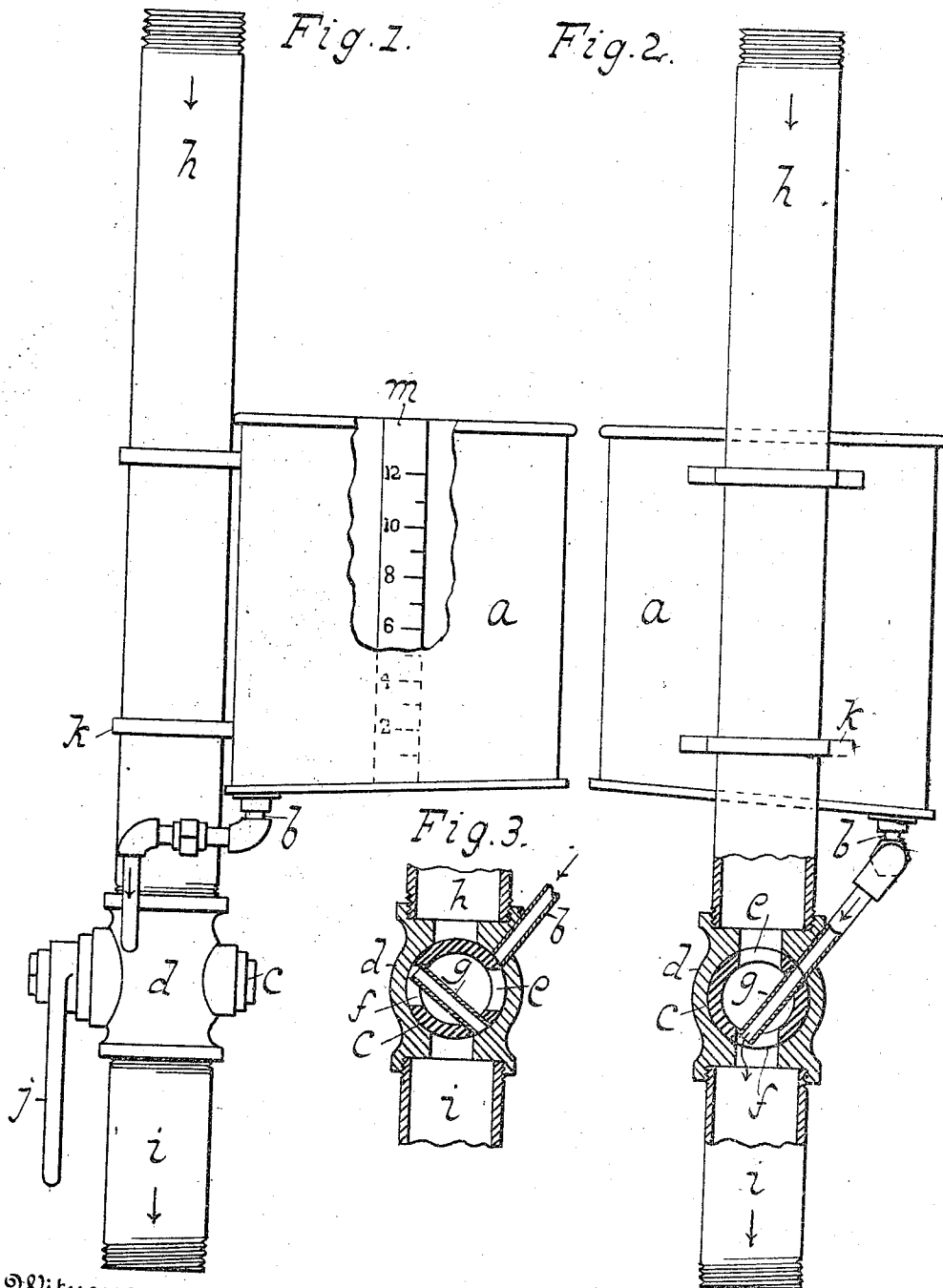


O. SCHUTZ.
 APPARATUS FOR MIXING COLORS.
 APPLICATION FILED MAR. 6, 1914.

1,133,065.

Patented Mar. 23, 1915.



Witnesses:
 William Miller
 Chas. H. Almstadt

Inventor:
 Otto Schutz
 By his Attorneys
 Hauff & Barland.

UNITED STATES PATENT OFFICE.

OTTO SCHUTZ, OF NEW YORK, N. Y., ASSIGNOR TO BADISCHE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

APPARATUS FOR MIXING COLORS

1,133,065.

Specification of Letters Patent.

Patented Mar. 23, 1915.

Application filed March 6, 1914. Serial No. 822,909.

To all whom it may concern:

Be it known that I, OTTO SCHUTZ, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Apparatus for Mixing Colors, of which the following is a specification.

This invention relates to apparatus for thoroughly mixing a color solution for the purpose of infusing with paper pulp and preventing mottled effect.

The apparatus employed for this purpose includes a tank adapted to receive the color solution and a valve connected to the tank for controlling the mixture. A water inlet pipe communicates with the valve so that when the valve is open the water will unite with the color solution at the junction of the valve. The valve thus governs the color solution drawn from the tank and also the water inlet for diluting the color fluid. When the valve is open the water passing through the pipe will draw the color solution by the suction created at the mouth of the valve and the color solution entering at this point will then mix with the water to give the required degree of saturation to the color. Heretofore clay or other fillers had to be applied in connection with the color solution in order to avoid the mottled effect. The difficulty with this process has been that the fillers are sometimes objectionable to the use of the paper, and that the process is too complicated, necessitating the employment of expensive machinery. Another great drawback of this process is that a large percentage of the coloring matter is absorbed by the filler, resulting in a weaker, less perfect, dyeing.

The novel features of the invention are more fully described in the following specification and claims and illustrated in the accompanying drawing in which:

Figure 1 represents a front elevation of an apparatus employed in carrying out this invention. Fig. 2 is a side elevation partly in section showing the valve open. Fig. 3 is a detail view showing the valve closed.

In this drawing is shown an apparatus provided with a tank *a* for holding a sufficient quantity of color dissolved in water. This tank is equipped with a drain pipe *b*

leading from the bottom of the tank to a valve *c*. The valve is mounted to actuate in a casing *d*, and it is provided with inlet port *e* and outlet port *f*. The valve *c* carries a short section of a tube *g* which communicates when the valve is open as indicated in Fig. 2, with the lower end of the drain pipe *b*, while its lower end projects into the outlet port *f* of the valve. This short tube however could be omitted and the opening formed in the valve to register with the end of the drain pipe. A pipe *h* having a water inlet *k* and a color outlet *i* is secured to the valve casing and communicates with the valve. A handle or lever *j* is fixed to the valve *c* for the purpose of operating the valve. The color tank *a* is secured to the apparatus by means of bands *l*. The water inlet pipe *h* can be connected to a reservoir or other water supply while the color outlet pipe *i* leads into the paper pulp. The bottom of the tank is sloped or inclined toward the drain pipe so that no sediment will remain in the tank, and is preferably covered with a screen.

It will be understood that the invention is designed to primarily store a strong solution of color and then diluting this color by injecting a predetermined volume of water before the mixture flows into a paper pulp. By this method the paper can be tinted to a uniform degree and the mottled effect is obviated. It also enables the use of strong solutions of colors for coloring any paper where the mottled effect is objectionable.

As shown in the drawing the water pipe is of larger diameter than the color drain pipe so as to gage the proper proportions of the mixture. The end of the drain pipe terminates at the lower port of the valve so that the color solution will completely mix by the sucking action of the descending water created at the outlet of the pipe.

The tank *a* can be graduated as shown at *m* and in this way it can be used to indicate the exact proportion of the color and the amount of water required to dilute the color.

I claim:

1. An apparatus for mixing color solutions comprising a tank adapted to contain a color solution, means for gaging the solution, a drain pipe connected to the tank, a

water inlet pipe, a valve connection between the drain pipe and the water inlet for controlling the solution and the water.

2. An apparatus for mixing color solutions comprising a graduated tank adapted to measure and contain a color solution, a drain pipe connected to the tank, a water inlet pipe, said drain pipe being of smaller diameter to proportion the quantity of the solution flowing from the tank, a valve con-

nection between the drain pipe and the water inlet for controlling the solution and the water.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses:

OTTO SCHUTZ.

Witnesses:

CHRISTIAN H. ALMSTAEDT,
HAZEL V. McELROY.