

1,012,122.

A. BUDIL.
AIR FILTER.
APPLICATION FILED MAR. 17, 1911.

Patented Dec. 19, 1911.
3 SHEETS—SHEET 1.

Fig. 1.

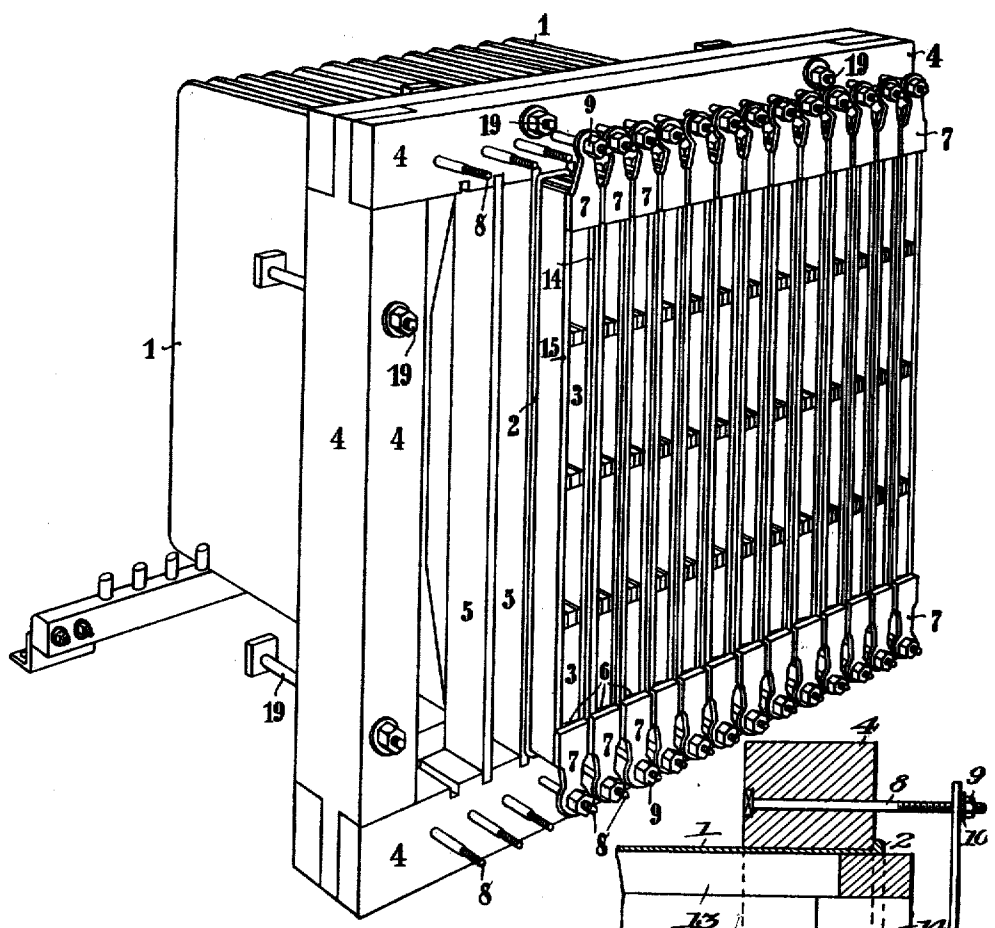
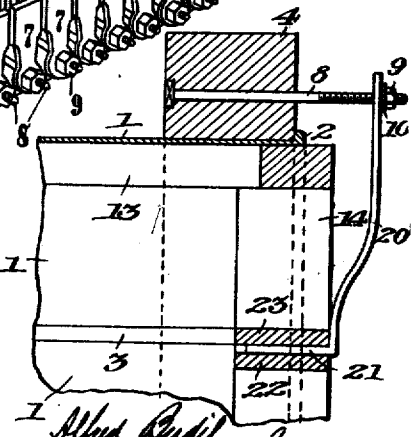


Fig. 6



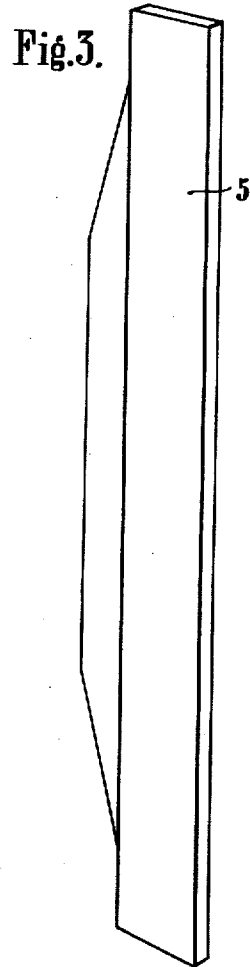
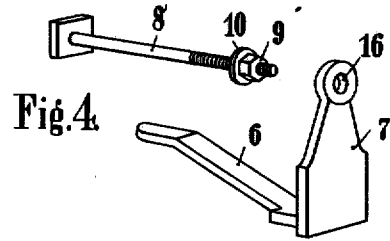
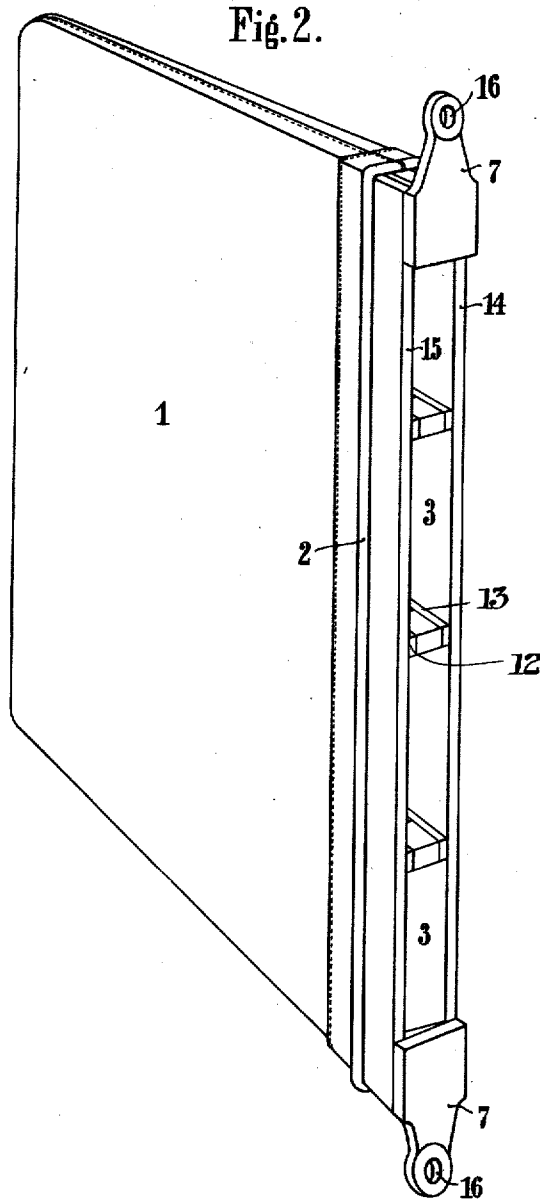
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Alfred Budil, Inventor.
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3 SHEETS-SHEET 2.



Witness:
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R. J. Hulsizer.

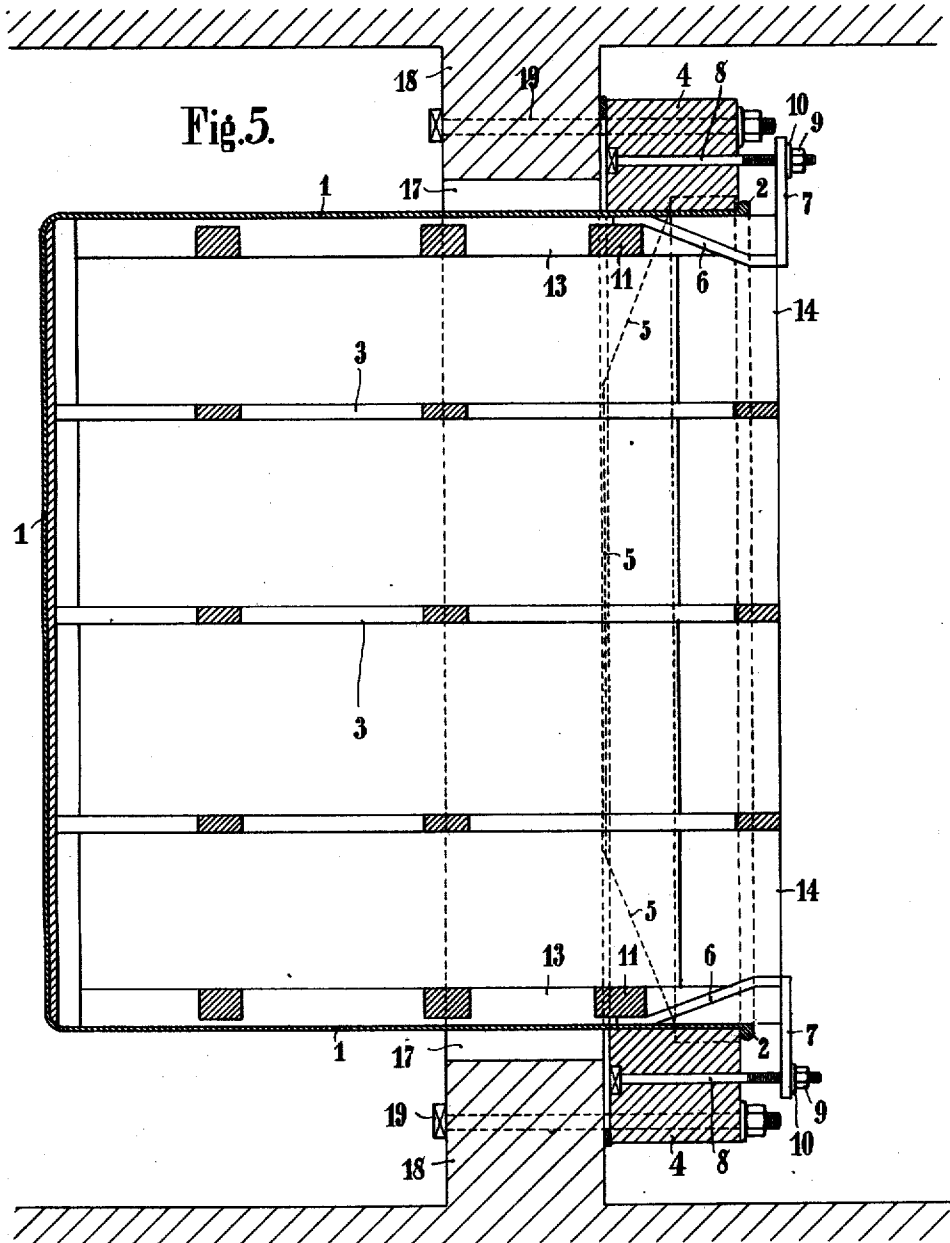
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3 SHEETS—SHEET 3.



Witness:
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UNITED STATES PATENT OFFICE.

ALFRED BUDIL, OF BRACKWEDE, GERMANY.

AIR-FILTER.

1,012,122.

Specification of Letters Patent.

Patented Dec. 19, 1911.

Application filed March 17, 1911. Serial No. 615,110.

To all whom it may concern:

Be it known that I, ALFRED BUDIL, a citizen of Austria, residing at Brackwede, Germany, have invented certain new and useful Improvements in Air-Filters, of which the following is a specification.

The present invention relates to an air filter with pockets of the known kind, in which the filter cloth consists of a plurality of pockets.

The object of the invention is to provide new means for securing the filter cloth pockets to their frames, these means at the same time insuring a greater tightness of the joint and simplifying and facilitating the fitting of the filter pockets. For this purpose each filter pocket is provided with a bead running along the outside of the edge of its mouth; this bead is pressed by the frame, into which the filter cloth pocket is fitted and tightly held, against the gap between the pocket frame and the main frame combining the several pocket frames.

The invention further relates to means which will in a simple manner keep the pocket frames under tension and provide the pressure required for obtaining a close joint between the filter cloth and the frame.

The invention is described with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of the filter, composed of a plurality of pockets and frames, of a type intended to be arranged in a brick-wall; Fig. 2 is a perspective view of a pocket frame with a pocket made of filter cloth; Fig. 3 is a part of the main frame combining the pocket frames with the filter cloth pockets; Fig. 4 is the device for clamping the filter cloth pocket to the pocket frame; Fig. 5 is a longitudinal section through the filter; Fig. 6 is a longitudinal section through another constructional form of the clamping device.

The invention consists firstly in the filter cloth pocket 1 (Fig. 4) which is sewn of any kind of cloth suitable for the purpose. The pocket is preferably made in the shape of a wedge and is provided at its mouth with a bead 2, which may be made by seaming or turning over the stuff, and in doing so an elastic cord may be introduced into the bead. The filter cloth pocket is then drawn over a pocket frame 3, preferably made of wood, the shape of which is evident from Fig. 3; this frame may have any suitable shape, which does not relate to the sub-

ject of the present invention and is therefore not specified. Fig. 2 shows the pocket frame 3 covered with the filter cloth pocket 1. The frames 3 thus covered with the filter cloth pocket are fitted into a main frame 4, which is divided by transverse bars 5 (Fig. 3) into the respective number of compartments. The bead 2 is intended to produce a tight joint with the openings formed by these bars 5. For this purpose the pocket frame is put under pressure so that it is forced into the pockets until the bead 2 is tightly pressed against the edges of the bars 5 and the main frame 4. For producing this pressure a clamping device of the constructional form shown in Fig. 4 may be employed. This device consists of an angularly bent member with the arms 6, 7 and the anchoring bolt 8 with nut 9 and washer 10. The arm 6 of the member is of such a length and shape, that its outer end will rest upon the bar 11 of the pocket frame and the arm 6 itself will fit between the longitudinal bars 12, 13. The arm 7 is of such a shape and width, that it will rest on the bars 14, 15 of the pocket frame 3; the arm 7 has a bore 16 through which the bolt 8 may be passed. When this angularly bent member has been fitted in the described manner, and the nut 9 is tightened, the pocket frame 3 will be forced into the filter cloth pocket, so that the latter is pulled tight over the frame. Each pocket and pocket frame respectively is fitted at each end with such an angularly bent member with anchoring bolt 8, as is evident from Fig. 1. The anchoring bolts are secured in the main frame 4 (Fig. 5). After the filter has been assembled according to Fig. 1, the main frame is secured by means of anchoring-bolts 19 in front of the opening 17 in the brick-wall 18.

In the constructional form shown in Fig. 6 the clamping arrangement consists of a spring 20, which engages with an arm 21 between the bars 22, 23 of the pocket frame 3. The spring is held in the same manner as described with the former constructional form by means of bolts 8. The spring device has the advantage, that the filter cloth will be held taut even if after some time it should have stretched.

I claim:

1. An air filtering device comprising a frame having an opening therein, a filter fitting into said opening, said filter consist-

ing of a pocket shaped receptacle of cloth having a compressible bead about its mouth and an open-work support about which said pocket fits, and means connected to said frame and engaging said support for causing said bead to seal the joint between the bead and frame.

2. An air filtering device comprising a frame having series of openings therein, a series of filters fitting into said openings, each filter consisting of a pocket shaped receptacle of cloth having a compressible bead about its mouth and an open-work support about which said pocket fits, and means connected to said frame and engaging said supports for causing said beads to seal the joints between the beads and frame.

3. An air filtering device comprising a frame having an opening therein, a filter fitting into said opening, said filter consisting of a pocket shaped receptacle of cloth having a compressible bead about its mouth and an open-work support about which said pocket fits, a holding device consisting of a member having one portion thereof engaging said support, a bolt secured to the frame and passing through said member, and a nut on the free end of said bolt.

4. An air filtering device comprising a frame having an opening therein, a filter fitting into said opening, said filter consist-

ing of a pocket shaped receptacle of cloth having a compressible bead about its mouth and an open-work support about which said pocket fits, a holding device consisting of a resilient member having one portion thereof engaging said support, a bolt secured to the frame and passing through said member, and a nut on the free end of said bolt.

5. An air filter comprising a cloth pocket, an open-work support within and distending said cloth, said pocket having a compressible bead about its mouth.

6. An air filter comprising a cloth pocket, an open-work support within and distending said cloth, said pocket having a compressible bead about its mouth, and said bead consisting of a hemmed-over portion of the cloth.

7. An air filter comprising a cloth pocket, an open-work support within and distending said cloth, said pocket having a compressible bead about its mouth, said bead consisting of a hemmed-over portion of the cloth, and an elastic cord inside of the hem.

In testimony whereof, I affix my signature in presence of two witnesses.

ALFRED BUDIL.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.