No. 812,530. PATENTED FEB. 13, 1906.

C. P. SCHWARZ.

SIDE PLATE FOR FILTERS.

APPLICATION FILED OCT. 9, 1905.

Fig. 1.

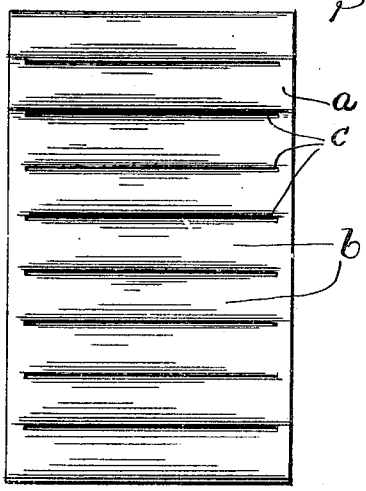


Fig. 2.

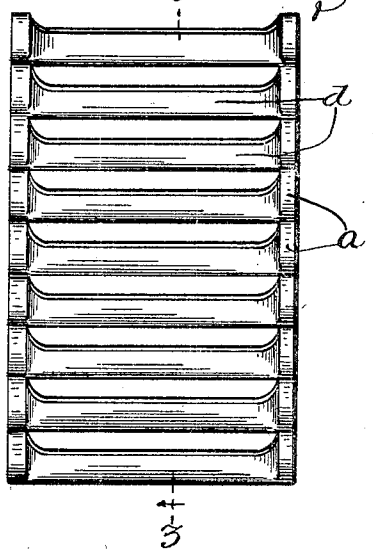


Fig. 3.

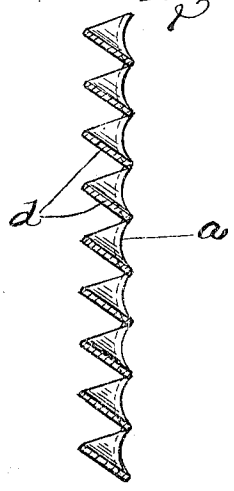
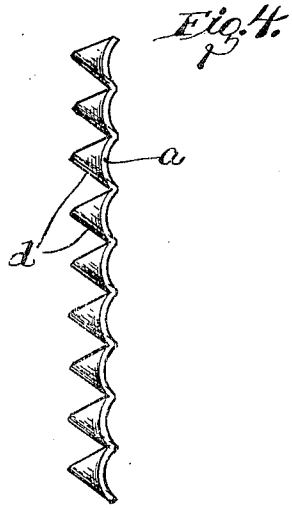


Fig. 4.



WITNESSES:

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SIDE PLATE FOR FILTERS.

No. 812,530. Specification of Letters Patent. Patented Feb. 13, 1906.

Application filed October 9, 1905. Serial No. 281,902.

To all whom it may concern:

Be it known that I, CONSTANTINE P. SCHWARZ, a citizen of the United States of America, residing at Elyria, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Side Plates for Filters; and I 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.

This invention relates to new and useful improvements in plates for supporting granular substances.

The object of this invention is to provide a side plate for a filter formed from a single sheet of metal or similar material which will have sills beneath the openings in said plate of greater width than the height of said openings.

My invention therefore consists in the features of construction and combination of parts, as described in the specification, pointed out in the claims, and illustrated in the accompanying drawings.

In the usual construction of filters using sand or similar material as a percolating medium the sand is inclosed between side plates in which are formed openings, and the material, which is cut away to form each opening, is bent out beneath the opening to form a sill. The sill therefore is somewhat less in width than the height of the opening. The sills sustain the percolating medium which flows through the openings, and, as is known in the art, the medium escaping through these openings will assume a particular angle, which is known as the "natural" slope of the medium used. The natural slope of sand is approximately thirty degrees, and it will be seen that if the openings in the side plates of a filter have greater height than the width of the sills then in order to effectually prevent the flowing of the sand from the sills the said sills must be tipped up or inclined at a considerable angle from the horizontal, which in practical effect is equivalent to reducing the size of the openings in the plates and which is detrimental to the operation of the filter. Therefore in order to produce an efficient filter the sills must be made wider than the height of the openings through which the sand escapes.

In the accompanying drawings, Figure 1 shows a metallic plate corrugated and slotted preparatory to forming my improved plate. Fig. 2 is a view in elevation of a completed plate. Fig. 3 is a section on line 3 3, Fig. 2. Fig. 4 is an end view.

In forming a plate embodying my invention I preferably proceed as follows: A plate of sheet metal or other suitable material *a* is passed through a corrugating-machine, so as to form in the plate the usual alternate ridges and furrows. The corrugations are so spaced that the distance between the furrows is equal to the approximate height which the openings in the plate are to have when the plate is finished. Horizontal slots *c* are then cut in the plate along the furrows, and each intervening strip of material, which forms a ridge and is indicated in the drawings by the letter *b*, is then forced out and flattened except near its ends where the material joins the body of the plate. The material of the plate thus bent out and flattened forms the sills, which are indicated in their completed form by the letter *d*. The sills thus formed have a greater width than the height of the openings in the plate.

What I claim is—

1. As an article of manufacture, a filter-plate consisting of a series of sills supported on corrugated uprights, said sills being formed integral with said uprights.

2. As an article of manufacture, a filter-plate consisting of a series of sills supported on corrugated uprights formed integral with said sills and the width of said sills being greater than the distance between said sills.

In testimony whereof I sign the foregoing specification in the presence of two witnesses.

CONSTANTINE P. SCHWARZ.

Witnesses:

CHARLES E. COFFMAN,

FRED. STROHMEIER.