

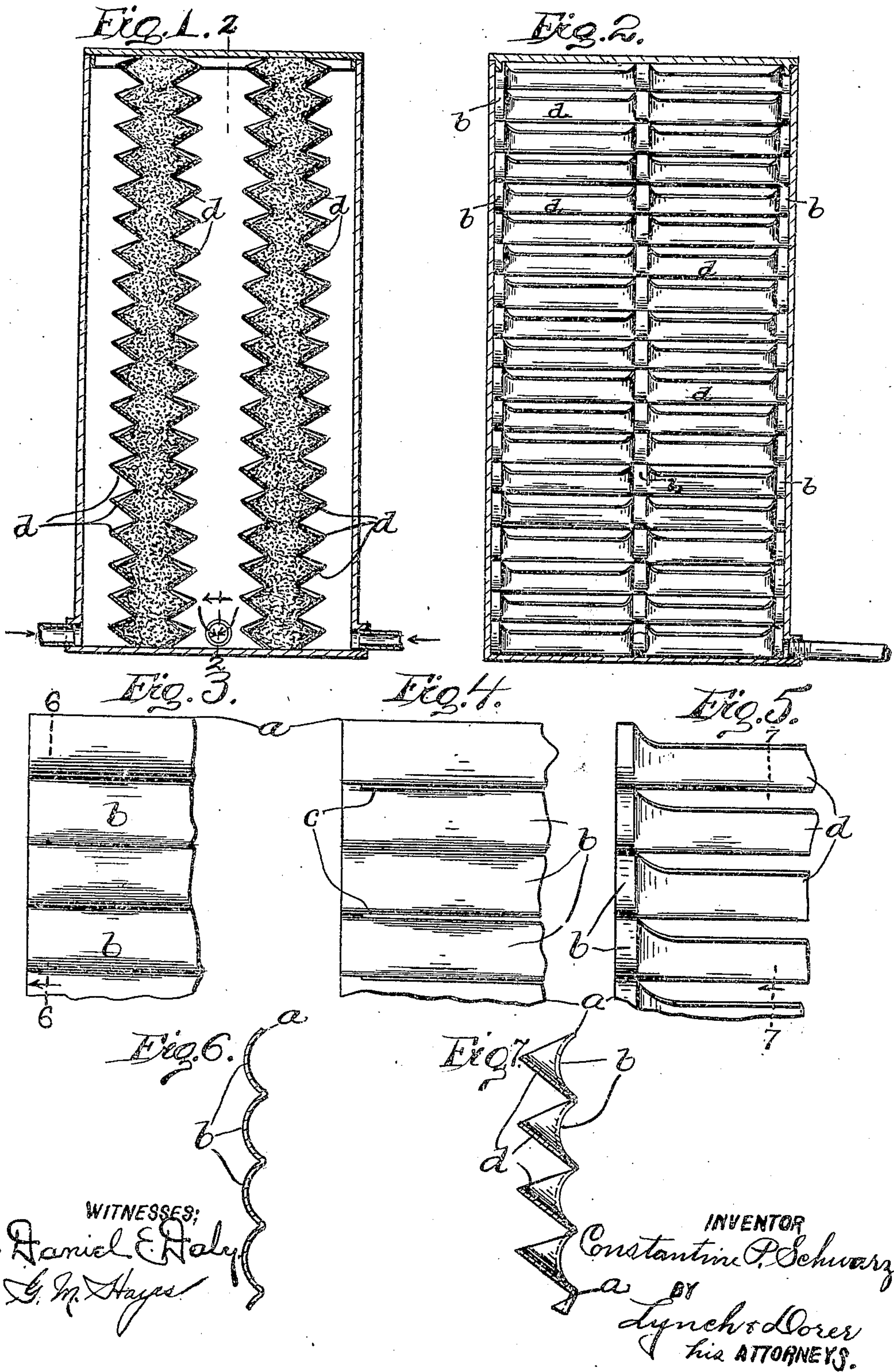
No. 801,404.

PATENTED OCT. 10, 1905.

C. P. SCHWARZ.

PROCESS OF MAKING SIDE PLATES OR GRIDS FOR FILTERS.

APPLICATION FILED JULY 27, 1904.



UNITED STATES PATENT OFFICE.

CONSTANTINE P. SCHWARZ, OF CLEVELAND, OHIO.

PROCESS OF MAKING SIDE PLATES OR GRIDS FOR FILTERS.

No. 801,404.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed July 27, 1904. Serial No. 218,440.

To all whom it may concern:

Be it known that I, CONSTANTINE P. SCHWARZ, a subject of the Emperor of Austria-Hungary, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Processes of Making Side Plates or Grids 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 a process of making side plates for filters.

The object of this invention is to form a side plate for a filter 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 process of making side plates for filters, as described in the specification, pointed out in the claim, and illustrated in the drawings.

In the usual construction of filters using sand or similar material as a percolating medium the sand is inclosed between metallic 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 in central section a filter consisting of two cells embodying my invention. Fig. 2 is

a section on line 2 2, Fig. 1. Fig. 3 shows a section of a plate after it has been corrugated in the first step of forming my improved side plate. Fig. 4 shows a section of a plate after the slots have been cut therein. Fig. 5 shows a section of a finished plate with the material which has been cut to form the openings bent out and flattened to form the sills. Fig. 6 is a section on line 6 6, Fig. 3. Fig. 7 is a section on line 7 7, Fig. 5.

In carrying out my process I 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 of the openings in the plate 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, as shown in Fig. 7. The material of the plate thus bent out and flattened forms the sills, which are indicated in their completed form by the letter *d* and which will therefore have greater width than the height of the openings in the plate. In order to form a cell for a filter, two of the finished plates are secured together by means of end pieces and the space between the plates is filled with sand or other suitable material.

It will readily be seen that my plate can be used in the manufacture of any kind of filter, percolator, or purifier.

What I claim is—

The herein-described process of making side plates for filters, consisting in corrugating a plate of sheet material, then forming slots extending along the furrows between the ridges and then bending out and flattening the ridges to form sills.

In testimony whereof I sign the foregoing specification, in the presence of two witnesses, at Cleveland, Ohio, United States of America.

CONSTANTINE P. SCHWARZ.

Witnesses:

VICTOR C. LYNCH,
G. M. HAYES.