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DISINTEGRATORLIKE DEVICES
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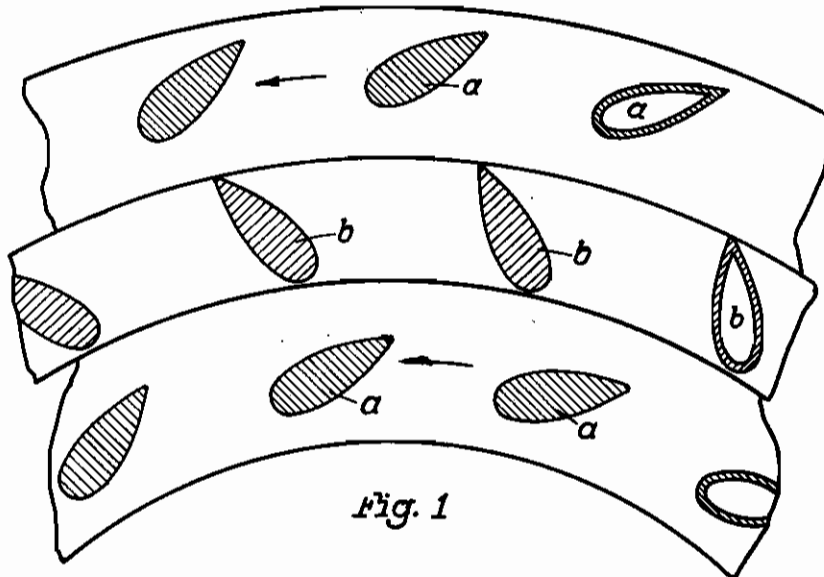


Fig. 1

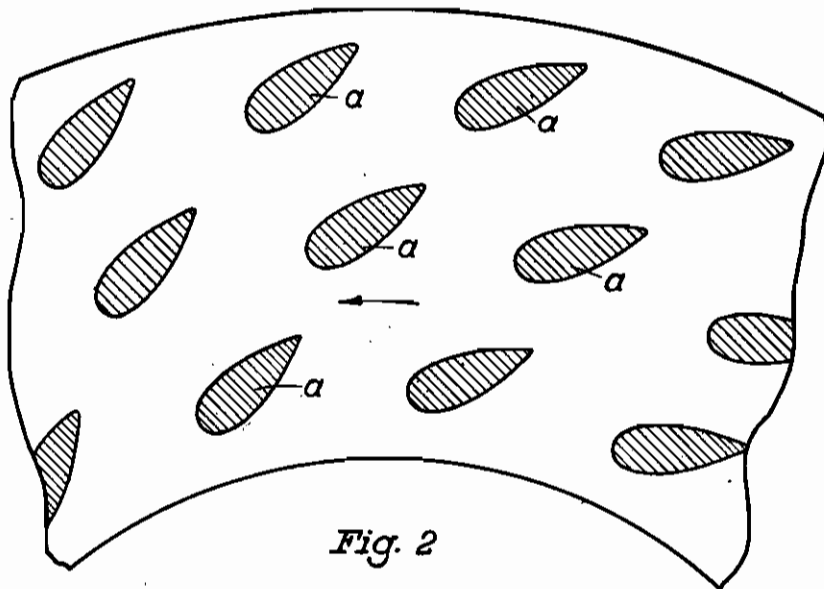


Fig. 2

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DISINTEGRATORLIKE DEVICES

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This invention relates to a disintegrator for purifying, cooling and mixing gases.

In the known types of such disintegrators or disintegrator-like devices possessing both rotary and stationary or only rotary concentric annular frames formed of bars the latter comprise angles, flats, ledges and units having the form of a vane or turbine blade. Of all these kinds of bars at present in use, regardless of their relative arrangement, only the front or striking side thereof of contacting with the gas and liquid mixture is utilized as a rule for the washing effect. In the course of time incrustations of dust form on the back of the bars which require therefore periodical cleaning or replacement. It has been found that this condition is due to the fact that the bars are surrounded by the washing liquid only incompletely or not at all.

The invention eliminates this drawback by imparting to the bars a drop-shaped section which offers minimum resistance to a flowing medium which, furthermore, surrounds the entire surface thereof, so that the full surface of the bars is utilized for washing, cooling or mixing a gas. This shape of the bars affords, moreover, the added advantage that a rarified air space creating a suction effect cannot form and the power consumption of the device can thus be considerably reduced. Still another advantage is that incrustations cannot form on the surfaces of the bars.

The bars according to the invention may be solid or hollow, but their direction must be adapted to circumferential speed and the speed of travel of the gas while taking into consideration that always the entire circumference is uniformly surrounded by the washing, cooling or mixing liquid. In the most favorable position the longitudinal axis of the drop-shaped section is parallel to the direction of flow of the medium surrounding the body.

The invention is illustrated by way of example in the accompanying drawing, in which

Figure 1 shows part of a disintegrator according to the invention provided with a stationary annular frame of bars and rotary frame sections and

Fig. 2, the use of rotary bars only

In the construction shown in Fig. 1 the rotary sections of the frame are formed of bars *a* and the stationary section of bars *b*. The direction of motion is indicated by arrows. It will be seen that in the rotary sections the bars *a* have a direction coinciding approximately with the direction of rotation whilst the direction of the bars *b* in the stationary section is almost directly opposed thereto.

In the arrangement shown in Fig. 2 all the bars *b* are set in the same direction, namely, the direction of rotation.

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