Fig. 1

Fig. 2

Fig. 6

Fig. 5

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ELECTRICALLY HEATED SCREEN CONSTRUCTION

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Application January 14, 1952, Serial No. 266,378
19 Claims. (Cl. 209—238)

The invention relates generally to electrically heated screens, and more particularly to vibrating screens having novel means for electrically heating the screen cloth.

Prior conventional electrically heated screens have included copper conductor or bus bars bolted to the top of the screen cloth along the sides thereof, with backup bars on the bottom side of the cloth, and conductor cables attached to the conductor bars for supplying current therefor.

For efficient heating, the copper cables must be connected to the conductor bars at relatively short intervals, so that for a long screen the cables would be connected to both ends of the conductor bars as well as to the central portions.

The principal objection to this conventional construction is the large amount of labor involved in replacing the screen cloth when worn and disconnecting and reattaching the conductor bars to the new cloth. This operation involves removing and reconnecting a large number of bolts for attaching the conductor bars to the screen cloth, and also disconnecting and reattaching the several copper cables carrying current to the copper conductor bars.

Another objection to this conventional construction is that all of the conductor cables as well as the conductor bars are above the screen where they are subjected to the constant abrasion of the material passing over and through the screen. Moreover, where a multi-deck screen is used having two or more decks of screen cloth, the bottom deck is the one most desirably heated, but it is not practical to support the required large quantity of cables between the bottom and an upper deck because of the limited amount of space available.

In certain prior constructions it has been attempted to overcome some of the foregoing difficulties by making the skirt boards which clamp the sides of the screen cloth of copper to act as conductor or bus bars, and connecting the conductor cables to one end of the bars. Such a construction is very expensive because of the special shape of the skirt boards having a relative thick cross section resulting in a loss of power. Moreover, a uniform temperature cannot be maintained throughout the screen cloth because of the voltage drop from the end connected with the conductor cables to the other end. Furthermore, such a construction is necessarily applied to the upper deck of a multi-deck screen because of the limited space between decks for conductors.

It is a general object of the present invention to provide a new and improved electrically heated screen construction which is economical to manufacture and install, and which overcomes the objectionable features of prior constructions.

More specifically, it is an object of the present invention to provide an improved electrically heated screen construction in which the screen cloth is quickly and easily replaced, without disconnecting the current-conducting bars which contact the screen cloth.

Another object is to provide an improved electrically heated screen construction in which the conductors are substantially protected from the abrasion of the material being screened, with less insulation required around the conductor bars.

A further object is to provide a novel and improved electrically heated screen construction having the bottom deck of a plurality of decks electrically heated by novel means.

Another object is to provide a novel screen heater construction which eliminates conductor cables over the screen cloth, which utilizes bus bars of rectangular cross section and substantial capacity, and which distributes current substantially uniformly throughout the screen cloth.

A still further object is to provide a novel and improved screen heater construction which is adapted for economically supplying electric heat to a variety of designs of vibratory screen installations.

These and other objects are accomplished by the parts improvements, constructions, combinations and arrangements comprising the present invention, a preferred embodiment of which is shown in the accompanying drawings as exemplifying the best known mode of carrying out the invention, the said embodiment being described in detail in the accompanying specification, and the scope of the invention being defined in the appended claims.

In general terms, the invention may be stated as including a screen frame preferably having a vibratory mounting, and one or more decks of screen cloth stretched between the sides of the frame by means of longitudinal skirt boards engaging the side marginal edges of the cloth, there being longitudinal contact bars engaging the screen cloth along its side edges under the skirt boards, and cast metal conductor bars attached at their inner ends to the contact bars and extending downwardly and laterally therewith under one side of the frame and upwardly along the exterior of said side for connection with conductor cables from the heating unit, the cast conductor bars being insulated from each other and from the screen frame.

Referring to the drawings forming part hereof,

Figure 1 is a partial side elevation of a vibratory screen embodying the present invention;

Fig. 2 is an end elevation thereof;

Fig. 3 is an enlarged transverse sectional view thereof, partly broken away;

Fig. 4 is a fragmentary sectional view similar to Fig. 3, showing one of the tensioning bolts for attaching the skirt boards;

Fig. 5 is a fragmentary sectional view as on line 5—5, Fig. 3; and

Fig. 6 is an enlarged fragmentary sectional view through one of the bolts attaching the contact bars to the supporting frame member.

Similar numerals refer to similar parts throughout the drawings.

The screen construction shown in the drawings is preferably a vibrating screen unit which includes a screen frame having side plates 10a and 10b with two decks of screen cloth stretched between and supported on the frame members. The upper screen cloth is indicated at 11 and the lower screen cloth at 12. Both of these screen decks are suitably supported in a slightly arched position by a series of longitudinal bucker-up bars 13 and 14 which are graduated in height, and which preferably have special wear-resisting molded rubber strips 15 on their top edges, preventing chaffing and providing electric insulation between the bars and the screen cloth.

The bucker-up bars 13 and 14 are supported at longitudinal intervals on transverse I-beams 16 which are supported at their ends on the frame side plates. The upper beams 16 may be supported on angle brackets 17 as shown, and the lower beams are suitably supported on angle brackets 18 secured to the side plates 10a and 10b. Longitudinal supporting angles 19 are provided at the side plates 10a and 10b with one leg resting on the tops of the I-beams 16, and the angles 19 extend the full length of the screen frame.

Longitudinal skirt boards 20 are provided one over
each of the angles 19, and these skirt boards may have a formed cross section such as shown in Figs. 3 and 4 with an upper outturn flange 21 abutting the inner surface of the adjacent side plate of the frame and a bottomed flange 22 for securing the screen cloth. The flange 22 is preferably wrapped with a rubber or composition insulating material 23, and the side edges of the screen cloth 12 are turned upwardly to engage around the wrapped flange 22, as indicated at 24. The skirt boards 20 are clamped under tension by bolts 25 in longitudinal intervals along the bottom edge. As best shown in Fig. 4, the bolts 25 extend through holes in the side plates and thrust brackets 26 on the outside of the side plates. The projecting ends of the bolts have tensioning springs 27 interposed between the brackets 26 and nuts 28 on the outer ends of the bolts, so that the skirt boards are yieldingly clamped against the side plates 10a and 10b to yieldingly stretch or tension the screen cloth between the side plates.

The vibrating screens embodying the present invention may be of various lengths, and the screen illustrated by way of example in the drawings is approximately 14 feet in length. One-half of the screen is shown in side elevation in Fig. 1, the dot-dash line at the left end being the center line of the screen. As shown, the side plates of the screen frame are provided at their longitudinally central portions with circular bosses 30 to which may be attached the vibratory mountings for the screen frames. Since these mountings form no part of the present invention they are not shown in the drawings.

As best shown in Fig. 3, the novel means for electrically heating the lower screen 12 preferably includes a pair of contact bars 31 carried one on each angle 19 independently of the skirt boards 20 and extending the full length of the screen. These bars are of substantial thickness and are preferably rectangular in cross section so as to carry the required amount of electric current without substantial voltage drop. As shown in Fig. 6, the contact bars 31 may be secured at intervals to the upper legs of the angles 19 by countersunk bolts 32 which are electrically insulated from the angles 19 by insulation indicated at 33. The contact bars 31 are insulated throughout their lengths from the angles 19 and from the side plates 10 by fiber strips 34 and 35. As shown, the bars 31 provide a continuous contact with the side edges of the screen cloth 12 under the skirt board flanges 22 throughout the entire length of the screen.

The electric current for heating the screen cloth 12 is conducted to the contact bars 31 through cast or rigid conductor or bus bars indicated generally at 37 and 38. The bus bars are generally U-shaped longitudinally and of relatively large rectangular cross section so as to carry electric current without substantial loss. For example, these bars may be 1 inch by 4 inches in cross section. Each of the bus bars 37 and 38 has an inner upwardly and downwardly extending leg which is attached at its upper end to the inner edge of one of the contact bars 31. The bus bar 37 has an upwardly and downwardly extending leg 39 which is connected to the contact bar 31 on one side of the frame by a bolt 40 and the leg 39 is connected at its lower end to a horizontal base portion or web 41 extending under the adjacent side plate 10b of the frame and connected to an outer leg 42 which extends upwardly and downwardly along the outer surface of the plate 10b. The upper end of the leg 42 is connected to an outwardly extending horizontal head portion 43 which terminates in a downturned flange or leg 44 attached to a suitable conductor cable 45 leading to the electric power supply.

The other bus bar 38 has an upwardly and downwardly extending leg 46 within the screen frame and attached at its upper end to the other contact bar 31 by a bolt 40. The bottom end of the leg 46 is connected to a horizontal web or base portion 47 which extends laterally toward the opposite side plate, that is, toward the side plate 10b adjacent the bus bar 37. As shown, the web or base portion 47 extends under the web or base portion 10b and is connected to an upwardly and downwardly extending leg 48 which extends along the outside of the leg 42 of the bus bar 37. The web or base portion terminates short of the upper end of leg 42 and is connected with an outwardly extending horizontal head portion 49 which has a downturned flange or leg 50 attached to a power supply cable 51.

As shown in Fig. 3, the upwardly and downwardly extending legs 45 of the bus bars 37 and 49 which extend from each other and from the adjacent side plate 10b by fiber sheets 52 and 53, and these sheets extend laterally at their lower ends to insulate the web portions 41 and 47 from each other and from the frame. The upwardly and downwardly extending legs 42 and 48 of the bus bars are preferably supported on the side plate 10b by a bolt 54 having a sleeve of insulation material 55 around the same. The web or base portions 41 and 47 of the bus bars are carried or supported in a formed channel member 56 which extends transversely of the bottom of the frame and has bracket ears 57 at its ends bolted to bracket plates 58 by bolts 59. As shown, the channel 56 is lined with fiber insulation strips 60 and 61.

The bus bar 37 may be otherwise described as including a base portion 41 having opposite ends, and legs 39 and 42 extending angularly in the same direction from the base portion ends, the leg 39 constituting a power output leg and being connected with one of the contact bars 31, and the other leg 42 constituting a power input leg and preferably connecting as shown with an outwardly extending head portion 43 terminating in a downturned or angled terminal leg 44. The legs 37, 42, and 44 are preferably parallel with each other, extend at right angles to the preferably parallel base portion 41 and head portion 43.

Similarly, the bus bar 38 may be otherwise described as including a base portion 47 of the bus bar 37 shorter than the base portion 47 of the bus bar 38. The power input leg 42 of the bus bar 37 is longer than the power input leg 45 of the bus bar 38. The base portion 41 of the bus bar 37 is shorter than the base portion 47 of the bus bar 38. The power input leg 42 of the bus bar 37 is longer than the power input leg 45 of the bus bar 38.

The described conformations of the bus bars 37 and 38 and their positions with respect to each other, thus result in a lateral or horizontal spacing of the legs 39 and 46, and a transverse or vertical spacing of the head portions 49 and 47, and a lateral or horizontal spacing of the legs 45 and 46.

In order to minimize power loss and to distribute electrical current substantially uniformly throughout the length of the screen cloth, a bus bar on a side should serve not over 7 or 8 feet of length of a contact bar 31, and should be connected to the central part of the contact bar. By clamping a screen of substantial length such as that disclosed herein, there would be provided two bus bars for each contact bar 31, the bus bars being located substantially half-way between the longitudinal...
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center of the screen frame and its ends. One set of bus bars is accordingly shown in Fig. 1 located substantially midway between the longitudinal center and one end of the screen frame, and it will be understood that a similar set of bus bars would be provided for the other half of the screen frame.

If desired, additional skirt boards may be provided for overlapping the inner legs 39 and 46 of the bus bars 37 and 36, so that the bus bars will be protected at all times from the material being screened and passing downwardly through the screen. Similarly, a transverse plate may be mounted between the frame side plates over the web portion of the bus bar 38 for protecting the same.

By supporting the contact bars 31 under the side edges of the screen cloth 12, the cloth may be quickly and easily removed and replaced at any time without disturbing the contact bars 31 and without disconnecting the bus bars therefrom. All that is necessary is to loosen the nuts 28 of the skirt board tensioning bolts to disengage the skirt boards from the turned-up edges of the screen cloth, whereupon the screen cloth is easily removed and replaced.

It is noted that the skirt boards 20, the bolts 25, the springs 27, the brackets 26, the nuts 28, and their coaction with the side plates 16 and 100 and the screen cloth 12 and the contact bars 31, constitute screen cloth supporting means on the side frame members engaging the side edges of the screen cloth 12, and means for alternately moving the screen cloth supporting means in opposite directions, alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the screen cloth supporting means from the screen cloth side edges.

The novel and improved means for electrically heating the screen cloth eliminates the necessity of any conductor cables disposed over and above the screen cloth so as to be in the way of the material being screened and exposed to abrasion therefrom. Moreover, the use of the novel bus bar construction connected to the contact bars enables connecting the bus bars to the power supply at one side of the screen unit and bringing them under the adjacent side of the screen frame to be connected to the lower screen deck, because no cables or conductors are required between the decks.

Furthermore, by using the improved construction of the present invention, the current may be brought to intermediate portions of the screen cloth along the side edges thereof to insure substantially uniform distribution of electric current throughout the screen cloth without incurring any substantial voltaic drops, the time when the conductors are attached to one end of the screen and current must travel to the other end.

The novel and improved construction is economical to manufacture and install and is adapted to be embodied in a variety of conventional screen designs without substantial modification thereof. The novel construction provides for efficient use of electric current because of the relatively low power loss.

In the foregoing description, certain terms have been used for brevity, clearness and understanding, but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art, because such words are used for descriptive purposes herein and are intended to be broadly construed.

Moreover, the embodiment of the improved construction illustrated and described herein is by way of example, and the scope of the present invention is not limited to the exact details of construction.

Having now described the invention, the construction, the operation and use of a preferred embodiment thereof, and the advantageous and useful results obtained thereby; the new and useful constructions, and reasonable mechanical equivalents thereof obvious of those skilled in the art, are set forth in the appended claims.

I claim:

1. Electrically heated screen construction including a frame having side members, at least one deck of screen cloth supported between said side members, the screen cloth having side edges, screen cloth supporting means on the side frame members engaging the side edges of said screen cloth, contact bars extending longitudinally of said side frame members in contact with the side edge portions of said screen cloth, contact bar supporting means on the side frame members independent of the screen cloth supporting means, and means for alternately moving the screen cloth supporting means in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the screen cloth supporting means from the screen cloth side edges, and rigid conductor bars connected to said contact bars and extending downwardly therefrom and laterally under one side of said frame and upwardly along said side, means supporting said conductor bars on said side frame member, and conductors attached to the upper outside ends of said conductor bars.

2. Electrically heated screen construction including a frame having side members, at least one deck of screen cloth supported between said side members, the screen cloth having side edges, screen cloth supporting means on the side frame members engaging the side edges of said screen cloth, contact bars extending longitudinally of said side frame members in contact with the side edge portions of said screen cloth, contact bar supporting means on the side frame members independent of the screen cloth supporting means, and means for alternately moving the screen cloth supporting means in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the screen cloth supporting means from the screen cloth side edges, and rigid conductor bars connected to said contact bars and extending downwardly therefrom and laterally under one side of said frame and upwardly along said side, means supporting said conductor bars on said side frame member, and means in-sulating said conductor bars from each other and from the screen frame.

3. Electrically heated screen construction including a frame having side members, at least one deck of screen cloth supported between said side members, the screen cloth having side edges, screen cloth supporting means on the side frame members engaging the side edges of said screen cloth, contact bars extending longitudinally of said side frame members in contact with the side edge portions of said screen cloth, contact bar supporting means on the side frame members independent of the screen cloth supporting means, and means for alternately moving the screen cloth supporting means in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the screen cloth supporting means from the screen cloth side edges, and rigid conductor bars connected to said contact bars and extending downwardly therefrom and laterally under one side of said frame and upwardly along said side, means supporting said conductor bars on said side frame member, and means insulating said conductor bars from each other and from the screen frame.

4. Electrically heated screen construction including a frame having side members, at least one deck of screen cloth supported between said side members, the screen cloth having side edges, screen cloth supporting means on the side frame members engaging the side edges of said screen cloth, contact bars extending longitudinally of said side frame members in contact with the side edge portions of said screen cloth, contact bar supporting means on the side frame members independent of the screen cloth supporting means, and means for alternately moving the screen cloth supporting means in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the screen cloth supporting means from the screen cloth side edges, and rigid conductor bars connected to said contact bars and extending downwardly therefrom and laterally under one side of said frame and upwardly along said side, means supporting said conductor bars on said side frame member, and a lateral frame member supporting said conductor bars below the side frame members.
ternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the screen cloth supporting means from the screen cloth side edges, and rigid conductor bars connected to the contact bars and extending longitudinally of said screen cloth and laterally under one side of said frame and upwardly along said side, means supporting said conductor bars on said side frame member, a lateral frame member supporting said conductor bars below the frame members, and means insulating said conductor bars from each other and from frame members.

5. In screen construction including a frame, at least one deck of screen cloth supported in said frame, the screen cloth having side edges, and skirt boards on said frame engaging the side edges of said screen cloth, means for electrically heating said screen cloth including contact bars extending longitudinally of said screen cloth in contact with the side edges thereof, means on the frame supporting said contact bars independently of the skirt boards, and means for alternately moving the skirt boards in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the skirt boards from the screen cloth side edges, and rigid electrical conductor bars connected one to each contact bar within said frame, said conductor bars extending downwardly and laterally under one side of said frame, means supporting said conductor bars on said side of said frame, and electrical power supply means connected to the outside ends of said conductor bars.

6. In screen construction including a frame, at least one deck of screen cloth supported in said frame, the screen cloth having side edges, and skirt boards on said frame engaging the side edges of said screen cloth, means for electrically heating said screen cloth including contact bars extending longitudinally of said screen cloth in contact with the side edges thereof, means on the frame supporting said contact bars independently of the skirt boards, and means for alternately moving the skirt boards in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the skirt boards from the screen cloth side edges, and rigid electrical conductor bars connected one to each contact bar within said frame, said conductor bars extending downwardly and laterally under one side of said frame, means supporting said conductor bars on said side of said frame, and electrical power supply means connected to the outside ends of said conductor bars.

7. In screen construction including a frame, at least one deck of screen cloth supported in said frame, the screen cloth having side edges, and skirt boards on said frame engaging the side edges of said screen cloth, means for electrically heating said screen cloth including contact bars extending longitudinally of said screen cloth in contact with the side edges thereof, means on the frame supporting said contact bars independently of the skirt boards, and means for alternately moving the skirt boards in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the skirt boards from the screen cloth side edges, and rigid electrical conductor bars connected one to each contact bar within said frame, said conductor bars extending downwardly and laterally under one side of said frame, means supporting said conductor bars from each other and from the frame.

8. In screen construction including a frame, at least one deck of screen cloth supported in said frame, the screen cloth having side edges, and skirt boards on said frame engaging the side edges of said screen cloth, means for electrically heating said screen cloth including contact bars extending longitudinally of said screen cloth in contact with the side edges thereof, means on the frame supporting said contact bars independently of the skirt boards, and means for alternately moving the skirt boards in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the skirt boards from the screen cloth side edges, and rigid electrical conductor bars connected one to each contact bar within said frame, said conductor bars each including a portion extending downwardly and a portion extending laterally under one side of said frame and a portion extending upwardly along the exterior of said side, means securing said upwardly extending conductor bar portions to said one side of the frame, and means insulating said conductor bars from each other and from the frame.

9. In screen construction including a frame, at least one deck of screen cloth supported in said frame, the screen cloth having side edges, and skirt boards on said frame engaging the top surfaces of the side edge portions of said screen cloth, means for electrically heating said screen cloth including contact bars of rectangular cross section extending longitudinally of said screen cloth, means on the frame supporting said contact bars in contact with the bottom surfaces of said side edge portions of the screen cloth independently of the skirt boards, and means for alternately moving the skirt boards in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the skirt boards from the screen cloth side edges, substantially U-shaped rigid conductor bars positioned under one side of said frame, one conductor bar having an inner leg connected to one contact bar and another conductor bar having an inner leg connected to the other contact bar at the opposite side of the screen cloth, said conductor bars having outer legs supported on said one side of the frame, and electrical power supply means connected to the upper outside ends of said outer legs.

10. In screen construction including a frame, at least one deck of screen cloth supported in said frame, the screen cloth having side edges, and skirt boards on said frame engaging the top surfaces of the side edge portions of said screen cloth, means for electrically heating said screen cloth including contact bars of rectangular cross section extending longitudinally of said screen cloth, means on the frame supporting said contact bars in contact with the bottom surfaces of said side edge portions of the screen cloth independently of the skirt boards, and means for alternately moving the skirt boards in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the skirt boards from the screen cloth side edges, substantially U-shaped rigid conductor bars positioned under one side of said frame, one conductor bar having an inner leg connected to one contact bar and another conductor bar having an inner leg connected to the other contact bar at the opposite side of the screen cloth, and a laterally extending frame member supporting both U-shaped conductor bars.

11. In screen construction including a frame, a deck of metal screen cloth, the screen cloth having side edges, and skirt boards supported in the frame and engaging the side edges of the screen cloth, contact bars extending downwardly of said screen cloth, means extending longitudinally of said screen cloth, means on the frame supporting said contact bars in contact with said side edges of said metal independently of the skirt boards, and means for alternately moving the skirt boards in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact bars and for disengaging the skirt boards from the screen cloth side edges, rigid electrical conductor bars connected
one to each contact bar within said frame, said conductor bars extending downwardly and laterally under one side only of said frame, means supporting the conductor bars on the frame, and electrical power supply means connected to the outside ends of said conductor bars.

12. In screen construction including a frame, a deck of metal screen cloth, the screen cloth having side edges, means supporting the screen cloth in said frame, contact bars extending longitudinally of said screen cloth, means on the frame supporting said contact bars in contact with said side edges of said cloth independently of the screen cloth supporting means, and means for alternately moving the screen cloth supporting means in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact and conductor bar means and for disengaging the screen cloth supporting means from the screen cloth side edges, at least a portion of the contact and conductor bar means extending rigidly downwardly from said screen cloth edge portions and laterally under one side of said frame and terminating outside of said frame, and conductor cables attached to the contact and conductor bar means portion outside of said frame.

13. A set of rigid conductor bars for electrically heated screen construction and the like, including a first conductor bar and a second conductor bar, each conductor bar including a base portion and legs extending in substantially the same direction from opposite ends of the base portion and one leg constituting a power input leg and being longer than the other, the base portion of the first conductor bar being shorter than the base portion of the second conductor bar and the base portions extending alongside each other and there being insulation between the base portions, and the power input leg of the first conductor bar being longer than the power input leg of the second conductor bar and the power input legs extending alongside each other and there being insulation between the power input legs.

14. A set of rigid conductor bars for electrically heated screen construction and the like, as set forth in claim 13, and in which a head portion extends outwardly from each power input leg.

15. A set of rigid conductor bars for electrically heated screen construction and the like, as set forth in claim 13, and in which each head portion terminates in an angled terminal leg.

16. Electrically heated screen construction including a frame having side members, at least one deck of screen cloth supported between said side members, the screen cloth having side edges, screen cloth supporting means on the said side frame members engaging the side edges of said screen cloth, contact bars extending longitudinally of said side frame members in contact with the side edges of said screen cloth, contact and conductor bar means extending longitudinally of said side frame members in contact with the side edge portions of said screen cloth, contact and conductor bar supporting means on the side frame members independent of the screen cloth supporting means, means for alternately moving the screen cloth supporting means in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact and conductor bars and for disengaging the screen cloth supporting means from the screen cloth side edges, rigid conductor bars connected to said contact bars and extending downwardly therefrom and laterally under one side of said frame and terminating in outside ends, and conductor cables attached to the outside ends of said conductor bars.

17. Electrically heated screen construction including a frame having side members, at least one deck of screen cloth supported between said side members, the screen cloth having side edges, screen cloth supporting means on the side frame members engaging the side edges of said screen cloth, contact and conductor bar means extending longitudinally of said side frame members in contact with the side edge portions of said screen cloth, contact and conductor bar supporting means on the side frame members independent of the screen cloth supporting means, means for alternately moving the screen cloth supporting means in opposite directions alternately for tensioning the screen cloth and pressing side edge portions thereof against the contact and conductor bars and for disengaging the screen cloth supporting means from the screen cloth side edges, rigid conductor bars connected to said contact bars and extending downwardly therefrom and laterally under one side of said frame and terminating in outside ends, and conductor cables attached to the outside ends of said conductor bars.

References Cited in the file of this patent

UNITED STATES PATENTS

1,397,342 Sturtevant Nov. 15, 1921
1,710,795 Arms Apr. 30, 1929
2,063,663 Downward Dec. 8, 1936
2,217,920 Roubal Oct. 15, 1940
2,229,929 Gruener Dec. 24, 1940
2,345,947 Parks Apr. 4, 1944

FOREIGN PATENTS

247,791 Great Britain Feb. 25, 1926
462,122 Canada Dec. 27, 1949

OTHER REFERENCES