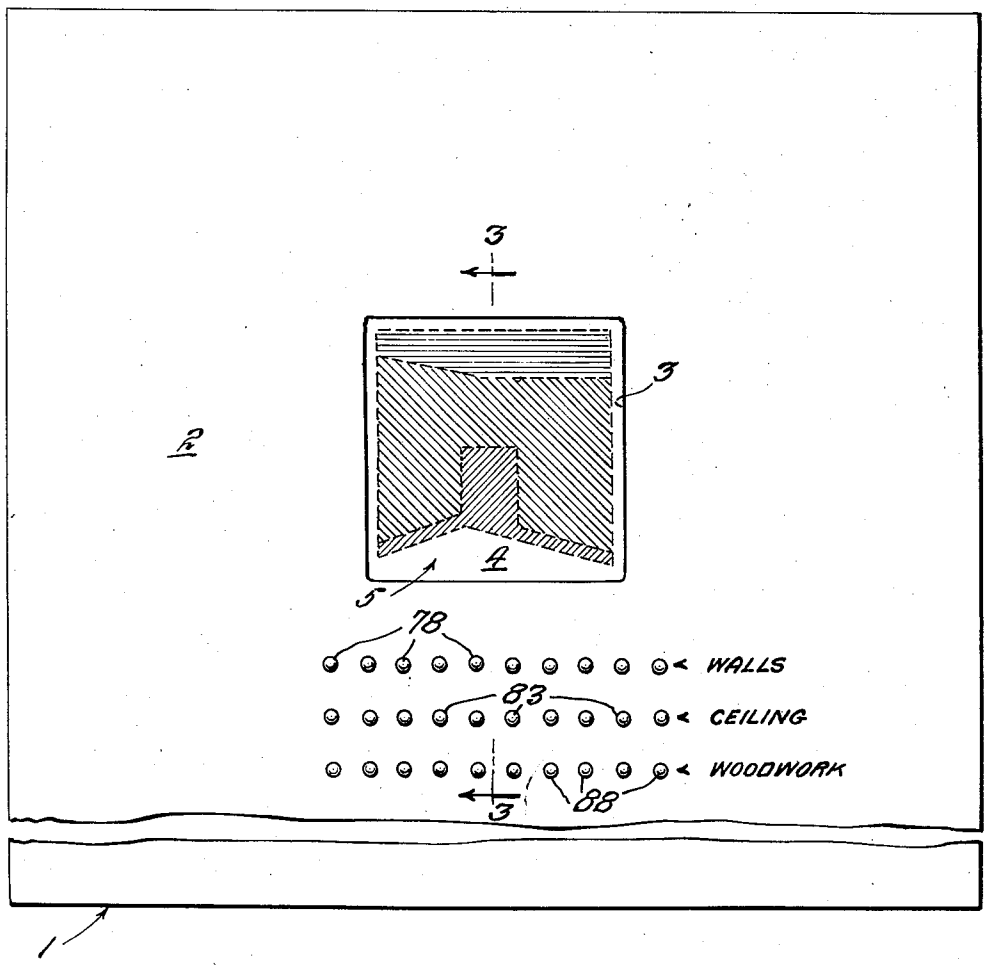
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Dec. 23, 1958 A. NAGY 2,865,614

MACHINE FOR COLORING PAINTS

Filed Jan. 30, 1957 3 Sheets-Sheet 2

Fig. 2.



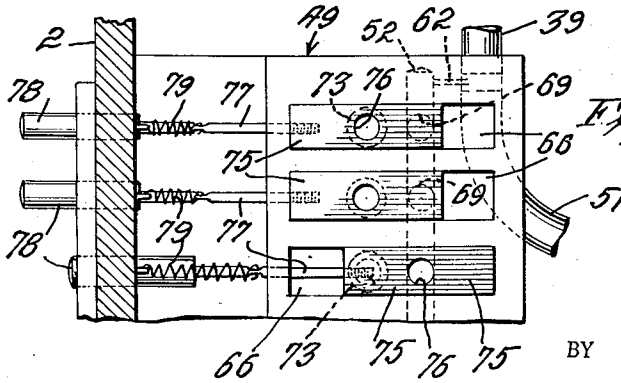


Fig. 9.

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MACHINE FOR COLORING PAINTS

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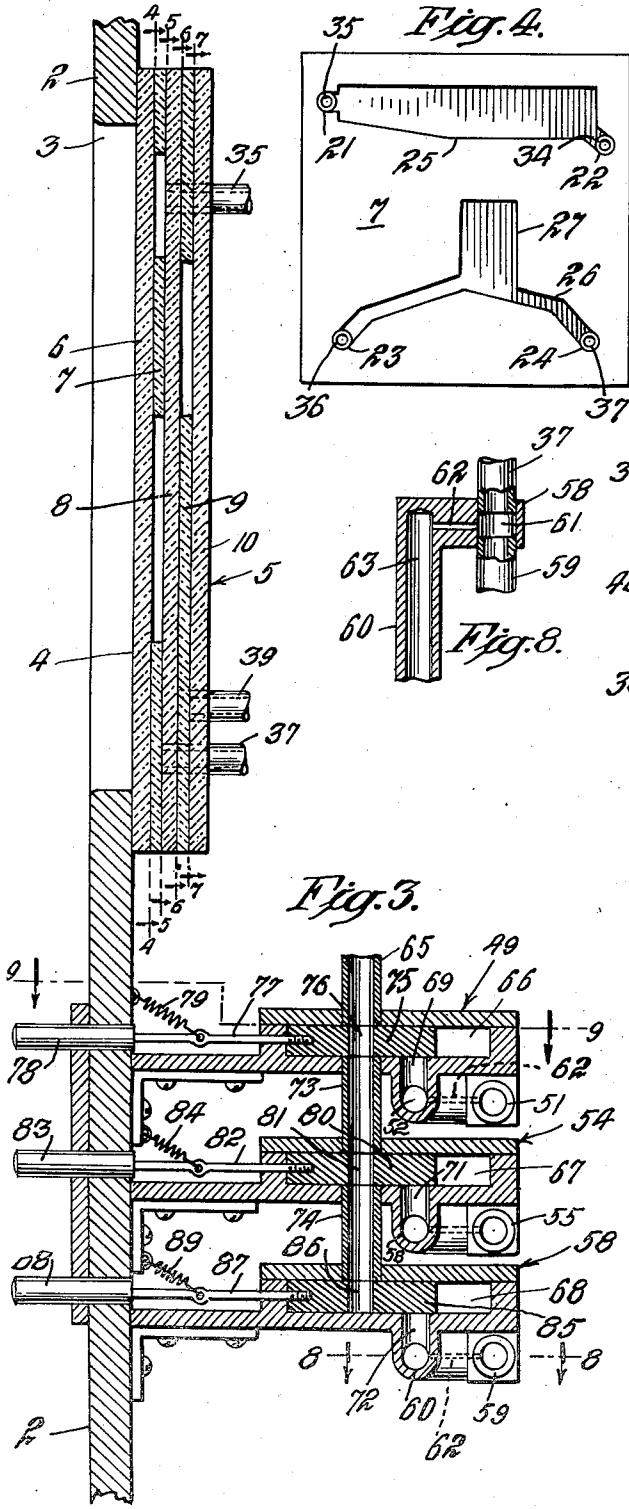


Fig. 3.

Fig. 4.

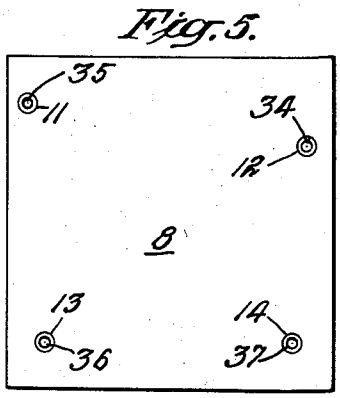


Fig. 5.

Fig. 8.

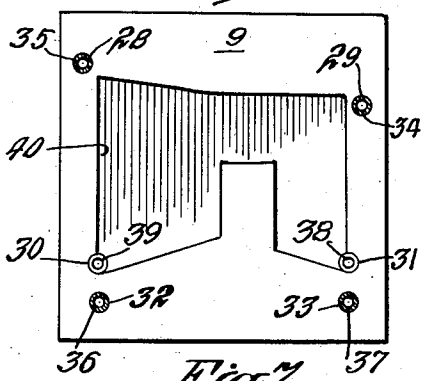


Fig. 6.

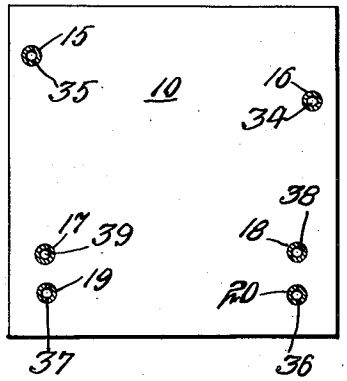


Fig. 7.

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2,865,614

MACHINE FOR COLORING PAINTS

Alexander Nagy, Lindenhurst, N. Y.

Application January 30, 1957, Serial No. 637,286
6 Claims. (Cl. 259—95)

This invention relates to machines for coloring paints in general and more especially to machines for coloring paints whereby paint of a traditional color, such as white, may not only have mixed with it one or more coloring ingredients but in addition exhibit the same for instantaneons visual inspection.

Among the objects of the present invention it is aimed to provide an improved paint coloring machine for coloring paint whereby a readily ascertainable, predetermined amount of coloring matter and a readily ascertainable, predetermined amount of paint may with facility be mixed and the result immediately be inspected whereby the painter, after a small quantity of the proper mixture has been obtained, may repeatedly reproduce the same in large quantities.

The value of this objective is apparent when consideration is taken of the fact that particularly with a large room the painter must either mix an adequate large amount of paint with the desired coloring matter in advance or else risk the vagaries and uncertainties of the traditional or conventional practice of so-called rule of thumb, for attempting to reproduce the color selected of the initial mixture.

It is still another object of the present invention to provide an improved paint coloring machine for coloring paint whereby not only may a number of paint mixtures be expeditiously produced with a readily ascertainable, predetermined amount of coloring matter for instantaneous visual inspection but also several paint mixtures expeditiously produced with a readily ascertainable, predetermined amount of coloring matter and presented adjacent to one another for instantaneous visual inspection, as an instance, to determine the relationship of the color of the paint for the ceiling, the wall surface and the woodwork of a room for comparison as to the matching or blending of the several colors selected.

It is still a further object of the present invention to provide an improved paint coloring machine for receiving a container having a predetermined quantity of paint of a traditional color, such as white, and for receiving a plurality of vessels containing different coloring matters, from one or more of the latter a readily ascertainable, predetermined amount or readily ascertainable, predetermined amounts may be withdrawn and introduced into the paint for instantaneous visual inspection.

It is still another object of the present invention to provide an improved paint coloring machine for receiving a plurality of containers having a predetermined quantity of paint of a traditional color, such as white, and for receiving a plurality of vessels containing different coloring matters, common to said plurality of containers from one or more of the said vessels a readily ascertainable, predetermined amount or readily ascertainable, predetermined amounts may be withdrawn for each of said containers and mixed for instantaneous visual inspection.

These and other features, capabilities and advantages of the present invention will appear from the subjoined detailed description of one specific embodiment thereof illustrated in the accompanying drawings, in which:

Fig. 1 is a diagrammatic view partly in perspective.

Fig. 2 is a front elevation of a cabinet housing the machine showing the window or viewer.

Fig. 3 is a transverse section substantially on the line 3—3 of Fig. 2.

Figs. 4, 5, 6 and 7 are side elevations of four of the five plates which together form mixed paint containing viewing chambers on the lines 4—4, 5—5, 6—6 and 7—7, respectively, of Fig. 3.

Fig. 8 is a section on the line 8—8 of Fig. 3.

Fig. 9 is a section on the line 9—9 of Fig. 3.

In the embodiment illustrated there is shown a cabinet 1, see Fig. 2, having a front wall 2 provided with a window 3 where there will be exposed the face 4 of the viewer 5 which is connected to the inner face of the wall 2, see Fig. 3. The viewer 5 in the present instance is composed of five sheets or plates 6, 7, 8, 9 and 10 composed of a transparent material, such as glass or "Plexiglas," conventionally made by polymerizing methylester also known as methylmethacrylate.

The sheets 6, 8 and 10 are intact, with the exception that the sheet 8 is provided with four openings 11, 12, 13 and 14 and the sheet 10 with six openings 15, 16, 17, 18, 19 and 20.

The sheet 7 is provided with four openings 21, 22, 23 and 24 in alinement with the openings 11, 12, 13 and 14, respectively, of the sheet 8. The openings 21 and 22 are located at the ends of the elongated opening 25 portraying a ceiling in perspective. The openings 23 and 24 are located at the ends of the narrow baseboard portraying opening 26 in communication with the larger door portraying opening 27.

The combination of openings 21, 22 and 25, however, are not in communication with the combination of openings 23, 24, 26 and 27 so that when the sheets or plates 6, 7 and 8 are securely cemented to one another to exclude all air or air pockets between them, then the combination of openings 21, 22 and 25 will be effectively sealed from the combination of openings 23, 24, 26 and 27.

In turn the plate 9 is provided with six openings 28, 29, 30, 31, 32 and 33 which are in alinement with the openings 15, 16, 17, 18, 19 and 20, respectively, in the plate 10.

Furthermore the openings 11, 12, 13 and 14 of the plate 8 are in alinement with the openings 28, 29, 32 and 33, respectively, of the plate 9. Consequently the tubes 34, 35, 36 and 37 may extend through the plates 10, 9 and 8 to the openings 21, 22, 23 and 24, respectively, in the plate 7.

Furthermore since the openings 30 and 31 of the plate 9 are in alinement with the openings 17 and 18 of the plate 10, the tubes 38 and 39 may extend through the plate 10 into communication with the openings 30 and 31, respectively, of the plate 9. The openings 30 and 31 are located in the lower opposite corners of the large wall portraying opening 40. Here, too, when the sheets or plates 8, 9 and 10 are securely cemented to one another to exclude all air or air pockets between them, then the combination of openings 30, 31 and 40 will be effectively sealed from the pockets formed by the openings in sheet 7.

The wall portraying opening 40 is connected to the pump 41 by the conduit 38 which pump 41 in turn is connected by the conduit 43 to the container 42 containing a predetermined amount of paint of a traditional color such as white.

The ceiling portraying opening 25 is connected to the pump 44 by the conduit 34 which pump 44 in turn is connected by the conduit 46 to the container 45 containing a predetermined amount of paint of a traditional color such as white. The woodwork portraying openings 26 and 27 are connected to the pump 47 by the conduit 36 which pump 47 in turn is connected by the conduit 149 to the container 48 containing a predetermined amount of paint of a traditional color such as white.

Furthermore the wall portraying opening 40 is connected to one end of the wall valve manifold 49 by the conduit 39 which enters the chambered extension 50 of the manifold 49. This extension 50 in turn is connected by the conduit 51 to the container 42. Furthermore the other end of the manifold 49 is connected by the conduit 52 to the pump 41.

The ceiling opening 25 is connected to the chambered extension 53 at one end of the ceiling valve manifold 54. This extension 53 in turn is connected by the conduit 55 to the container 45. The other end of the valve manifold 54 is connected by the conduit 56 to the pump 44.

The wookwork border portraying openings 26 and 27 are connected by the conduit 37 to the chambered extension 57 at one end of the wokwork valve manifold 58. This extension 57 is in turn connected by the conduit 59 to the container 48. The other end of the manifold 58 is connected by the conduit 60 to the pump 47.

The extension 58 is shown in section in Fig. 8, the bores of the conduits 37 and 59 being in communication with one another through the chamber 61 formed in the extension 58 which chamber 61 in turn is connected by the small orifice 62 with the bore 63 of the conduit 60. The internal conformation of the extensions 50 and 53 are substantially identical with the internal construction of the extension 58 so that the bores of the conduits 39 and 51 are not only in communication with one another through the extension 50 but also in communication with the bore of the conduit 52 through the extension 50, and the bores of the conduits 35 and 55 are not only in communication with one another through the extension 53 but also in communication with the bore of the conduit 56 through the extension 53.

From the foregoing it will appear that when the pump 41 as an instance is set into operation, it will pump the paint in the container 42 up through the conduit 38 into the wall portraying opening 40 and then out through the conduit 39 back to the container 42 by the conduit 51. At the same time it will also cause some of the paint to be returned to the pump 41 through the conduit 52. As a matter of fact, since the orifice between the extension 50 and the bore of the conduit 52 is restricted as compared to the chamber in the extension 50 between the conduits 39 and 51, most of the paint will be pumped through the conduit 51 to the container 42. The restriction in the extension 50 will serve to cause all of the coloring matter which is introduced into the conduit 52 to be sucked down into the pump 41 and the conduit 51 merely serve to maintain free circulation of the mixed paint and coloring matter through the wall portraying opening 40.

Preferably disposed above the uppermost valve manifold 49 there are provided the vessels 64 which are connected by the conduits 65 to the manifold 49. The manifolds 49, 54 and 58 are all chambered having the slide receiving chambers 66, 67 and 68, respectively. The chambers 66 are in communication with the bore of the conduit 52 by the openings 69. The chambers 67 are in communication with the bore of the conduit 56 by the openings 71. The chambers 68 are in communication with the bore of the conduit 60 by the openings 72. The bores of the conduits 65 are in alinement with the short tubes 73 which extend from the manifold 49 to the manifold 54 and form communications between the chambers 66 and 67. In turn the manifolds 54 and 58 are connected to one another by the tubes 74 which are in alinement with the tubes 73 and the bores of which form communication between the chambers 67 and 68.

Each of the chambers 66 of the manifold 49 is provided with a slide 75 having an opening 76. These slides 75 are in turn connected by the rods 77 to the buttons 78 extending through the front wall 2. These slides 75 or valves are normally retained in position where their openings 76 are in alinement with the bores of the conduits 65 by the springs 79.

Each of the chambers 67 in turn are provided with a slide 80 provided with an opening 81 normally in alinement with the bores of two alined tubes 73 and 74, as shown in Fig. 3. The slides 80 are connected with the rods 82 to the buttons 83 which extend through the wall 2. These slides are in turn normally maintained in the position shown in Fig. 3 by the springs 84.

Each of the chambers 68 is provided with a slide 85 having an opening 86. The openings 86 are normally in alinement with the bores of the tubes 74 and are connected by the rods 87 to the buttons 88 extending through the wall 2. The slides 85 are normally maintained in the position, shown in Fig. 3, by the springs 89. The springs 79, see Fig. 3, connect the rods 77 to the inner face of the wall 2. The springs 84 connect the rods 82 to the inner face of the wall 2. The springs 89 connect the rods 87 to the inner face of the wall 2.

The vessels 64 are provided with coloring matter, preferably in a liquid condition, each vessel 64 for a different color. If, therefore, it is desired to select the proper color for the paint of the wall of a room, one of the buttons 78 corresponding to the color selected will be pressed inwardly to cause its opening 76 filled with a predetermined amount of the coloring matter selected to register with the opening 69 in communication with the conduit 52. Thereupon when the pump 41 is set in operation, if it has not already been set in operation, it will suck the coloring matter so transferred in the opening 76 through the conduit 51 into the chamber 42 and cause it to be mixed with a predetermined amount of paint of a traditional color, such as white. Due to the agitation caused by the pump 41 the coloring matter so introduced into the container 42 will thoroughly mix it with the paint in the container 42 and then due to the pump 41 enable the paint so mixed to be transferred through the conduit 38 to the wall portraying opening 40. The paint pumped into the wall portraying opening 40, however, will not remain at rest but circulate through the opening 40 and be pumped out through the conduit 39 into the manifold 49. If the button 78 initially selected is still being depressed, the paint from the conduit 39 may then pass not only through the restricted opening in the extension 50 into the conduit 52 directly back to the opening 40 by means of the pump 41 and conduit 38, but some of the paint will also pass from the conduit 39 through the extension 50 into the conduit 51 and then into the container 42. Should, however, the button 78 selected have been released in the meantime, the slide 75 will return to its normal position shutting off the opening to the chamber 69 without affecting the circulation of the paint through the conduits 39, 51 and 52.

If it is desired to compare the colored paint for the three main areas of a room, such as the sidewalls, ceiling and woodwork, then after the color of the paint for the sidewalls has been selected, one of the buttons 83 may be pressed inwardly and the pump 45 set in operation to select the proper color for the ceiling whereby the coloring matter selected will mix in the container 45 and be transferred to the ceiling portraying opening 25. At the same time the buttons 88 may be depressed and the pump 47 set in operation to cause the coloring matter selected to mix with the paint in the container 48 and be transferred to the woodwork portraying openings 26 and 27.

If more than one coloring matter is required for any of the containers 42, 45 or 48 in order to vary the shade of the color initially selected, it will of course only be necessary to press the buttons corresponding to the coloring materials sought to be mixed. Excellent results have been achieved when the color of the paint in the containers 42, 45 and 48 is the traditional white. However, it is obvious that any other neutral color for this paint may be selected without departing from the general spirit of the invention.

The shading of the wall portraying opening 40 is indicative of the color green, the shading of the ceiling portraying opening is indicative of the color blue, and the shading of the woodwork portraying openings 26 and 27 is brown. These colors have been arbitrarily shown for purpose of illustration only.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit of the invention as set forth in the appended claims.

I claim:

1. The combination of a container for paint of a neutral color, a plurality of vessels for coloring matter of different colors from one another, a manifold, a visual inspection viewer for receiving paint from said container and coloring matter from one or more of said vessels mixed with one another, a pump, a first conduit connecting said viewer with said pump, a second conduit connecting said pump with said container, a plurality of third conduits each connecting one of said vessels with said manifold, a fourth conduit connecting said manifold with said containers, a plurality of isolating valves each valve controlling the flow of an isolated predetermined amount of coloring matter from one of said vessels to said manifold, and means for actuating any one of said valves to the exclusion of the others, when said pump will draw into said container the isolated predetermined quantity of coloring matter from the valve selected, mix the same and then draw the mixture to said viewer for visual inspection.

2. The combination of a plurality of containers each having paint of a neutral color, a plurality of vessels common to all of said containers, each vessel having coloring matter of a different color from one another, a manifold for each container, a visual inspection viewer having a plurality of inspection areas each inspection area receiving paint from one of said containers and coloring matter from at least one of said vessels mixed with one another, a pump for each container, first conduits each connecting one of said inspection areas with one of said pumps, second conduits each connecting one of said containers with its associated pump, third conduits each connecting one of said vessels with all of said manifolds, fourth conduits each connecting all of said manifolds with one of said containers, a plurality of valves for each manifold each valve normally obstructing communication to its associated container and to said vessels and operable to select and isolate in each manifold a predetermined quantity of coloring matter from one of said vessels and to establish communication to its associated container, and means for actuating each of said valves separately, when said pump will draw the coloring matter from the vessels selected into the container selected, mix the same and then draw the mixtures to the associated inspection area for visual inspection.

3. The combination of a container for a predetermined quantity of paint of a neutral color, a vessel containing coloring matter, a viewer having a visual inspection area for receiving paint from said container and coloring matter from said vessel, a pump, a first conduit connecting said viewer with said pump, a second conduit connecting said pump with said container, a third conduit connecting said vessel with said container, a valve operatively connected to said third conduit and having a pocket of a predetermined size to receive and isolate a predetermined quantity of coloring matter from said vessel, and means for actuating said valve to enable the contents of said pocket to be drawn by said pump from said vessel into said container and then into said viewer.

4. The combination of a container having a predetermined quantity of paint of a neutral color, a vessel containing coloring matter, a viewer having a visual inspection area for receiving paint from said container and coloring matter from said vessel, a pump, conduits connecting said viewer, container and vessel with said pump to enable said pump to mix paint with coloring matter and pump the resulting mixture from said container and vessel to said viewer, one of said conduits extending from said vessel to said container, a valve operatively connected to said one conduit having a pocket of a predetermined size to receive and isolate a predetermined quantity of coloring matter from said vessel, and means for actuating said valve to enable the contents of said pocket to be drawn by said pump from said vessel into said container and viewer.

5. The combination of a container having a predetermined quantity of paint of a neutral color, a plurality of vessels containing coloring matter of different colors from one another, a viewer having a visual inspection area for receiving paint from said container and coloring matter from said vessels, a pump, conduits connecting said viewer, container and vessels, with said pump to enable said pump to mix paint with coloring matter and pump the resulting mixture from said container and vessels to said viewer, a plurality of said conduits connected to said vessels, a second conduit common to said plurality of said conduits extending from said plurality of said conduits to said container, a plurality of valves each operatively connected to one of said plurality of conduits connected to one of said vessels, and having a pocket of predetermined size to receive and isolate a predetermined quantity of coloring matter from its associated vessel, and means for actuating a plurality of said valves to enable the contents from said pockets to be drawn by said pump from their vessels into said container and viewer.

6. The combination of a plurality of containers each having a predetermined quantity of paint of a neutral color, a plurality of vessels common to all of said containers containing coloring matter of different colors from one another, a viewer having a plurality of visual inspection areas, each inspection area receiving paint from one of said containers and coloring matter from at least one of said vessels, a pump for each container and inspection area, conduits connecting each of said inspection areas, its associated container and said vessels with its associated pump to enable its associated pump to mix paint with coloring matter and pump the resulting mixture from said containers and vessels to their associated inspection areas to enable the colored paint therein to be compared or matched, a first plurality of said conduits connected to said vessels, a second plurality of said conduits of which each conduit is connected to said first plurality of conduits to one of said containers, a plurality of valves each operatively connected to one of the conduits of said first plurality of said conduits connected to one of said vessels and having a pocket of a predetermined size to receive and isolate a predetermined quantity of coloring matter from its associated vessel, and means for actuating said valves to enable the contents of their pockets and their associated container to be drawn by said pump into and out of their respective inspection areas.

References Cited in the file of this patent

UNITED STATES PATENTS

873,895	Robinson	Dec. 17, 1907
1,678,091	Wilhelm	July 24, 1928
1,808,117	McLellan	June 2, 1931
1,866,017	Stubner	July 5, 1932
2,022,481	Schellenger	Nov. 26, 1935
2,039,534	Holmes	May 5, 1936
2,161,190	Paull	June 6, 1939
2,528,530	Machleder	Nov. 7, 1950
2,548,106	Hancock et al.	Apr. 10, 1951
2,548,597	Ellison	Apr. 10, 1951
2,572,541	Thompson et al.	Oct. 23, 1951
2,666,715	Syreeni	Jan. 19, 1954
2,787,402	Stiner et al.	Apr. 2, 1957