Oct. 18, 1949. H. E. BECKER 2,485,183

ADJUSTABLE SCREEN

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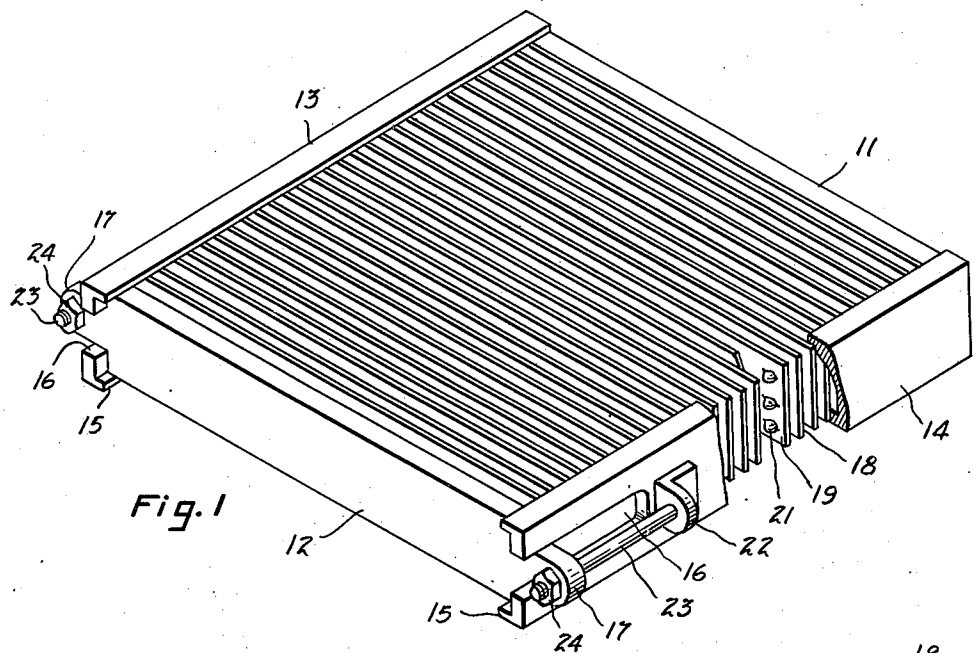


Fig. 1

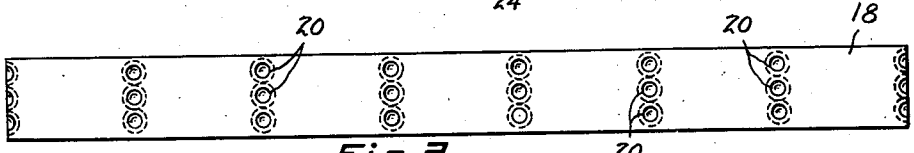


Fig. 2

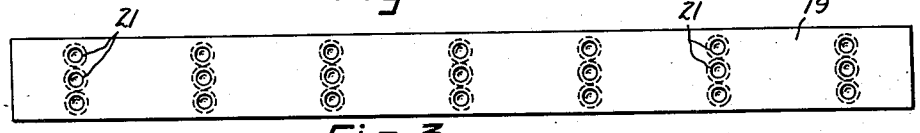


Fig 3

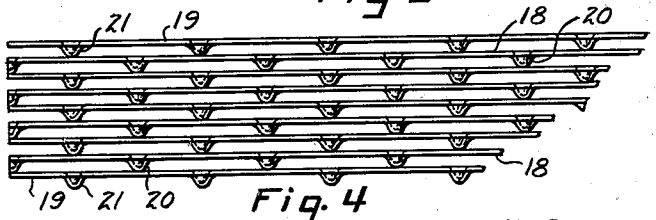


Fig. 4

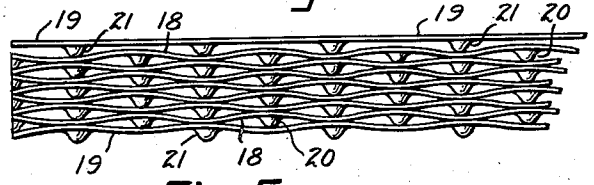


Fig. 5

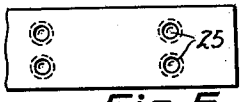


Fig. 6

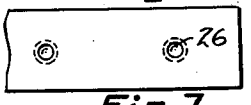


Fig. 7



Fig. 8

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ADJUSTABLE SCREEN

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Application October 18, 1946, Serial No. 704,006

4 Claims. (Cl. 209—394)

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This invention relates to adjustable screens and has for its object to provide a screen of simple and rugged construction which can be quickly and easily adjusted to uniformly vary the size of the screen openings.

With the above and other objects in view, the invention may be said to comprise the screen as illustrated in the accompanying drawings hereinafter described and particularly set forth in the appended claims, together with such variations and modifications thereof as will be apparent to one skilled in the art to which the invention pertains.

Reference should be had to the accompanying drawings forming a part of this specification, in which:

Fig. 1 is a perspective view of the screen embodying the invention;

Fig. 2 is a side elevation of one of the screen bars;

Fig. 3 is a side elevation of another of the screen bars;

Fig. 4 is a fragmentary top plan view of the screen, showing the normal arrangement of the bars;

Fig. 5 is a fragmentary plan view of a portion of the screen, showing the bars compressed against one another to reduce the size of the screen openings, and

Figs. 6, 7, and 8 are fragmentary views showing different arrangements and forms of protuberances that may be employed.

Referring to the accompanying drawings, the screen of the present invention is provided with a rectangular frame composed of end bars 11 and 12 and channel shaped side bars 13 and 14. The side bars 13 and 14 are permanently and rigidly connected to the end bar 11 and detachably connected to the end bar 12, the side bars having inwardly projecting flanges 15 along their upper and lower edges. The side bars 13 and 14 are also provided with longitudinal slots 16 opening to the free ends thereof to receive reduced ends 17 of the end bar 12 which is thus slidably mounted in the side bars 13 and 14 for adjustment toward or away from the end bar 11.

The screen is formed by bars 18 and 19 in the form of elongated plates formed of resilient and flexible material such as sheet metal which are supported on edge in parallel relation upon the flanges 15 of the side bars and between the end bars 11 and 12. The screen bar 18 has spaced transverse rows of protuberances 20 and the bars 19 have spaced transverse rows of protuberances 21. The rows of protuberances in both bars are

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uniformly spaced and the protuberances of the bars 18 are so disposed that when the bars are mounted in the frame the protuberances 20 are positioned midway between the protuberances 21 of the plates 19. The screen bars 18 and 19 are spaced apart throughout the screen by the protuberances 20 and 21, being placed with their protuberances facing in the same direction and with the bars 18 alternating with the bars 19 throughout the screen, as clearly shown in Figs. 4 and 5. The bars 18 and 19 may be cut from a single strip of sheet material having protuberances formed at regularly spaced intervals, the strip being cut to provide bars with protuberances at different distances from the ends thereof. As herein illustrated the bars 18 are formed by cutting the strip through spaced rows of protuberances while the bars 19 are formed by cutting the strip midway between the rows of protuberances.

Adjacent the inner ends of the longitudinal slots 16 each of the side bars 13 and 14 has a bracket 22 which carries a bolt 23 that extends parallel with the adjacent slot and through the projecting end 17 of the end bar 12. Nuts 24 on the outer ends of the bolts 23 provide means for applying a varying pressure to the end bar 12 and to move it bodily toward the opposite end bar 11 of the screen. Plates forming the screen bars are resilient and flexible so that when pressure is applied to the screen bars in a direction tending to force them closer together, the bars will flex about the points of the protuberances 20 and 21 as the end bar 12 is moved toward the opposite end bar 11 of the screen. This flexing of the screen bars reduces the size of the openings through the screen, as is shown in Fig. 5 of the drawings.

Because of their resiliency the screen bars when compressed form a powerful spring acting upon the end bar 12 to hold the end bar tightly against the nuts 24 so that when the nuts are adjusted outwardly on the bolts 23 the screen body will expand toward its original or normal position and enlarge the screen openings.

The form and arrangement of spacing protuberances can be varied. The number of protuberances in the transverse rows may be greater or less than shown in Figs. 2 and 3. For example, two protuberances 25 may be provided as shown in Fig. 6 or a single protuberance 26 may be employed instead of a row of protuberances as shown in Fig. 7. In some instances it may be desirable to provide transversely elongated protuberances 27 such as shown in Fig. 8.

It will be apparent that the present invention

provides a screen of rugged and durable construction which can be quickly and easily adjusted to uniformly vary the size of the screen openings.

It is to be understood that variations and modifications of the specific devices herein shown and described for purposes of illustration, may be made without departing from the spirit of the invention.

What I claim is:

1. A screen comprising a frame having parallel side bars, a series of screen bars in the form of elongated resilient plates mounted on edge side by side in said frame with their ends slidable on said side bars, said plates being spaced by protuberances on the individual plates that are uniformly spaced longitudinally of the plates and that engage with flat portions of adjacent plates intermediate the protuberances thereof to define openings for the passage of screenings, and means for applying a variable pressure to said plates in the direction of their sliding movement to flex the same about said protuberances and vary the size of said openings.

2. A screen comprising a frame having parallel end bars and parallel side bars having longitudinal slots adjacent one end, one end bar being adjustable and slidable in said slots, screws connecting said adjustable end bar to said side bars for shifting said end bar in said slots and an end bar fixed to the opposite ends of said side bars, and a screen body comprising bars in the form of elongated resilient plates disposed on edge parallel to said end bars and between the same with their ends slidable on said side bars, said plates being spaced apart by protuberances on the individual plates that are spaced longitudinally of the plates, the protuberances of successive plates being staggered so that the protuberances of one plate engage with flat portions of another plate to define openings for the passage of screenings, said plates being bendable about said protuberances to vary the size of said openings when said adjustable end bar is shifted by said screws.

3. A screen comprising a frame having parallel side bars, a series of screen bars in the form of elongated resilient sheet metal plates mounted on edge side by side in said frame with their ends slidable on said side bars, said plates being spaced apart by protuberances on the individual plates that are arranged in transverse rows spaced longitudinally of the plates, the protuberances of intermediate plates being disposed between the protuberances of contiguous plates, the flat faces of the plates and said protuberances defining openings for the passage of screenings, and means for applying a variable pressure to said plates in the direction of their sliding movement to flex the same about said protuberances and vary the size of said openings.

4. A screen comprising a frame having parallel side bars, a series of screen bars in the form of elongated resilient sheet metal plates mounted on edge side by side in said frame with their ends slidable on said side bars, said plates being spaced by protuberances on the individual plates that are uniformly spaced longitudinally of the plates and that engage with flat portions of adjacent plates to define openings for the passage of screenings, alternate plates being identical and the intermediate plates having protuberances positioned midway between the protuberances of said alternate plates, and means for applying a variable pressure to said plates in the direction of their sliding movement to flex the same about said protuberances and vary the size of said openings.

HENRY ERIC BECKER.

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