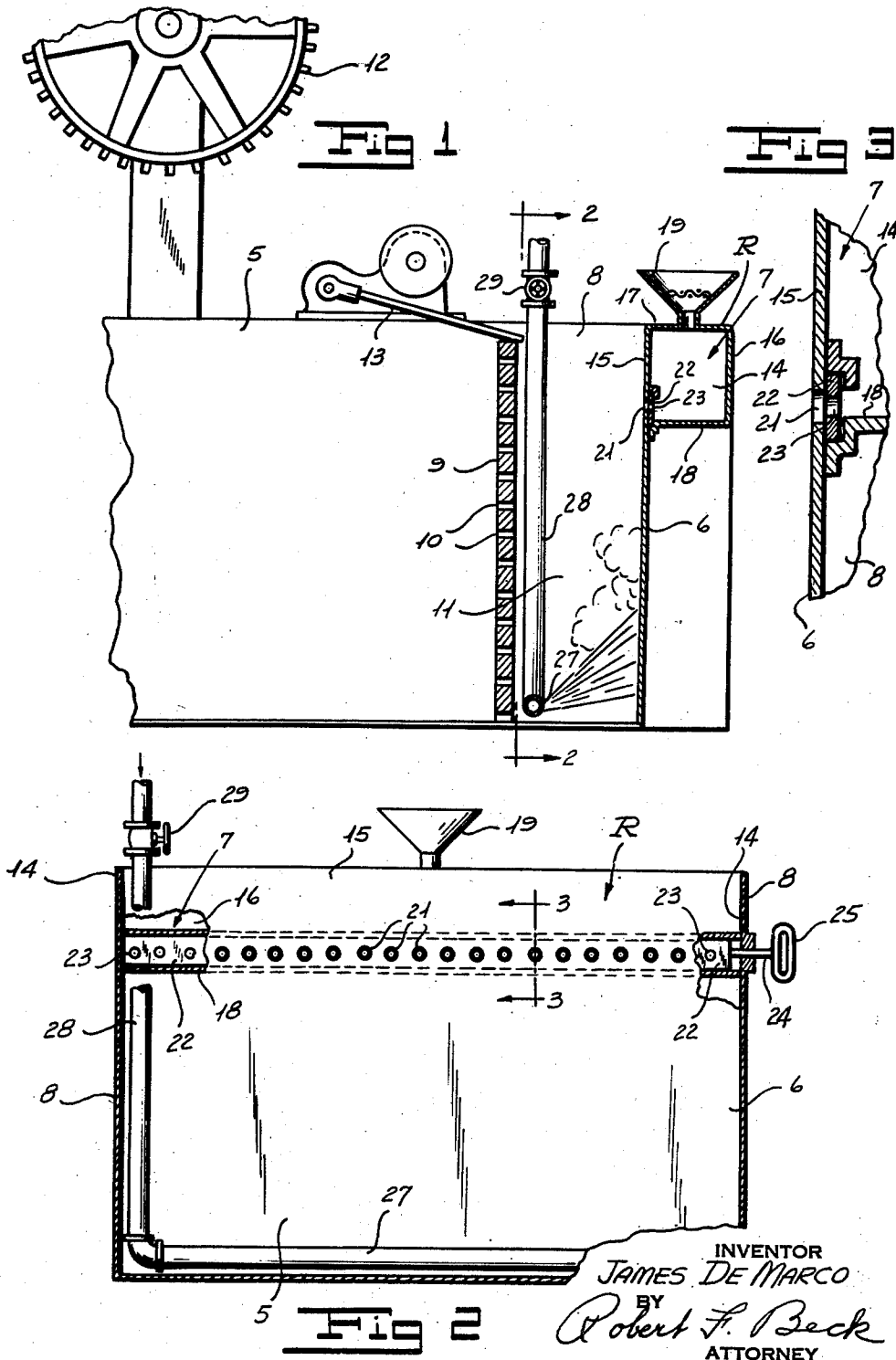


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DYE TUB EQUIPPED WITH COLOR CONCENTRATE
DISTRIBUTING AND MIXING MEANS
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DYE TUB EQUIPPED WITH COLOR CON-
CENTRATE DISTRIBUTING AND MIX-
ING MEANS

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1 Claim. (Cl. 68—207)

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My invention relates to dyeing and more particularly to dye tubs and the like.

One of the principal objects of my invention is to provide a dye tub formed with a wall having mounted thereon a color distributor for discharging a color concentrate into the mixing chamber of the tub for mixture with a diluent therein.

Another object of my invention is to provide a distributor of the foregoing described character equipped with means for regulating the discharge of concentrate therefrom.

A further object of my invention is to provide a distributor of the foregoing described character which extends lengthwise of the mixing chamber and is provided with a multiplicity of discharge openings longitudinally aligned whereby the concentrate is discharged into the mixing chamber throughout its entire length, the distributor being also provided with means for straining the concentrate when the latter is introduced into the distributor.

A still further object of my invention is to provide a dye tub equipped with a distributor of the foregoing described character and wherein means is provided within the mixing chamber for facilitating mixture of the concentrate with a diluent and in a manner accelerating the mixing.

An important object of my invention is to provide a dye tub having associated therewith color distributing means which is simple in construction, durable in use, efficient in operation and economical in manufacture.

With the above and other objects in view, as will hereinafter appear, the invention consists in the combination and arrangement of parts hereinafter set forth and illustrated in the accompanying drawings from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

Referring to the drawings wherein like reference characters designate like parts throughout the several views:

Figure 1 is a sectional view of one end of a dye tub illustrating the same having my invention incorporated therein.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a detail sectional view on an enlarged scale, taken on the line 3—3 of Figure 2.

In practicing my invention, as illustrated in the drawings, one end of a dye tub 5, has the upper portion of its end wall 6 provided with a color

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distributor 7 which is interposed between the side walls 8 of the tub, it being understood, by way of example, in the present instance, that the walls 6 and 8 of the tub are constructed of metal, for instance, stainless steel. The tub is provided with a color board 9 formed with perforations 10 and which board is disposed between the walls 8 and in spaced relation with the wall 6 to define a mixing chamber 11 in which a color concentrate, from the distributor 7, is discharged and mixed with a diluent in the tub as hereinafter more fully described. The dye tub has mounted thereabove the usual reels for continuously moving the material to be dyed through the bath provided in the tub by the mixing of the diluent and the color concentrate, one of the reels being disclosed as at 12 and over which the material passes, from between the prongs of the usual pivoted rake 13, in its upward travel from the bath.

The distributor 7 comprises an elongated receptacle or reservoir R with the end walls 14 thereof constituting upper portions of the side walls 8 of the tub. The receptacle is of a square-shaped configuration in cross section with its front, rear, top and bottom walls, 15, 16, 17 and 18 being formed from the upper end section of the end wall 6. The bottom wall 18 is connected to the rear face of the wall 6 in any suitable manner to form a liquid-proof joint, for instance, by welding, while the walls 15, 16, 17 and 18 are similarly connected to the inner faces of the side walls 8. The top wall 17 is provided with an aperture through which color concentrate is introduced into the receptacle, a funnel 19 or the like equipped with a wire mesh being provided to strain the material as it passes into the receptacle through the aperture.

The front wall 15 of the receptacle, adjacent the bottom wall 18, is formed with a multiplicity of lengthwise aligned openings 21 while a longitudinally slidable valve member or slide 22 is mounted within the receptacle and is provided with discharge openings 23 for registry with the openings 21 to permit discharge of the concentrate from the receptacle into the chamber 11 as desired. One end of the valve member 22 is provided with a rod which slidably extends through one of the side walls 8 and is provided with a handle 25 for actuating the member to control registering of the openings 21 and 23 and thus regulate discharge of the color concentrate from the receptacles into the chamber 11.

The chamber 11 has mounted therein, in close

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proximity to the color board 9, and adjacent the bottom of the tub, a steam pipe 27 which has connected thereto a supply pipe 28 equipped with a control valve 29. The steam pipe 27 is provided with a plurality of longitudinally aligned vent openings arranged in confronting relation with the wall 6 whereby steam emitted through said openings is directed toward the wall 6 (rather than toward the color board 9 as heretofore has been the practice). The steam thus emitted from the pipe 27 serves to agitate the liquid within the chamber 11, whereby, mixture of the concentrate and the diluent is not only facilitated, but greatly accelerated.

Without further elaboration, the foregoing will so fully explain the invention that others may, by applying current knowledge, readily adapt the same for use under various conditions of service. Moreover, it is not indispensable that all the features of the invention be used conjointly since they may be employed advantageously in various combinations and subcombinations.

It is obvious that the invention is not confined to the herein described use therefore as it may be utilized for any purpose to which it is adaptable. It is therefore to be understood that the invention is not limited to the specific construction as illustrated and described, as the same is only illustrative of the principles involved which are capable of extended application in various forms, and the invention comprehends all construction within the scope of the appended claim.

What I claim is:

In combination with a dye tub or the like having side and rear walls and a perforated wall constituting a color indicating board interposed between said side walls and spaced from said rear wall to define a textile material treating chamber forwardly of said board and a mixing chamber rearwardly of said board, said side walls extending rearwardly beyond said rear wall to thus provide continuations of said side walls, respectively, said rear wall being provided with an upper end section bent and extending in directions rearwardly, downwardly and then forwardly into

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connected relation with said rear wall, said upper end section being disposed between and secured to said continuations to define a color concentrate receptacle having its front wall constituting a continuation of said rear wall and with the latter being formed with discharge openings communicating with the interior of said receptacle for permitting discharge of a color concentrate contained in said receptacle into said mixing chamber, a valve member slidably mounted within said receptacle adjacent its front wall and formed with holes for registry with said openings to permit said discharge, said valve member being provided with means for effecting sliding thereof relative to said receptacle for controlling said discharge, and a steam pipe disposed in the bottom of said mixing chamber adjacent said bottom and formed with vent openings disposed in confronting relation with said rear wall for discharging steam towards said rear wall to effect mixture of said concentrate with a diluent in said mixing chamber for diffusion into said treating chamber through the perforations in said board.

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