

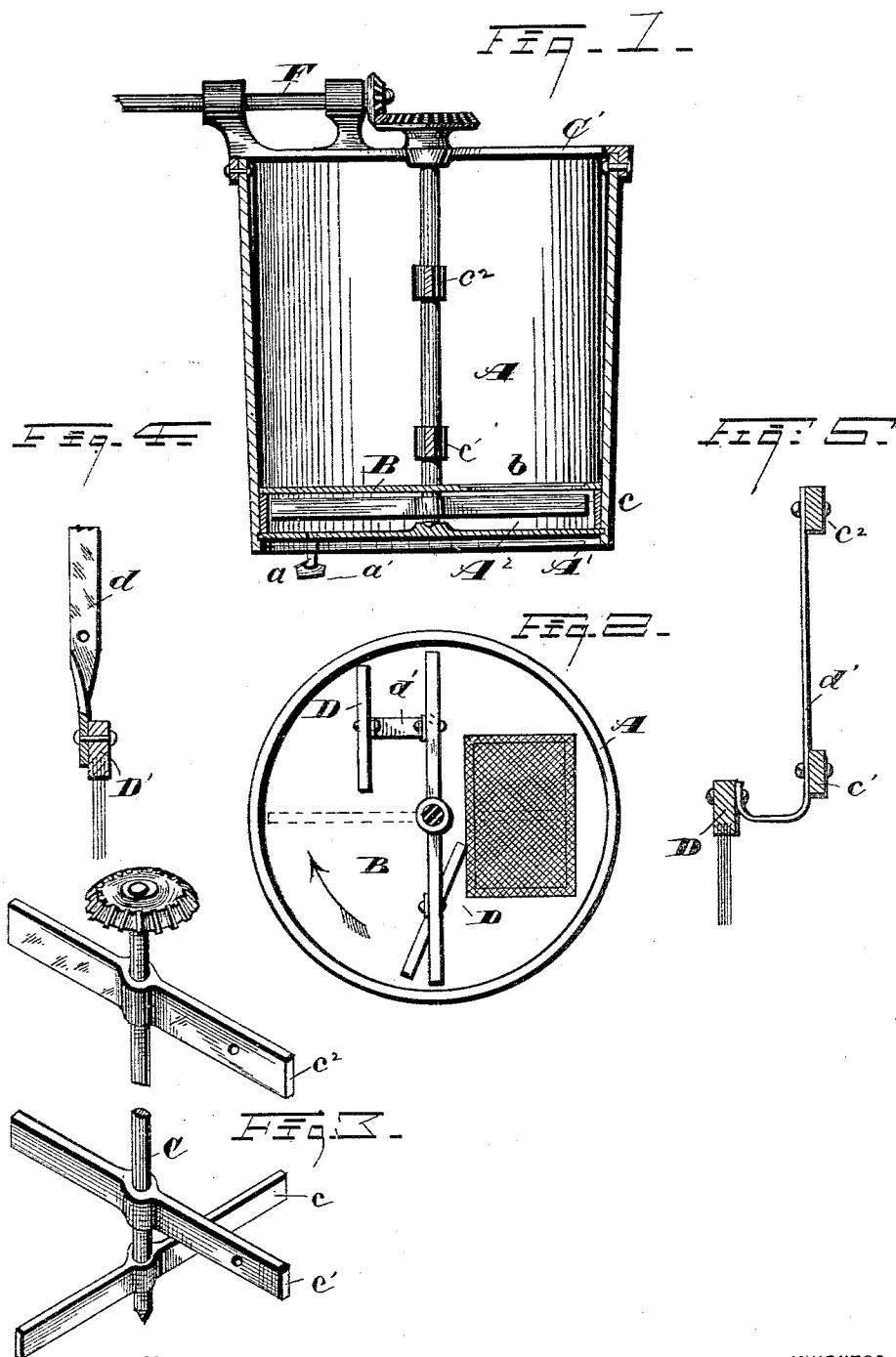
(No Model.)

O. J. BUCK.

PAINT MIXER.

No. 318,864.

Patented May 26, 1885.



WITNESSES

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UNITED STATES PATENT OFFICE.

ORLANDO J. BUCK, OF CHICAGO, ILLINOIS.

PAINT-MIXER.

SPECIFICATION forming part of Letters Patent No. 318,864, dated May 26, 1885.

Application filed January 3, 1885. (No model.)

To all whom it may concern:

Be it known that I, ORLANDO J. BUCK, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Paint Mixing and Straining Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in paint mixing and straining apparatus; and it consists in certain features of construction and in combination of parts, hereinafter described, and pointed out in the claims.

In the manufacture of paints the pigments and oil are usually mixed in large quantities, and afterward the paint, in smaller quantities, is drawn from time to time into mixing-tubs, where the coloring material is added. These latter mixing-tubs are usually provided with an upright revolving shaft, to which are attached arms or paddles for stirring and mixing the paint. The paint is afterward strained and "put up" in packages for shipment. During the process paints that have been exposed to the air for a short time—for instance, over night—become dried on top and a thin film is formed, known as "paint-skin." The straining is done to remove these skins and other sediment. These skins are so thin that they would not cause any considerable waste; but quantities of paint adhere to the skins and a large amount of hand labor is required to remove the paint therefrom.

My improved apparatus is designed to save this hand labor by arranging a straining device in connection with the color-mixing tubs, so that the stirring and mixing are carried on simultaneously and by the same motive power. For this purpose I employ a tub with an upright revolving shaft and radial arms or paddles, similar to those heretofore in use. An inner false bottom is added to the tub, separated four or five inches (more or less) from the outer bottom. One set of radial arms are arranged to operate in the space between the bottoms, and two sets of similar arms, parallel with each other, but extending at right angles to the lower arms, are arranged to operate in the body of the tub. The false bottom is provided

with a large opening on one side, over which a strainer is placed, that is preferably a punctured steel plate, and flush with the top of the false bottom. One or more broad and preferably metal brushes are supported from the arms above and arranged to sweep over the strainer with each revolution of the arms. The brush is arranged diagonally, with the arms on a radial line with the outer edges of the brush, near the inner periphery of the tub, and in advance of the inner edge of the brush, by which arrangement considerable space is left between the brush and the central shaft. Owing to the sluggish nature of the paint and to the skins and other sediment, the strainer would soon become clogged were it not for the brush that, in sweeping over the strainer, keeps it open, so that the paint may flow freely through it, and at the same time rubs and scours the skins until no paint is left adhering to them. Owing to the oblique position of the brush, the skin and other sediment are gathered around the central shaft, from which they may be removed when the batch of paint has been mixed and strained off.

The details of construction are illustrated in the accompanying drawings.

Figure 1 is an elevation in section of a mixing-tub with my improved apparatus attached. Fig. 2 is a plan view of the same. Fig. 3 is a view in perspective of the shaft and arms or paddles. Figs. 4 and 5 are views in perspective of irons for attaching the brush to the paddles.

A represents the tub, and A' the outer bottom, that is provided with an opening, *a*, for discharging the paint, and closed by a gate, *a'*.

B is the false bottom, with a considerable opening covered with the perforated plate or strainer *b*, located about as shown in Fig. 2.

C is an upright shaft that passes through the bottom B, and is journaled in suitable supports secured to the bottom A'.

Between the two beds are the arms *c*, and above the bed B are the arms *c'* and *c''*, preferably arranged at about right angles to the arms *c*, so that while a brush, D, passes over the strainer, the arms *c* will be out of the way and not retard the passage of the paint through the strainer.

D are the brushes, only one of which will

be required, unless the tub is of unusual size or the motion of the shaft is quite slow. These brushes are arranged diagonally with a radial line, and are supported from the arms c' and c'' in any convenient way. In Figs. 4 and 5 are shown irons d and d' , either of which is convenient for this purpose. The iron d is bolted flatwise to the arms c' and c'' , and is twisted so that the lower end supports the brush in the required oblique position. The iron d' is bent back, so that the brush is supported at the rear of the arms, and the desired position oblique to a radial line is had. In front, in Fig 2, the brush is shown in position supported by an iron, d , and at the rear the brush is supported by an iron, d' . It will be seen that the brushes are arranged to pass over the strainer, and with the outer end near the walls of the tub and in advance of the inner ends that are some distance from the shaft C.

The chamber A^2 between the heads is a valuable part of the apparatus, forming a receptacle for the strained paint, where it is kept thoroughly mixed without exposure to the air, and consequently no skin is formed if the chamber is left full of paint or the strainer is covered.

The shaft C is usually suspended by a cross-piece, C' , and intergeared, as shown, with the shaft F, that in large establishments usually passes over a number of such tubs. The shaft C may of course be driven in any other suitable manner.

In operating the apparatus a quantity of paint previously mixed is placed in the tub, and such coloring material as required is added and the machine set in motion. Any of the paint that is first discharged into the chamber A^2 before it is thoroughly mixed is drawn out and again returned to the tub. In a short time the paint discharged into the said chamber will be thoroughly mixed, and may be drawn therefrom into cans, tubs, or other packages. From time to time the stock in

the tub may be reduced to remove the sediment, skins, &c., assembled around the shaft C. The skin and sediment will be found entirely separated from the paint, and this is accomplished without any extra labor or retarding in the least the usual mixing of the paint.

What I claim is—

1. In a paint-mixing apparatus, the combination, with a mixing-tub having a horizontal partition or false bottom therein, the latter being provided with an opening, a strainer secured to said partition over the opening, and a discharge-opening formed in the bottom of the tub, of a horizontal shaft provided with arms located within the main body of the tub, and within the space between the partition and bottom of the tub, substantially as set forth.

2. In a paint-mixer, the combination, with a tub having a horizontal partition provided with an opening therein, a strainer secured to said partition over the opening, and a discharge-opening formed in the bottom of the tub, of a central shaft having arms above and below the horizontal partition, and a brush moving in contact with the upper surface of said partition, substantially as set forth.

3. In a paint-mixer, the combination, with the tub divided into two communicating compartments by a horizontal partition having an opening therein, a strainer secured to the partition over said opening, and a discharge-spout secured to the bottom of the tub, of the vertical shaft, the arms secured thereto above and below the partition, and the brush arranged as described and secured to one of said arms, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 29th day of December, 1884.

ORLANDO J. BUCK.

Witnesses:

CHAS. H. DORER,
ALBERT E. LYNCH.