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Ger. pat. No. 513,288 dated November 25, 1930
to Edward Theisen in Munich
entitled
Process for the Purification of Gases, Air, Vapors etc.

The patent 388,857 refers to a gas-washing device. The distances of cone surfaces are so narrow that with the washer rotating and scrubbing liquid added, a screen of the liquid will be formed through which the gas to be purified is passed. The dotted or printed lines of picture 1 of patent 388,857 represent the screen of the liquid. The narrow distances between the cone surfaces are responsible for the formation of deposits. It was found out by experiments that the purifying effect is still maintained although larger distances are used. The purification effect is then not performed by passing the gas through screens of liquid as described by patent 388,857. The purification effect is now due to the rotating cone surfaces which act like the wall of a centrifuge. The liquid and the dust particles are pressed against the cone surfaces whereby the dust particles are separated from the lighter gas or air and are carried away by the liquid. Based on the above described perception, the new process, which is suitable for the purification of gases, works as follows:
By the centrifugal effect of rotating discs of any shape which are connected together the scrubbing liquid as well as the dust-tar-particle etc. due to the difference of their specific gravity are deflected to the walls of the centrifuge thus liberating the gas of lower density from the impurities.

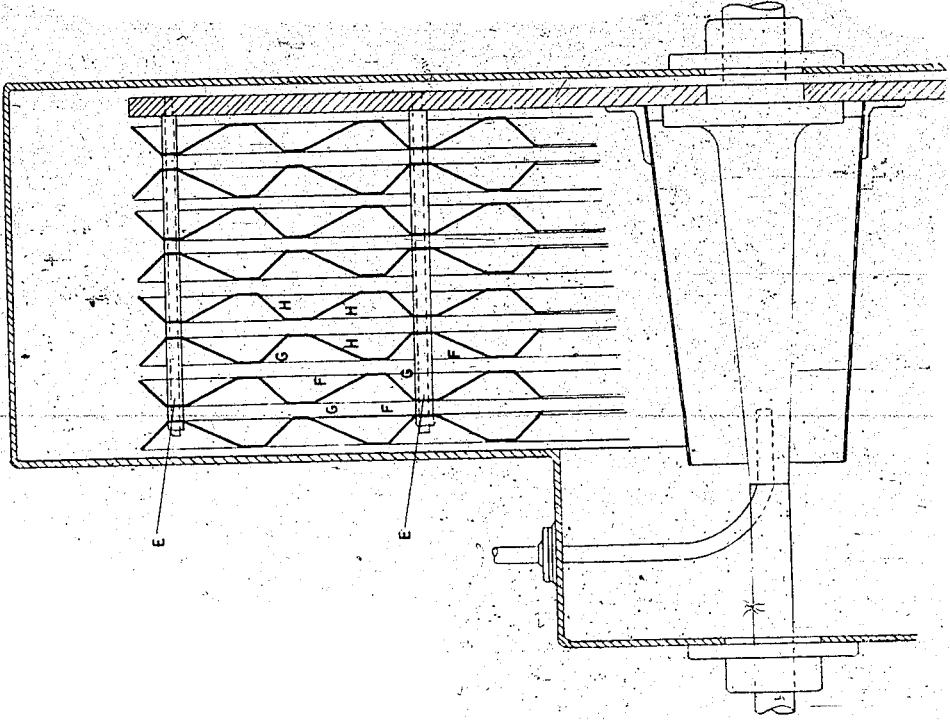
The device which is suitable for carrying out the described process consists of numerous superimposed conical or corrugated rotating discs which are arranged with distances between them in such a manner that a cylinder like body is formed. The shape of the discs may be similar to that of the already mentioned discs (comp. patent 388,857) but with the difference that larger distances are applied. The larger distance has the advantage that the gas volume passed through the apparatus can be substantially increased, whereby the power consumption decreases. The possibility that deposits are formed is diminished.

The arrows (a) of picture 1 show very clearly how the liquid and the dust particles are deflected to the walls by means of the centrifugal force. The larger dots (b) represent the scrubbing liquid which in the first place, due to its higher density, is deflected to the wall whereas the smaller dots (c) are the lighter dust particles which are superimposed on the liquid; c is the gas liberated from the dust. Picture 2 represents a device which is suitable for carrying out the described process.

Corrugated discs are attached to the bolts (e) in such a manner that adequate distances are maintained. The rotating surfaces are arranged face to face, so that a wider compartment is followed by a narrow one. The gas b- passing through the device is alternately compressed and released thus intensifying the dust extracting effect. The pressure reducing compartments are designated with (f) whereas in (g) the gas is slightly compressed. The dust particles are deflected to the surfaces (h) from which they are washed away by means of the scrubbing liquid. The centrifugal effect is repeated and intensified due to the greater peripheral velocity as soon as the gas approaches the outer parts of the discs.

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PICTURE 3



PICTURE 1

