March 19, 1963 W. J. PARKS 3,081,875

PEDESTAL SUPPORTS FOR VIBRATING SCREENING EQUIPMENT

Filed Nov. 23, 1959

3 Sheets-Sheet 1

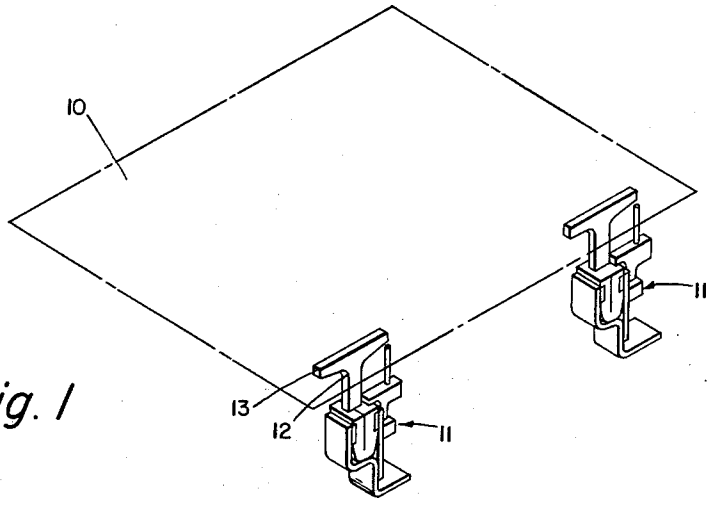


Fig. 1

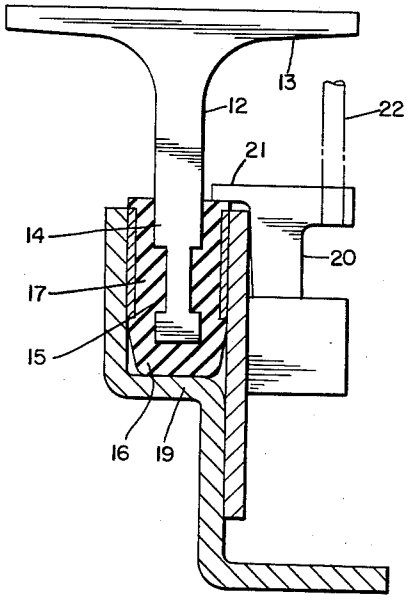


Fig. 2

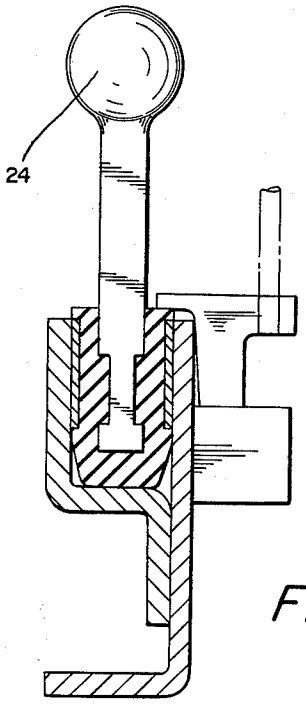


Fig. 3

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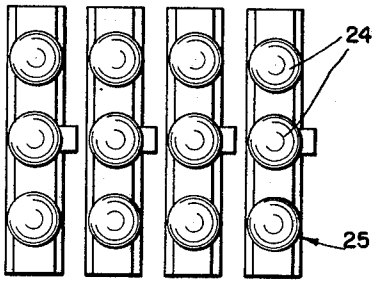


Fig. 4

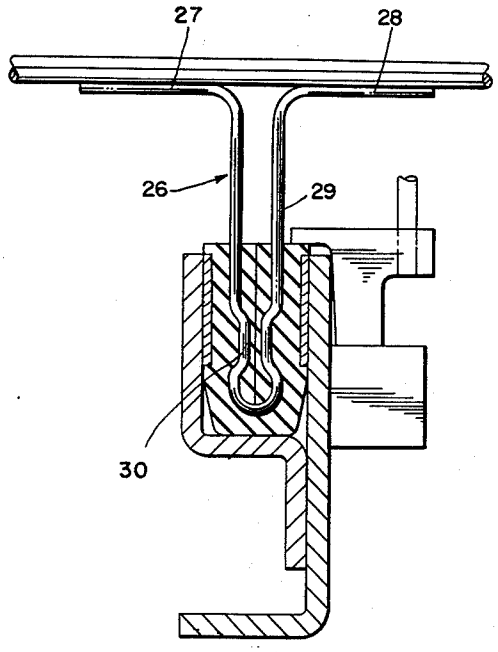


Fig. 5

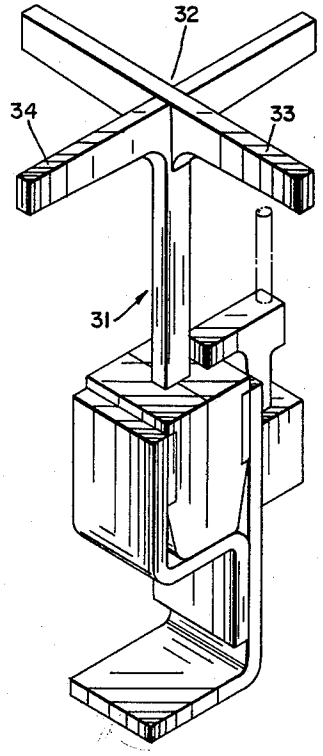


Fig. 6

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FIG. 7

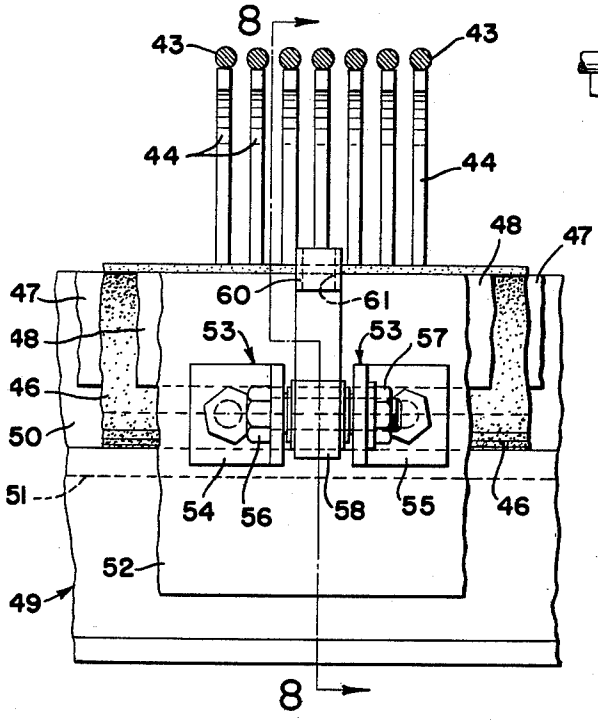
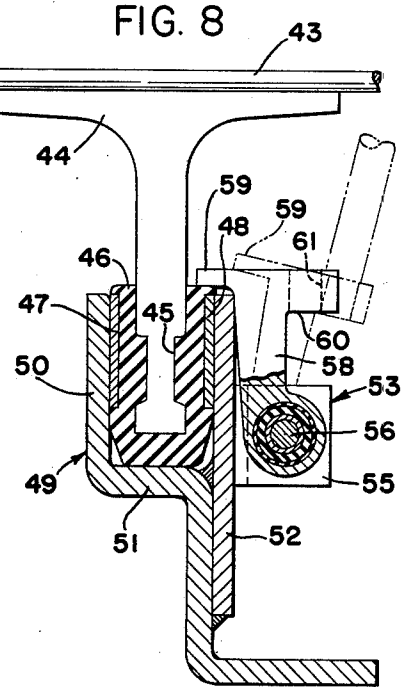


FIG. 8



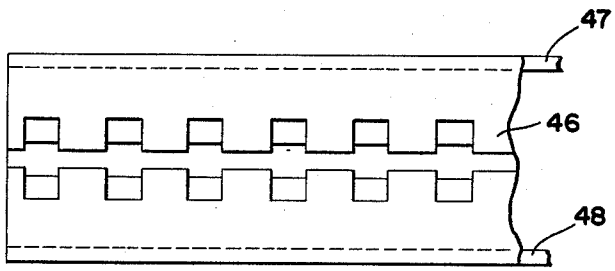


FIG. 9

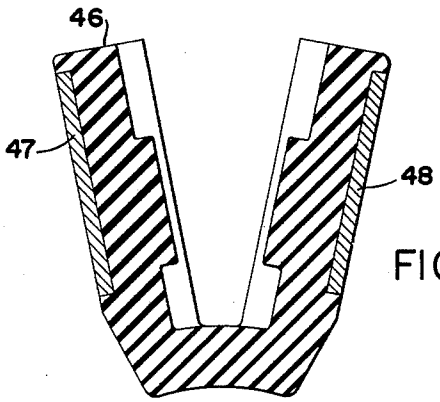


FIG. 10

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PEDESTAL SUPPORTS FOR VIBRATING SCREENING EQUIPMENT

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Filed Nov. 23, 1959, Ser. No. 858,302
4 Claims. (Cl. 209—412)

This application relates to pedestal supports for the screen deck of a screen deck structure for use in connection with vibrating screening equipment. In certain types of screening operations, some of the material may be sticky and the supports in and around the deck structure blind and clog. This invention relates to the supports for a screen deck which may be a rod deck, i.e., parallel rod members on a deck structure, woven wire screens, having either rectangular or long slot opening screens, and may even include a grizzly bar deck, certain types of perforated plates and a pedestal screen deck.

This invention is particularly directed to this pedestal support for the screen deck which is fastened by means of welding to the deck and incorporating on the bottom end of the pedestal a resilient socket member, either in an individual socket member or in a strip socket, as described further in this application.

In connection with screen decks, there is a need for a novel type support extending below the deck, involving a pedestal or other support means, resiliently mounting a screen deck such as a rod deck, a woven wire screen of rectangular or long slot construction or, in fact, a series of balls attached to the pedestal for scalping operations and the like. The screen deck would be resiliently mounted and fixed in position providing some degree of resiliency to the constant forces and jarring actions of the aggregate being screened.

This invention, then, is directed to a pedestal support for a screen deck incorporating a bottom end member resiliently mounted in rubber and locked in a strip socket with a pivotal member.

An object of this invention is to provide a new and improved pedestal support resiliently mounted for a screen deck.

A further object of this invention is to provide a new and improved pedestal support for a screen deck incorporating an end member having a variable locking end section mounted in a resilient rubber socket and means for clamping said end member in place.

A still further object of this invention is to provide a new and improved pedestal support for a screen deck and a bottom end support consisting of a strip of rubber-like material in which the end member or members may be fixed and securely locked in position to support the pedestal and the screen deck structure.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims; the following description setting forth in detail one approved method of carrying out the invention, such disclosed method, however, constituting but one of the various ways in which the principles of the invention may be used.

In the drawings:

FIG. 1 is a schematic view of a screen deck with pedestal supports therefor;

FIG. 2 is a cross-sectional view of one of said pedestal supports;

FIG. 3 is a cross-sectional view of a modification showing a strip pedestal support for a ball pedestal screen deck;

FIG. 4 is a top view of one of said screen decks;

FIG. 5 is a cross-sectional view of a formed wire pedestal support;

FIG. 6 is a perspective view of a further modification;

FIG. 7 is a fragmentary end view of an alternate modification of the pedestal support;

FIG. 8 is a cross-sectional view along the line 8—8 of FIG. 7;

FIG. 9 is a top elevational view of the rubber-like support block; and

FIG. 10 is a sectional view of the rubber-like support block in an open position.

Referring now more particularly to the drawings, **10** shows a screen deck for a vibrating screening apparatus which may be of woven material, although it could be of other construction. A typical support is seen at **11**, in this case an individual support for said screen deck, which would be at spaced intervals, perhaps three or four on a side and possibly a center support. These would be pedestals welded to the screen deck structure or fastened as by other means, and would consist of a pedestal **12** having a crosshead or T member **13** welded to the screen deck structure. At the bottom of the pedestal **12** would be a bottom end section **14** having a variable locking end section such as a cross section as at **15**. This would fit within a rubber member **16** having an enlarged section **17** adapted to mate with the reduced section of the bottom end section of the pedestal support. This would fit within a cradle or support member **19**, and there would be a locking member **20** such as an L-shaped arm pivoted at **21** to keep the rubber support and head of the pedestal in position in the socket.

In connection with this structure and by moving the locking member in position as by means of an arm **22** through the screen deck, the screen deck may be resiliently mounted in the vibrating screen body so that the crushing blows of large boulders will not damage the screen deck but at the same time sticky materials may pass through the screen deck and will not build up on the supports for the screen deck. In the event they build up, the particles will fall off before they blind or clog the screen deck surface itself because of the height of the screen deck above the pedestal supports.

FIG. 3 is a cross-sectional view of a pedestal support, all parts being shown the same, except that the head **24** is a round ball, although other shapes could be employed, and this would make a scalping type screen as seen in the fragmentary top plan view of FIG. 4 at **25**.

FIG. 5 is similar, except this time it is formed of a wire member shown generally at **26** having a pair of head sections **27** and **28**. The pedestal portion proper is seen at **29** and a reduced section at **30** is also shown, the rubber being formed in and around the reduced section to hold the member in position as in the earlier views.

FIG. 6 shows a further modification with a pedestal at **31** having a crosshead in the shape of a cross at **32** with two branches, one shown at **33** crossing the other banch **34**, and these may be at right angles or at any angle. The versatility of this pedestal support should be noted in connection with screen decks. The particular advantage of these pedestal supports is that sticky particles would not attach to the screen and would fall through and if they did build up around the rubber socket, they would break off before they clogged the screen proper.

By this construction, then, a novel type of screen is formed which provides a resilient support for the screen deck and a pedestal connection to support the same in a manner not taught before in connection with vibrating screening devices.

Additional alternates are seen in connection with FIGS. 7, 8, 9 and 10, and in these views **43** is an upper rod of a rod deck and **44** is the T-shaped pedestal support or strut. The T-shaped pedestal support has a variable locking end section such as the reduced end section at the lower end of the T at **45**, said reduced end section fitting

into a rubber support means 46 having plates 47 and 48 fitted generally into a U-shaped frame or socket housing at 49, said frame comprising a vertical member 50 and a horizontal member 51 joined thereto, and a right vertical side member 52 secured perhaps as by welding between the individual T-shaped support member for the rods and the rubber would support the T-shaped member laterally to provide proper lateral spacing between the rods.

To hold the configurations within the U frame there would be a pair of brackets generally shown at 53 comprising a left bracket 54 and a right bracket 55 mounted therebetween as by means of a bolt at 56 and a nut fastening means as at 57. The pivotally mounting member 58 has a projection or overhang flange 59 and another flange at 60 has an aperture therein at 61, said latter aperture being for a bar or other means to pivotally move the holding members into an outer position. The bar would then pass through the screen to contact the pivotal member. The nature of the support means around the pivotal connection would be that of a rubber bushing to hold the pivotal member resiliently between the supports or ears. Other types of locking means may also be used to hold the assembly together.

The construction of the U-shaped supporting blocks and the rubber blocks surrounding the T-shaped pedestals may be held in position against the tension of the rods.

This construction then provides improved support for the rod deck so that it may accept tension and compression and will withstand the abuse that it gets in practice.

FIGS. 9 and 10 particularly show the rubber support as a strip supporting the pedestals across a screen. This is a matchbook type arrangement. In this construction it is easier to mold the rubber and easier to form the pedestal and the reduced portion at the end of the pedestal into the rubber-like socket.

All of the screen decks and pedestals are, of course, subject to vibration in a great number of directions and at a high rate. The metal and rubber are constantly in action, but at the same time must be able to accept heavy overloadings because of the weight on the screen deck itself. This will stretch the rubber and possible cause a certain amount of fatigue in the metal supporting the screen deck. This is the nature of the very heavy usage in vibrating screening equipment and in screen decks and must be accepted. This application is a continuation-in-part of my application Serial No. 452,187, filed August 25, 1954, entitled Screen, now Patent No. 2,914,177, dated November 24, 1959.

While I have illustrated the invention in connection with only a few embodiments for ease of description, it will be immediately apparent to one possessing but ordinary skill in the art that the illustrated form of the invention constitutes but a few of many forms to which the principles of the invention may be applied. It is my desire, therefore, that the specification and drawings be considered as merely illustrative, and that I be limited only by the spirit and scope of the appended claims.

I claim:

1. A pedestal support for a screen deck of a vibrating screening apparatus, comprising a multiplicity of head members attached to a screen deck, a multiplicity of upright pedestals secured to said head and separated from one another, each of said pedestals having a bottom end portion having a longitudinal reduced cross section thereon, a layer of rubber-like material outwardly from said bottom end portion formed in a bifurcated strip mating with the bottom end members, spacing them from one another and mating with the bottom member and its reduced cross section, and a strip socket housing for said rubber-like layer and bottom end members to provide a firm support for the pedestals of the screen deck, and locking means on said socket housing for securing the pedestal bottom end members and rubber-like material in assembled position.

2. A resilient end portion for a pedestal support of a vibrating screening apparatus, said pedestal support having a bottom end member with a variable end section thereon, comprising a generally channel-shaped member of rubber-like material having a multiplicity of fitted sections centrally of the channel-shaped member, said fitted sections being adapted to hold the variable end section of a pedestal support, the layers of rubber on the sides of the channel-shaped member being capable of being urged outwardly to permit the entry of the variable end section of said pedestal support.

3. A pedestal support for a screen deck of a vibrating screening apparatus, comprising a head member in a screen deck, an upright pedestal connected to said head, a bottom end portion for said pedestal having a locking end section of variable longitudinal section, a layer of rubber-like material outwardly therefrom, and a strong supporting socket housing for said rubber-like layer and said bottom end portion forming a socket for said pedestal, said socket housing having thereon a locking means for securing said pedestal, bottom end portion, and rubber-like material in assembled position.

4. A pedestal support for a screen deck of a vibrating screening apparatus, comprising a multiplicity of head members attached to a screen deck, each of said head members having an upright pedestal secured to the head, each of said pedestals having a bottom end portion, said bottom end portion having a locking section of variable cross-section, a layer of rubber-like material outwardly from the sides of said bottom end portion formed in a bifurcated strip mating with the bottom end portion and the locking end section thereon, spacing the bottom end members to provide an improved pedestal support for a screen deck, and a strong supporting socket housing for said rubber-like layer and said bottom end portion forming a strip socket for said pedestals, said socket housing having thereon a locking means for securing said pedestals, bottom end portions, and rubber-like material in assembled position.

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