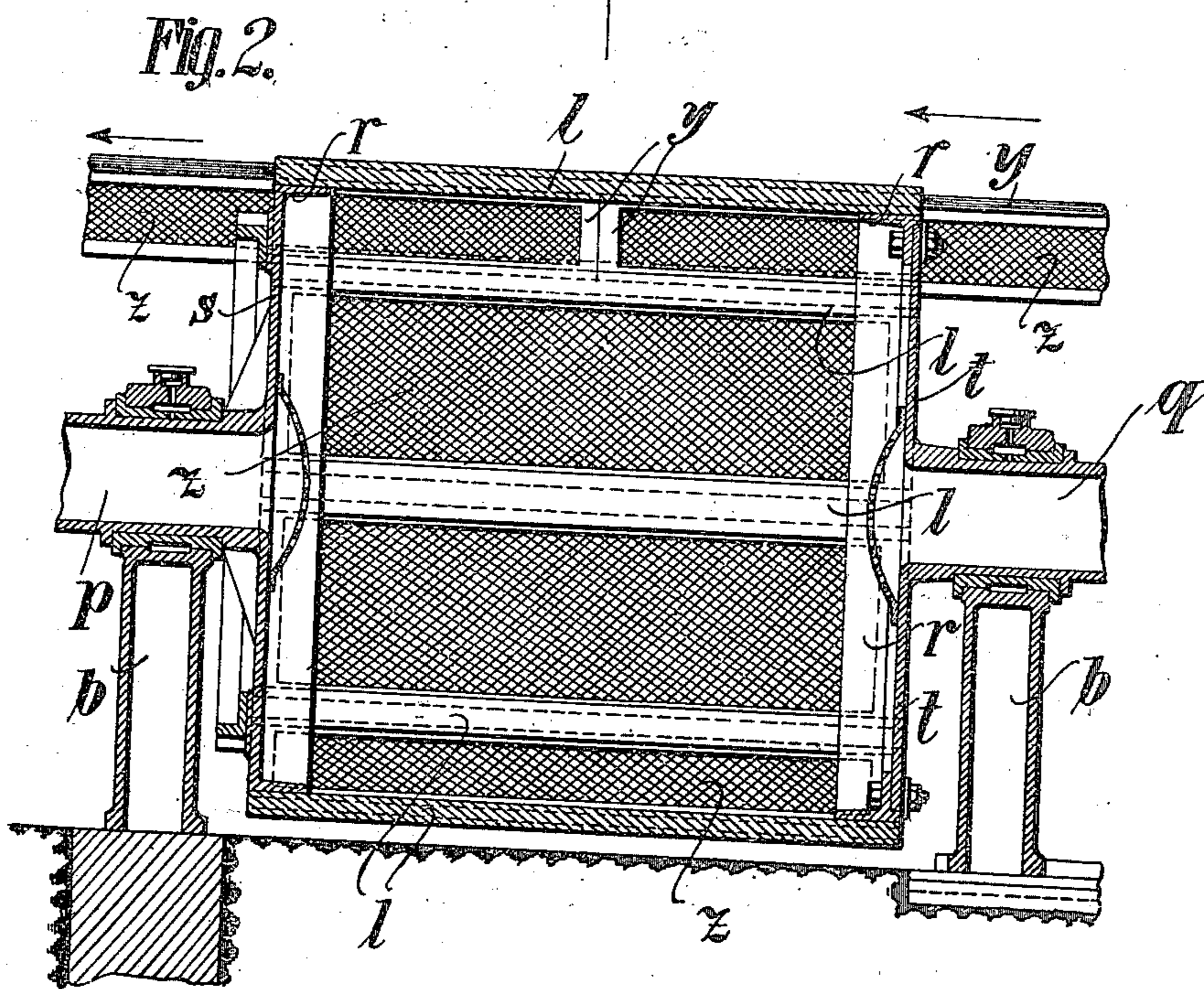
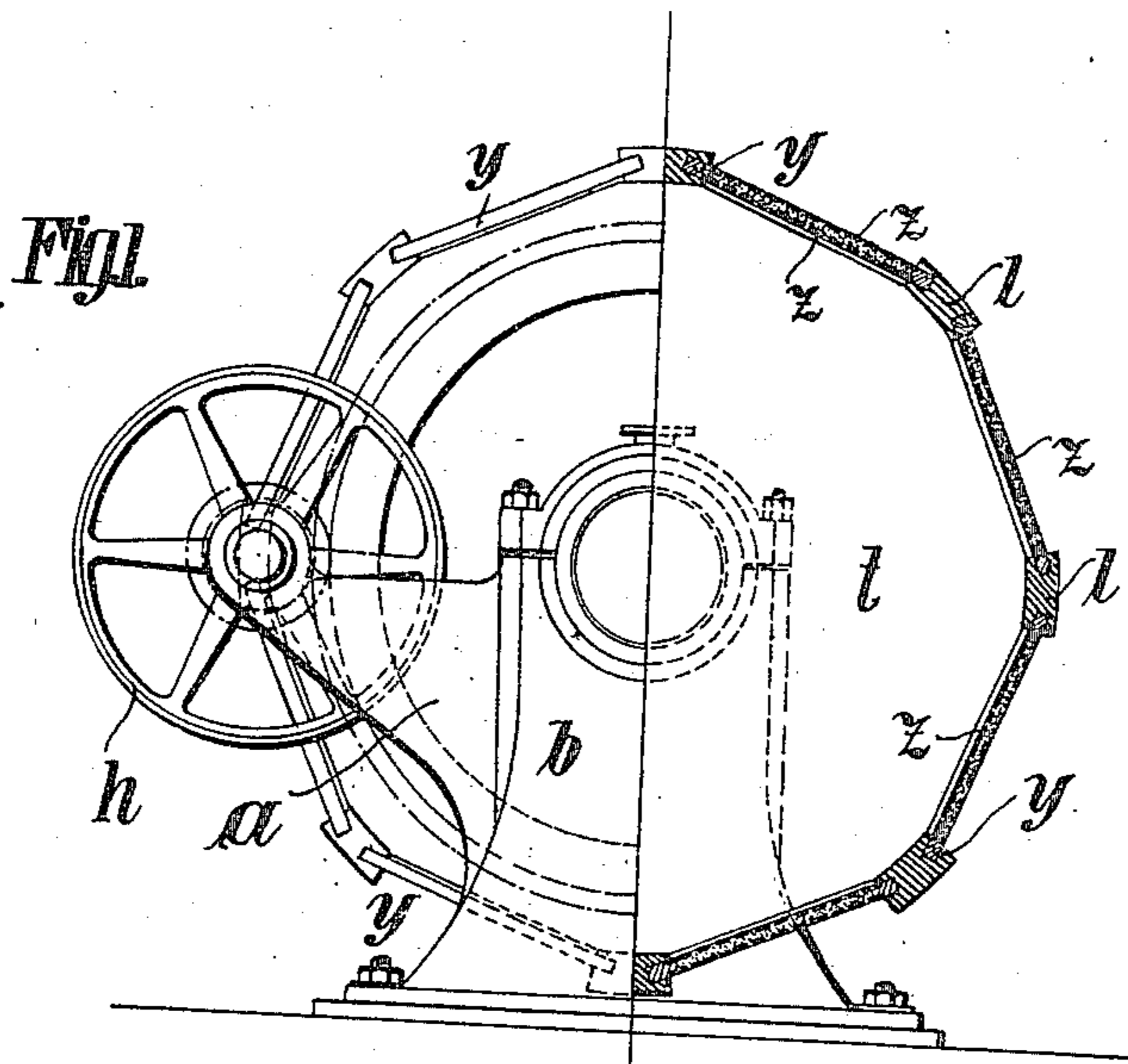


964,377.

W. BLASS.  
AIR FILTER.  
APPLICATION FILED MAR. 15, 1910.

Patented July 12, 1910.



WITNESSES

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# UNITED STATES PATENT OFFICE.

WALTER BLASS, OF ESSEN, GERMANY.

AIR-FILTER.

964,377.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed March 15, 1910. Serial No. 549,485.

*To all whom it may concern:*

Be it known that I, WALTER BLASS, manufacturer, subject of the German Emperor, residing at Essen, in the Empire of Germany, have invented new and useful Improvements in Air-Filters, of which the following is a specification.

The invention relates to an air-filter which consists of a revoluble drum on the circumference of which exchangeable filter-plates are arranged.

The invention consists in bars being arranged on the convex surface of the drum, which bars are accessible from both ends of the drum, and which are provided with longitudinal grooves passing from end to end of them and in which the filter-plates are inserted, so that it is possible to exchange the filter-plates while the apparatus is working, the filter-plates which have been used being pushed out by means of the fresh filter-plates and projecting from the bars at the one end of the drum to the same extent as the fresh filter-plates enter into the bars at the other end of the drum. As the ends of both filter-plates abut directly against one another while the exchange is taking place, it is quite impossible for impure air to penetrate into the filter-drum while the plates are being exchanged.

One form of the air-filter, according to the present invention, is represented by way of example, in the accompanying drawing, in which:—

Figure 1 is to the right of its center line a transverse section of the air-filter, and to the left of its center line an end elevation, while Fig. 2 is a longitudinal section of the air-filter.

The filter-drum ends *s* and *t* which are mounted on the bearing-pedestals *b* by means of hollow trunnions *p* and *q* which are covered over by a disk of sheet-metal or a filter-plate so as to prevent them from communicating directly with the interior of the drum, have the form of a regular polygon and are connected with one another at opposite corners by grooved bars *l* which are secured on the projecting angle irons or flanges *r* of the two ends *s* and *t*. The bars *l* are provided with longitudinal grooves which pass from end to end, into which grooves the filter-frames *y* are inserted from the front end of the drum. For the purpose of holding the filtering material the frames *y* are covered at both sides with fine metal sieves or gauze,

between which a packing of wadding or the like may be laid. On the frames strips of oiled felt or rubber are fastened, so that the frames *y* lie air-tight in the grooves of the bars *l*. The end walls *s* and *t* of the drums might also be provided with excisions of any shape in which likewise filters might be inserted. On the end wall *s* a toothed wheel rim is fixed with which a toothed wheel engages, which wheel is secured on a shaft mounted on the bracket *a* of the bearing-pedestal *b*, which shaft can be turned by means of the hand-wheel *h*. With the trunnions the suction-pipe is connected by means of a stuffing-box—not shown in the drawing.

The above-described device offers the advantage that the individual filter-plates can be exchanged while the apparatus is running without unfiltered air entering into the filter-drum. Further, the supervision of the filter-plates is possible from a single position without any inconvenience. For this purpose the drum is turned by means of the hand-wheel *h* and the toothed gearing until the filter-plate to be exchanged is within easy reach. The used filter-plate which is to be removed is then pushed out at the one end by means of a fresh filter-plate which is inserted as indicated, in Fig. 2, at the other end of the drum and which is then pushed forward in the direction of the arrow, so that no unfiltered air can enter into the drum.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In an air filter, in combination, a drum comprising end plates and bars extending between said plates at the peripheries thereof, said bars being provided with grooves, and filter plates removably supported within said grooves, said grooves extending throughout the length of said bars whereby a new filter plate may be substituted for an old filter plate by inserting it within the grooves and pushing the old one out of position as the new one is placed in position.

2. In an air filter, in combination, a drum comprising end plates and bars extending between said plates at the peripheries thereof, said bars being provided with grooves, means for rotating said drum, and filter plates removably supported within said grooves, said grooves extending throughout the length of said bars whereby a new filter plate may be substituted for an old filter plate by inserting it within the groove and

pushing the old one out of position as the new one is placed in position.

3. In an air filter, in combination, a drum comprising end plates and bars extending  
5 between said plates at the peripheries thereof, said bars being provided with grooves, and filter plates removably supported within said grooves, each of said filter plates consisting of a frame provided with a pair of  
10 sieves spaced from one another and having filtering material therebetween, said grooves extending throughout the length of said bars whereby a new filter plate may be substituted for an old filter plate by inserting  
15 it within the grooves and pushing the old one out of position as the new one is placed in position.

4. In an air filter, in combination, a drum comprising end plates and bars extending

between said plates at the peripheries thereof, said bars being provided with grooves, the grooves on each bar being oppositely positioned with respect to the grooves on adjacent bars and filter plates supported within said grooves, said grooves extending  
20 throughout the length of said bars whereby a new filter may be substituted for an old one by inserting it within the groove with its end abutting the end of the old one, and  
25 pushing the old one out of position as the new one moves into position. 30

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER BLASS. [L. s.]

Witnesses:

OTTO KÖNIG,

CHAS J. WRIGHT.