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1,702,805

W. H. BAHLKE
FRACTIONATING TOWER

Filed Oct. 29, 1925

Fig. 1.

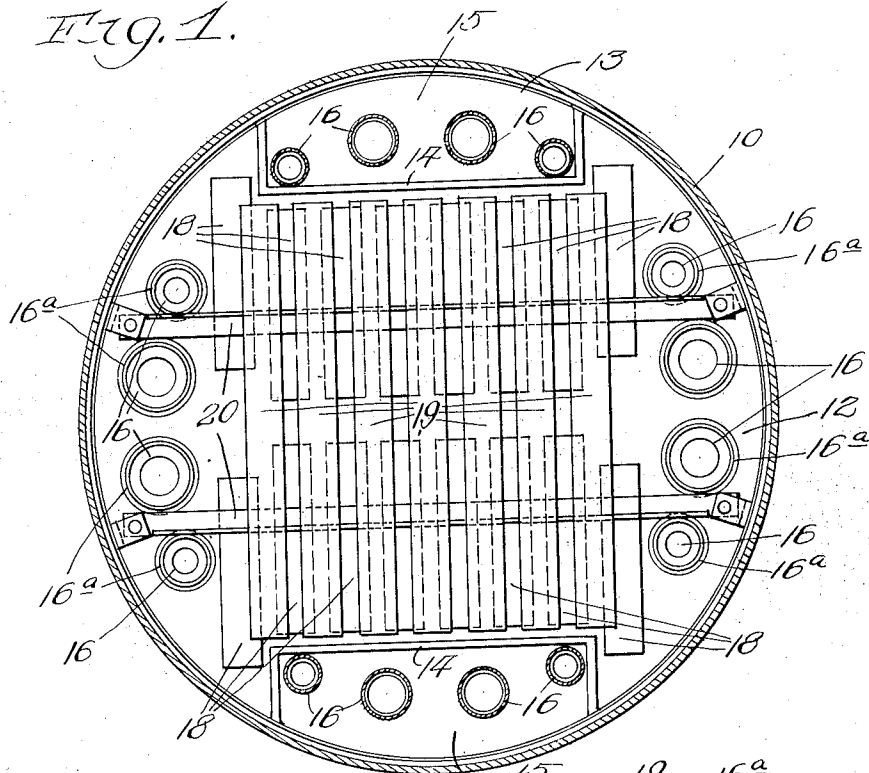


Fig. 2.

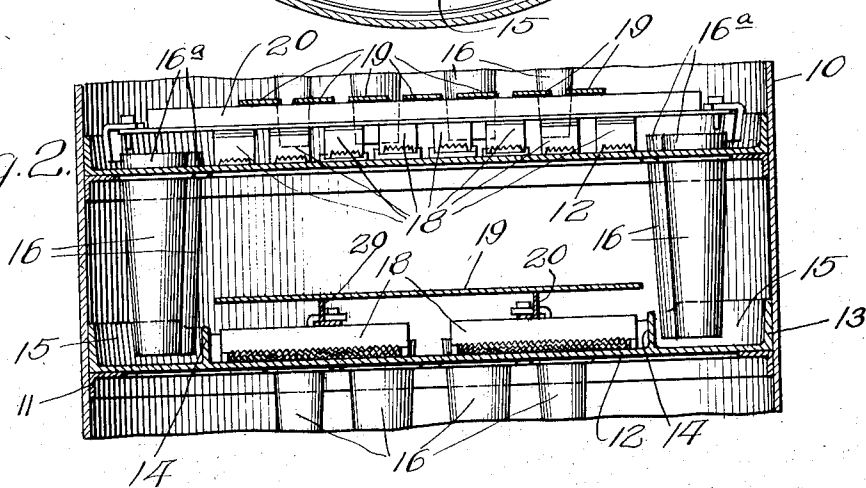
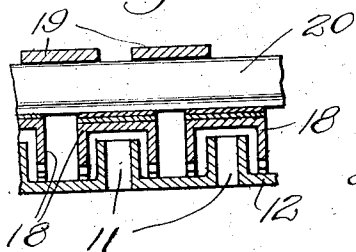


Fig. 3.



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FRACTIONATING TOWER.

Application filed October 29, 1925. Serial No. 65,617.

This invention relates to fractionating towers and the like for use in the distillation of petroleum oils and is fully described in the following specification and shown in the accompanying drawings, in which

Figure 1 is a horizontal section through the fractionating tower;

Fig. 2 is a partial vertical section through the same; and

Fig. 3 is a partial enlarged vertical section through the nipples.

The embodiment illustrated, which is an improvement on application for Letters Patent of the United States, Serial No. 6,152, filed January 31, 1925, of which I am a joint inventor, comprises a fractionating column having a vertical steel shell 10 within which is secured a series of spaced circular flanges 11 each of which supports a plate 12 having an outer flange 13 which serves to make a receptacle for liquids. Dams 14 across opposite sides of the plate 12 provide pools 15 into which dip overflow pipes 16 which pass through the plate 12 above and which have upper edges 16^a which fix the level of the oil over the plate.

Oil vapors or the like pass upward through rectangular nipples 17, which are somewhat higher than the edges 16^a, beneath the bubble caps 18 which are inverted thereover and have serrated lower edges beneath which the vapors bubble up through the liquid oil on the plate. This much of the construction is old as shown by the above mentioned application.

To prevent excessive splashing of this oil as the vapor bubbles up through it with a consequent entrainment of oil globules, I

have provided a series of splash members 19 which preferably lie on supports 20 and are parallel to the bubble caps and overlie the spaces therebetween. The splash members 19 lie in the path of the vapors emerging from the bubble caps and cause practically all of the liquid thus carried to be deposited thereon and thus prevented from being carried up to the next higher plate by the ascending vapors. This permits the operation of the tower at higher vapor velocities and with shorter distances between plates than has heretofore been possible without causing excessive entrainment or loading.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims.

I claim:

1. In a fractionating tower, a plate having a series of parallel rectangular nipples through which vapor is adapted to pass, rectangular bubble caps overlying said nipples, and spaced members arranged above said nipples and overlying the spaces between said nipples for preventing liquid being carried upward by said vapor.

2. The fractionating tower according to claim 1 characterized by said nipples being arranged in two parallel groups, each spaced member extending across so as to cover one of said spaces in each group.

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