

March 10, 1964

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3,124,441

POCKET-TYPE FILTERS

Filed April 17, 1961

2 Sheets-Sheet 1

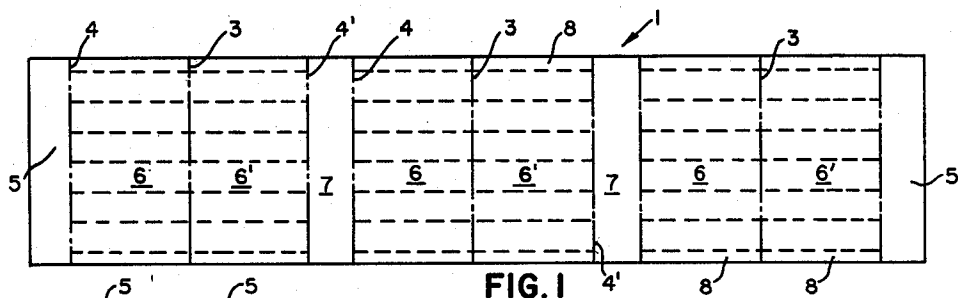


FIG. 1

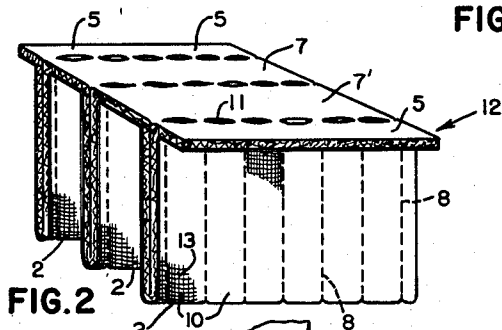


FIG. 2

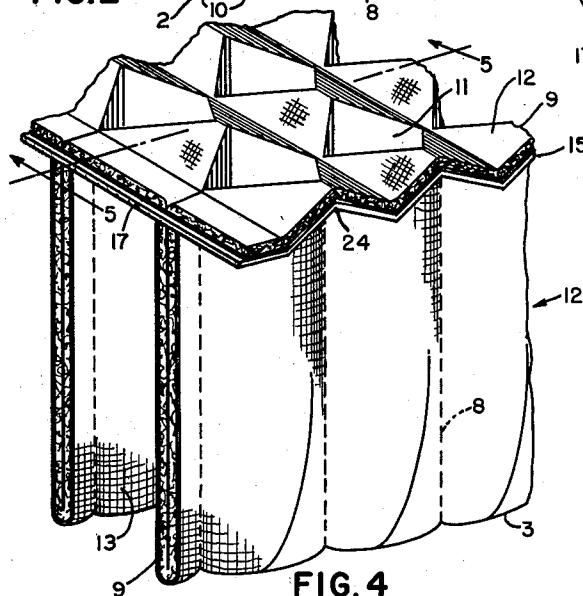


FIG. 4

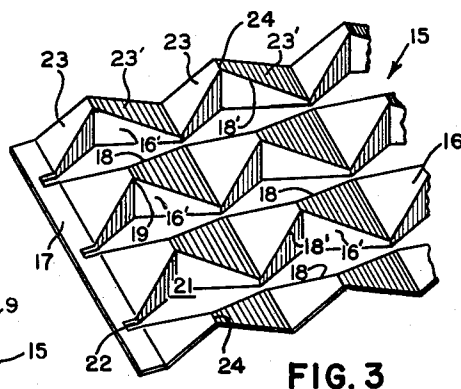


FIG. 3

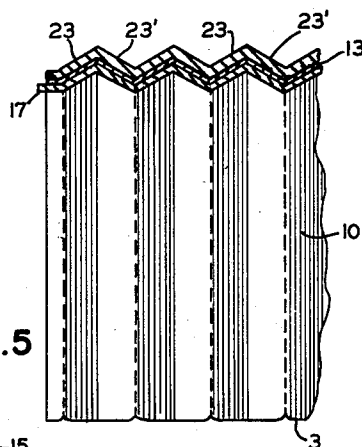


FIG.5

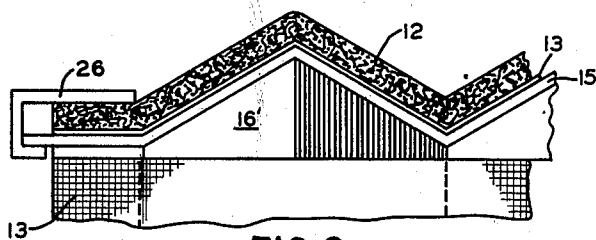


FIG. 6

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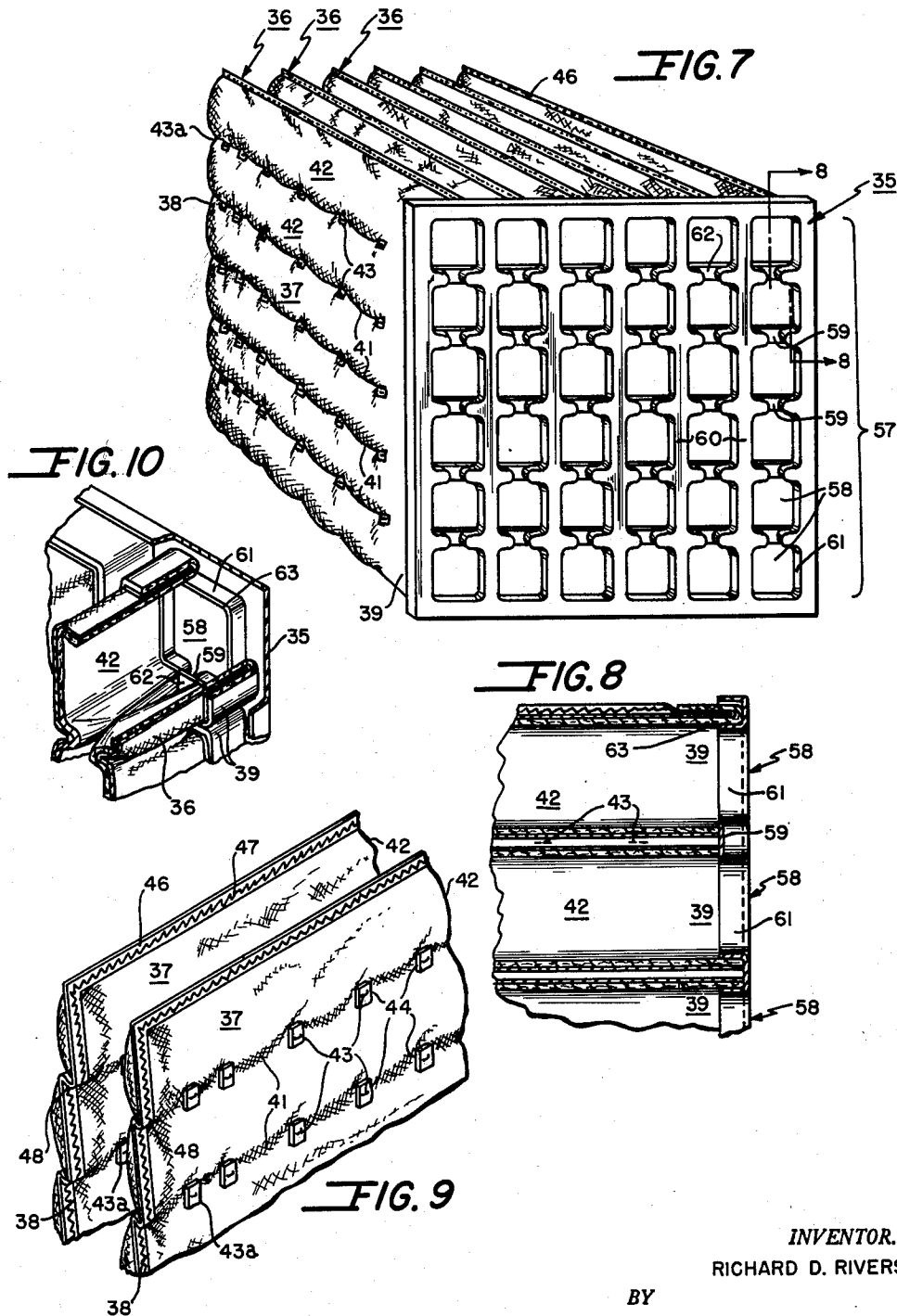
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POCKET-TYPE FILTERS

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16 Claims. (Cl. 55—500)

This invention relates to fluid filters and more particularly to high efficiency pocket-type air filters.

This application is a continuation-in-part of my application Serial No. 702,094, filed December 11, 1957, now abandoned.

Pocket-type air filters are known which include a permanent partition extending across an air stream to be filtered, the partition including a plurality of uniformly spaced apertures, each of which receives a removable and disposable air filter pocket in the form of a tubular bag or sack of porous filtering material. To renew the filtering pockets of these past arrangements, a securing mechanism for each pocket, as well as each pocket, has had to be individually removed in a comparatively time and labor consuming operation and, in a further time and labor consuming operation, a new pocket of special construction has had to be inserted in its place, along with the reinstallation of each of the individual securing mechanisms.

The present invention avoids these past difficulties by providing a unitary pocket-type filter arrangement which includes a one piece filtering medium that can be effectively and inexpensively manufactured from a web of flexible filtering material with a minimum of waste and which can be effectively assembled and disassembled in a fluid stream to be filtered without the previously required complex clamping arrangements. In addition, the present invention provides a fluid filter structure having a straight forward readily constructed, inexpensive and rapidly assembled and disassembled filter pocket supporting arrangement which maintains the mouth of the pockets in opened position to receive the fluid stream to be filtered.

Various other features of the present invention will become obvious to one skilled in the art upon reading the disclosure set forth herein.

More particularly, the present invention provides a pocket-type fluid filter comprising a web of flexible filtering material advantageously faced on the downstream side thereof with a sheet of scrim-like porous material to impart tensile strength thereto, the flexible material having at least one fold line on the web dividing such web into at least one pair of pleat forming sections having terminal supporting portions remote from such fold line, the pleat forming sections being folded along with the scrim-like material so that the pleat forming sections face each other and form a pleat, spaced seams extending across such pleat transverse to the fold lines to join the facing sections of the pleat and form at least two pocket members having an open-end mouth adjacent the supporting portions of the web, and means co-operable with the supporting portions to maintain the mouth of the pocket member in opened position to receive a fluid stream to be filtered. In addition, the invention also provides a unique seam construction for forming pocket members in the flexible material with a minimum of tearing stress, such construction insuring that the formed pocket members operate with increased filtering efficiency.

It is to be understood that various changes can be made in the arrangement, form and construction of the apparatus disclosed herein without departing from the scope or spirit of the present invention.

Referring to the drawings:

FIGURE 1 is a face view of a web of flexible filter

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material which can be used to form the filtering media of the invention, the broken lines illustrating where the material can be folded and seamed;

FIGURE 2 is an enlarged perspective view of the web of FIGURE 1 after it has been folded and seamed to form a filter unit, the unit being faced with a scrim-like porous material;

FIGURE 3 is an enlarged perspective view of a portion of a frame member which faces the supporting portions of the folded and seamed web which forms a filter unit;

FIGURE 4 is an enlarged perspective view of a portion of the unit of FIGURE 2, such unit having the frame member of FIGURE 3 in faced contacting relationship with the supporting portions thereof;

FIGURE 5 is a section taken in a plane passing through line 5—5 of FIGURE 4;

FIGURE 6 is an enlarged end view of a portion of the unit of FIGURE 4, disclosing a flexible L-shaped border member co-operating with the border of the frame member to clamp the filtering media in position;

FIGURE 7 is an overall perspective view of another arrangement of the invention;

FIGURE 8 is an enlarged fragmentary sectional view, taken on the line 8—8 of FIGURE 7;

FIGURE 9 is an enlarged oblique view of a portion of the downstream end of the formed pocket members of FIGURE 7; and,

FIGURE 10 is an oblique view, partly in section, of a portion of FIGURE 7, taken from the reverse side thereof.

Referring to FIGURE 1 of the drawings, a web 1 of flexible filtering material is disclosed. The web 1 can be made from any one of a number of suitable air filtering materials which are relatively non-stretchable and porous in nature and advantageously a woven fabric or a fibrous glass type material having fibers of substantially one micron in size can be used. In order to provide tensile strength to web 1 and to insure that the filter unit formed therefrom be self-supporting when the web is positioned in the fluid stream to be filtered, web 1 can be faced with a scrim-type material 13 (FIGURES 2 and 4), this material being stronger in nature than web 1 and of maximum porosity. As can be seen in FIGURE 1, web 1 is provided with sets of spaced parallel fold lines 4, 3, 4', the fold lines serving to divide the web into pairs of pleat forming sections 6, 6' which have the common fold line 3 and which pairs of pleat forming sections are interposed between end supporting portions 5 and intermediate supporting portions 7 of web 1.

Referring to FIGURE 2, it can be seen that by folding the pleat forming sections 6, 6' of each pair of sections about its common fold lines 3, along with the scrim-type material 13, pleats 2 are formed, the pleats 2 being spaced from each other by intermediate supporting portions 7 of web 1. After the sections have been folded to form pleats 2, they can be joined together by sewing or other similar means along spaced seams 8, seams 8 extending across pleats 2 transverse to and between common fold lines 3 and lines 4, 4'. The spaced seams 8 divide each pleat 2 into rows of side-by-side pockets 10, each pocket 10 having a closed end formed at the fold line 3 and an open-end mouth portion 11 outlined by fold lines 4, 4'. Thus, it can be seen that a one piece filtering unit 12 is formed from web 1, the unit being faced by scrim-type material 13.

In order to support the one piece filtering unit 12 across an air stream to be filtered, a frame member 15 is provided (FIGURE 3). This frame member which is co-operable with the supporting portions 5 and 7 of the web that forms unit 12 can be formed from suitable sheet material by conventional stamping or drawing methods

or, if so desired, can be formed from several pieces of rigid material fastened together by welding or like means. The frame member 15 includes spaced border members 17 (only one of which is shown), the border members having parallel longitudinally extending bars 16 running intermediate and transverse thereto. Bars 16 are so spaced from each other that pleats 2 of unit 12 can pass therebetween in such a manner that the bars 16 face the end and intermediate supporting portions 5 and 7, respectively, of the web 1 which forms unit 12. It is to be noted that in order to accommodate the side ends of pleats 2 when unit 12 is assembled with frame 15, borders 17 of frame 15 are provided with notches 22, these notches being positioned at the extremities of the spaces formed between bars 16.

It has been found desirable that mouths 11 of pockets 10 be maintained in open position when the unit 12 is placed in filtering position, and, in order to successfully accomplish this, the present invention provides confronting edges 18, 18' of spaced bars 16 with a series of V-shaped notches 19, the notches of confronting edges forming a series of substantially diamond shaped apertures 21 between the bars 16 for receiving pockets 10 of pleats 2. In addition, each bar 16 is provided with a series of spaced raised portions or crests 24 in the form of sharp peaks that are formed intermediate opposed sloping surfaces 23 and 23' of bars 16, each of the crests 24 being positioned at the apex of a V-shaped notch 19. Accordingly, with such an arrangement, when the bars 16 contact the supporting portions 5 and 7 of the unit 12 they substantially surround the mouths 11 of the pocket members 10 with the crests 24, located on opposite sides of the mouths 11, displacing the supporting portions of the web and maintaining the mouths of each pocket member in opened position. It is to be noted that in forming frame member 15 by stamping means, a single sheet of flexible material can be used. This sheet of material can be slit longitudinally in a number of spaced parallel slits with the material adjacent the slits being bent away therefrom to provide the aperture spaced bars 16 having depending side wall portions 16'. Side wall portions 16' serve to add rigidity to frame 15 and further serve to help support the individual pockets 10 of unit 12. In this connection, it also is to be noted that when the material is bent away from the slits to form the depending side wall portions 16', a resulting displacement of the remaining material of the bars 16 occurs to thus form crests 24 intermediate opposed sloping surfaces 23 and 23'. It further is to be noted that, although the confronting edges 18, 18' of bars 16 are disclosed as being contoured to form a series of apertures of substantially diamond shape, the shape of these apertures can be varied, if so desired. For example, the notches, instead of being V-shaped, can be contoured to form substantially lemon-shaped apertures. If such were the case, crests 24 would not be sharp peaked but would be rounded in a curvature dependent upon the curvature of the apertures in the confronting edges of the bar.

In assembling the filter apparatus, pleats 2 of unit 12 are passed through the spaces formed between bars 16 of frame 15, each pocket member 10 of each pleat 2 passing through an aperture 21 formed by the notches 19 in confronting edges 18, 18' of bars 16. When bars 16 of frame 15 contact the supporting portions 5 and 7 of web 2 so that spaced crests 24 displace these supporting portions and maintain mouths 11 of pockets 10 in opened position, second border members 26, which are of flexible material and which are of L-shape to co-operate with border members 17 (only one being shown in FIGURE 6), can be fastened in mating position with such border members 17 to clamp unit 12 therebetween, the overall filter structure then being ready for use in a fluid stream to be filtered.

The use of the word "air" herein and in the appended claims includes other gaseous fluids.

Referring to FIGURE 7 of the drawings, the arrangement of the invention there disclosed broadly includes integral, apertured frame member 35 adapted to support a plurality of separate, spaced pocket forming webs of flexible material 36. Each web 36, which advantageously can be of scrim reinforced material similar to web 1 of FIGURE 1 and which is constructed in a similar manner, comprises a pair of pleat forming sections 37 having a mid-point fold line 38 about which the pair of pleat forming sections are folded to face each other and form a pleat. Each of the pleat forming sections 37 of each web has a terminal supporting portion 39 disposed remote from the mid-point fold line 38.

As in web 1, the faced pair of pleat forming sections 37 of each web 36 is joined together along spaced seams 41 which extend across the pleat transverse to the mid-point fold line 38 to divide the pleat formed from each web into rows of side-by-side pockets 42. Each pocket 42 has a closed end formed at mid-point fold line 38 and an open-end mouth portion formed adjacent the terminal supporting portions 39 which form the mouth of the pleat. The pleat forming sections 37 of each web 36 can be fastened together along seams 41 by sewing, as aforesaid; or, advantageously, spaced rows of spaced fastener means, such as wire staples 43, can be used in order to reduce the number of perforations in the material and prevent scoring thereof. Wire staples 43, which can be any one of a number of conventional types and which can be applied by conventional stapling machines, are positioned in spaced relationship to each other along seams 41 of a pleat to join the pleat sections and form pocket members 42 therein. (FIGURE 9). It is to be noted that suitable reinforcing tab means 44 can be used in conjunction with each of staples 43 to minimize possible tearing of the flexible filter web material adjacent the staples. Tabs 44 can be formed from any one of a number of suitable materials, such as cardboard, which can be readily pierced by staples 43. It further is to be noted (FIGURE 9), that the spacing between staples 43 in each row of staples along seams 41 can be desirably substantially equal to the spacing between seams 41 with the exception of that staple 43a immediately adjacent mid-point fold line 38. This staple 43a is advantageously spaced from such fold line 38 a distance which would be less than the diameter of pocket 42 when it is inflated by an air stream to be treated. Such spacing limits the inflation of that portion of the pockets of the web disposed adjacent mid-point fold line 38 to a size smaller than the remaining portions of the pocket members of the web disposed remote from the fold line during air treating operations. Thus, the possibilities of having corresponding portions of the pockets adjacent fold lines 38 of adjacent webs abut against each other during air treating operations with a consequent increase in resistance is minimized, if not avoided.

As can be seen in FIGURES 7 and 9 of the drawings, pleat forming sections 37 of each web are fastened together along three sides of the periphery of the formed pleat by means of a stitched binder tape 46. Tape 46, which can be of suitable cloth material, is folded to embrace the peripheries of the pleat and then the pleat forming sections and the tape 46 are stitched together with a conventional stitching machine. It is to be noted (FIGURE 9) that a zig-zag type stitch as at 47 can be employed to fasten the sections together. This zig-zag type stitch serves to enhance fastening strength and to minimize possible tearing which might otherwise be brought about by a material scoring effect produced with a straight-type stitch. It further is to be noted that suitable tucks 48 (FIGURE 9) can be advantageously employed at the downstream end of each of the pocket formed webs 36 along the mid-point fold lines 38. Tucks 48 are preferably positioned along the mid-point fold

lines in alignment with seams 41. These tucks are of sufficient size to insure that the distance along the mid-point fold line is substantially equal to the distance across the rest of the pocket members of each web when the pocket members are inflated during air treating operations. Thus, during such operations of the apparatus, the downstream end of each web 36 is not wider than the remaining portions thereof.

To support the plurality of separate pocket formed webs 36 across an air stream to be filtered, the abovementioned frame member 35 is provided. This frame member, like frame member 15 aforescribed, can be formed from a suitable sheet material by conventional stamping or drawing methods; or, if so desired, can be formed from several pieces of rigid material fastened together by welding or like means. As shown in FIGURES 7, 8 and 10 frame member 35 is provided with spaced, parallel longitudinally extending air inlet passages 57 determined by spaced bars 60. The opposed peripheral longitudinal sides of bars 60 along opposite sides of each air inlet passage 57 are contoured to present a plurality of successively opposed crests and valleys so that each air inlet passage 57 is in the nature of a row of spaced apertures 58 formed by the opposed valleys and crests. As illustrated, the narrow channel portions 59 disposed between opposed crests interconnect the apertures 58. These narrow channel portions 59 can be bridged by a thin strip of material as at 62 to strengthen the overall frame structure. Extending along the periphery of each air inlet passage 57 in the opposed crest and valley contour conforming with the contour of a gas inlet passage periphery is a continuous dependent side wall 61. It is to be noted that, in effect, each side wall 61, which serves to support a web 36, as described hereinafter, surrounds substantially all but that small portion of apertures 58 of an aperture row where such apertures are joined one to another by channel portions 59.

As can best be seen in FIGURES 8 and 10 of the drawings, the downstream edge of each depending side wall 61 is rounded as at 63 along the entire periphery thereof, the rounded edge serving to minimize possible tearing of the flexible material of web 36 when the supporting portions 39 are fastened to such side wall 61. In assembling a web 36 of flexible material onto a side wall 61, the inner surface of the terminal supporting portions 39 of the web is positioned in faced relationship with the outer surface of the depending side wall 61. In this connection, it is to be noted that the total peripheral distance along the outer surface of the depending side wall 61 is substantially equal to the total peripheral distance along the inner surface of such supporting portions. It also is to be noted that the peripheral distance of the outer surface of the side wall portion around each aperture 58 is substantially equal to the peripheral distance along the inner surface of the supporting portion of the web adjacent the pocket member with which the aperture of the frame is aligned. In view of the aforescribed relative dimensioning of the depending side wall portions 61 of the frame and the supporting portions of the webs 36, a snug fit is obtained in assembling each web to a depending supporting wall, the crest and valley contour provided in walls 61 serving to displace the supporting portions of the webs to maintain the mouths of the pocket members in open position to receive a fluid stream to be treated. Further, as a result of such snug fit, undesirable slack of flexible filtering material which could lead to gas leakage at the area of juncture is minimized.

To fasten the supporting portions 39 to the side walls 61, it is to be understood that any one of a number of suitable fastening means can be used. For example, any one of a number of well known commercial cements capable of providing a tight seal between the material and the depending wall to avoid gas leakage can be employed. Finally, it is to be noted that in accomplishing the assembly of supporting portions 39 of the webs 36 to the walls

61, the webs are advantageously (FIGURES 8 and 10) doubled at the area of juncture to provide reinforcement and to reduce the possibilities of material tearing.

The invention claimed is:

1. A pocket type fluid filter comprising: flexible filtering material including a pair of pleat forming sections joined together in end-to-end fashion along a common line and having terminal supporting portions remote from said common line, said pleat forming sections being folded to face each other and form a pleat, spaced seams extending across said pleat transverse to said common line to join said facing sections of said pleat and form at least two pocket members having an open-end mouth immediately adjacent said supporting portions, and displacing means co-operable with said supporting portions, said displacing means having portions extending into said mouth to displace said supporting portions and maintain said mouth of said pocket members in opened position to receive a fluid stream to be filtered.
2. A pocket type fluid filter comprising: flexible filtering material including at least one pair of pleat forming sections joined together in end-to-end fashion along a common line and interposed between supporting portions, said pleat forming sections being folded to face each other and form a pleat, spaced seams extending across said pleat transverse to said connecting line to join said facing sections of said pleat and form at least two pocket members having an open-end mouth immediately adjacent said supporting portions, and displacing means co-operable with said supporting portions, said displacing means having portions extending into said mouth to displace said supporting portions and maintain said mouth of said pocket members in opened position to receive a fluid stream to be filtered.
3. A pocket type fluid filter comprising: an integral web of flexible filtering material having spaced fold lines dividing said web into pairs of pleat forming sections interposed between end supporting portions and intermediate supporting portions so that adjacent pairs of pleat forming sections are spaced from each other by one of said supporting portions, said pleat forming sections of each pair being folded to face each other and form a pleat, a plurality of spaced seams for each of said formed pleats, each seam extending across its pleat transverse to said fold lines to join said facing sections of said pleat and form pocket members in said pleat having open-end mouths immediately adjacent said supporting portions, and displacing means co-operable with said supporting portions, said displacing means having portions extending into said mouths to displace said supporting portions and maintain said mouths of said pocket members in opened position to receive a fluid stream to be filtered.
4. A pocket type fluid filter comprising: flexible filtering material, said material being faced on the downstream side thereof with a sheet of scrim-like porous material to impart tensile strength thereto, said material being divided into at least one pair of pleat forming sections joined together in end-to-end fashion along a common line and interposed between supporting portions, said pleat forming sections being folded along with said scrim-like facing material to face each other and form a pleat, spaced seams each extending across said pleat transverse to said connecting line to join said facing sections of said pleat and form at least two pocket members having an open-end mouth immediately adjacent said supporting portions, and displacing means co-operable with said supporting portions, said displacing means having portions extending into said mouth to displace said supporting portions and maintain said mouth of said pocket members in opened position to receive a fluid stream to be filtered.
5. A pocket type fluid filter comprising: flexible filtering material including at least one pair of pleat forming sections joined together in end-to-end fashion along a common line and interposed between supporting portions,

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said pleat forming sections being folded to face each other and form a pleat, spaced seams extending across said pleat transverse to said common line to join said facing sections of said pleat and form at least two pocket members having an open-end mouth immediately adjacent said supporting portions, and frame means facing said supporting portions, said frame means having portions extending into said mouth substantially to surround said mouth of said pocket members and displace said supporting portions to maintain said mouth in opened position to receive a fluid stream to be filtered.

6. A pocket type fluid filter comprising: flexible filtering material including at least one pair of pleat forming sections joined together in end-to-end fashion along a common line and interposed between supporting portions, said pleat forming sections being arranged to face each other and form a pleat, spaced seams extending across said pleat transverse to said common line to join said facing sections of said pleat and form at least two pocket members having an open-end mouth adjacent said supporting portions, and frame means facing said supporting portions, said frame means having portions extending into said mouth substantially to surround said mouth of said pocket members and having opposed crests on the surfaces thereof which face the supporting portions to engage said supporting portions and displace the same to maintain said mouth of said pocket member in opened position to receive a fluid stream to be filtered.

7. A pocket type fluid filter comprising: a web of flexible filtering material having spaced fold lines dividing said web into pairs of pleat forming sections interposed between end and intermediate supporting portions of said web so that adjacent pairs of pleat forming sections are spaced from each other by one of said supporting portions, said pleat forming sections of each pair of sections being folded to face each other and form a pleat, a plurality of spaced seams for each of said formed pleats, each seam extending across its pleat transverse to said fold lines to join said facing sections of said pleat and form pocket members in said pleat having open-end mouths adjacent said supporting portions, and frame means including spaced parallel longitudinally extending bars arranged to engage said supporting portions of said web, said bars having portions extending into said mouths to substantially surround said mouths of said pocket members and displace said supporting portions to maintain them in opened position to receive a fluid stream to be filtered.

8. A pocket type fluid filter comprising: a web of flexible filtering material having spaced fold lines dividing said web into pairs of pleat forming sections interposed between end and intermediate supporting portions of said web so that adjacent pairs of pleat forming sections are spaced from each other by one of said supporting portions, said pleat forming sections of each pair of sections being folded about a common fold line to face each other and form a pleat, a plurality of spaced seams for each of said formed pleats, each seam extending across its pleat between said common fold line and a supporting portion to join said facing sections of said pleat and form pocket members in said pleat having open-end mouths adjacent said supporting portions, and frame means including spaced parallel longitudinally extending bars having confronting edges contoured to provide a series of pocket receiving apertures through which said pocket members of said pleats extend, said bars engaging said supporting portions of said web to substantially surround the mouths of said pocket members and maintain them in opened position to receive a fluid stream to be filtered.

9. A pocket type fluid filter comprising: a web of flexible filtering material, said material being faced on the downstream side thereof with a sheet of scrim-like porous material to impart tensile strength thereto, spaced fold lines dividing said web into pairs of pleat forming sections interposed between end and intermediate support-

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ing portions of said web so that adjacent pairs of pleat forming sections are spaced from each other by one of said supporting portions, said pleat forming sections of each pair of sections being folded about a common fold line to face each other and form a pleat, a plurality of spaced seams for each of said formed pleats, said seam extending across its pleat between said common fold line and a supporting portion to join said facing sections of said pleat and form pocket members in said pleat having open-end mouths adjacent said supporting portions, and frame means including spaced parallel longitudinally extending bars having confronting edges contoured to provide a series of pocket receiving apertures through which said pocket members of said pleats extend, said bars engaging said supporting portions of said web to substantially surround the mouths of said pocket members and having crests on the surfaces thereof which face the supporting portions of said web, said crests being positioned on opposite sides of the mouth of each of said pocket members to maintain said mouth in opened position to receive a fluid stream to be filtered.

10. A pocket type fluid filter comprising: flexible filtering material including at least one pair of pleat forming sections joined together in end-to-end fashion along a common line and interposed between supporting portions, said pleat forming sections being arranged to face each other and form a pleat, spaced seams extending across said pleat transverse to said common line to join said facing sections of said pleat and form at least one pocket member having an open-end mouth adjacent to said supporting portions, and frame means facing said supporting portions substantially to surround said mouth of said pocket member, said frame means including spaced bars having depending side wall portions integral therewith to face the sides of said pocket member, said bars having opposed crests on the surfaces thereof which face the supporting portions to engage said supporting portions and maintain said mouth of said pocket member in opened position to receive a fluid stream to be filtered.

11. A pocket type fluid filter comprising: flexible filtering material including a pair of pleat forming sections joined together in end-to-end fashion along a common line and having terminal supporting portions remote from said common line, said pleat forming sections being folded to face each other and form a pleat, spaced seams including at least one row of spaced fasteners extending across said pleat transverse to said common line to join said facing sections of said pleat and form at least two pocket members having an open-end mouth immediately adjacent said supporting portions, and displacing means co-operable with said supporting portions, said displacing means having portions extending into said mouth to displace said supporting portions and maintain said mouth of said pocket members in opened position to receive a fluid stream to be filtered.

12. The pocket type fluid filter of claim 11 and means to limit inflation of that portion of the pocket members disposed adjacent said common line.

13. The pocket type fluid filter of claim 11, wherein said row of spaced fasteners has that fastener immediately adjacent said common line spaced from said common line at a distance which would be less than the diameter of the pocket members when inflated so as to limit inflation of said pleat adjacent said common line.

14. A pocket type fluid filter comprising: flexible filtering material including a pair of pleat forming sections joined together in end-to-end fashion along a common line and having terminal supporting portions remote from said common line, said pleat forming sections being folded to face each other and form a pleat, spaced seams extending across said pleat transverse to said common line to join said facing sections of said pleat and form at least two pocket members having an open-end mouth immediately adjacent said supporting portions, and frame means having spaced apertures therein in alignment with said

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pocket members, said apertures having depending side wall portions extending into said open-end mouth to displace said supporting portions and maintain said mouth of said pocket members in opened position to receive a fluid stream to be filtered.

15. A pocket type fluid filter comprising: flexible filtering material including a pair of pleat forming sections joined together in end-to-end fashion along a common line and having terminal supporting portions remote from said common line, said pleat forming sections being folded to face each other and form a pleat, spaced seams extending across said pleat transverse to said common line to join said facing sections of said pleat and form at least two pocket members having an open-end mouth immediately adjacent said supporting portions, and frame means having spaced apertures therein in alignment with said pocket members, said apertures having depending side wall portions extending into said open-end mouth in abutting relation with said supporting portions to maintain said mouth of said pocket members in opened position to receive a fluid stream to be filtered.

16. A pocket type fluid filter comprising: flexible filtering material including a pair of pleat forming sections joined together in end-to-end fashion along a common

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line and having terminal supporting portions remote from said common line, said pleat forming sections being folded to face each other and form a pleat, spaced seams extending across said pleat transverse to said common line to join said facing sections of said pleat and form at least two pocket members having an open-end mouth immediately adjacent said supporting portions, said pleat having a tuck portion along said common line so that the distance along said common line is substantially equal to the distance across said pocket members when said pocket members are inflated, and displacing means co-operable with said supporting portions, said displacing means having portions extending into said mouth to displace said supporting portions and maintain said mouth of said pocket members in opened position to receive a fluid stream to be filtered.

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