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2,690,265

COAL DEHYDRATING SCREEN

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Fig. 1.

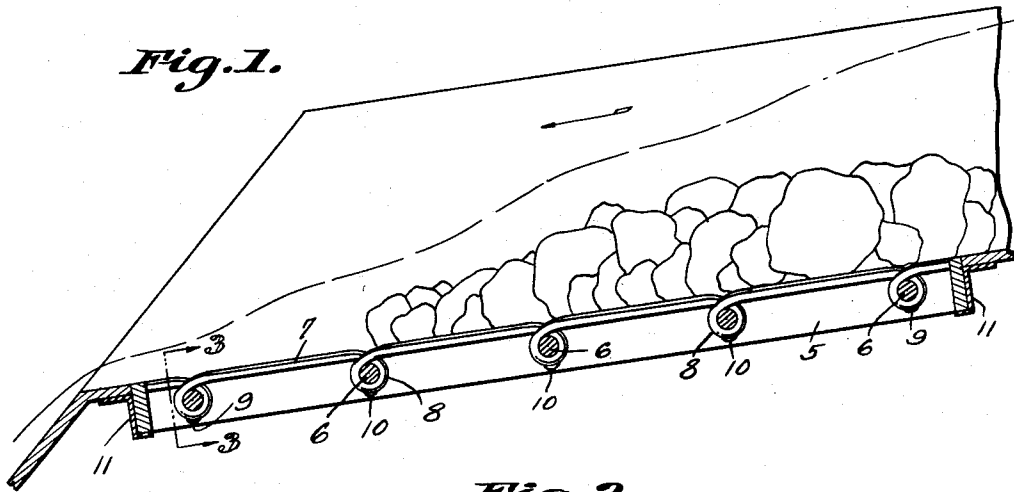


Fig. 2.

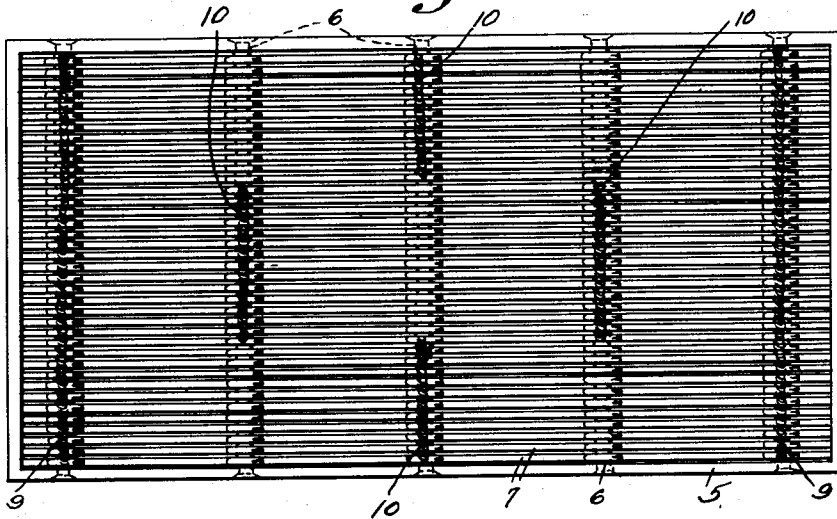
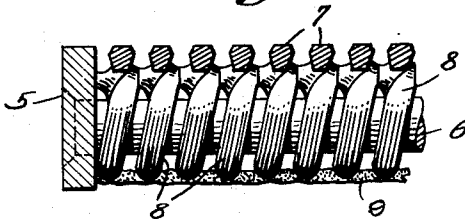


Fig. 3.



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COAL DEHYDRATING SCREEN

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2 Claims. (Cl. 210—169)

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This invention relates to screen construction, and specifically to screens used in the coal industry for dehydrating washed coal.

The primary object of the invention is to provide a screen wherein the screening wires thereof are so constructed and arranged within the frame of the screen, and with respect to each other that sympathetic or simultaneous vibrations of the wires of which the screen is constructed, under the weight of the coal passing thereover will be eliminated, thereby increasing the life expectancy of the screen by decreasing wear due to constant and simultaneous vibrations of the wires of the screen.

An important object of the invention is to arrange the wires of the screen in groups, the wires of each group being secured together and the groups being arranged in staggered relation with respect to each other across the screen, with the result that the groups of wires will vibrate at irregular intervals thereby distributing strain directed to the wires by the weight of the coal passing thereover.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts, hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing:

Figure 1 is a longitudinal sectional view through a screen constructed in accordance with the invention.

Fig. 2 is a bottom view of the screen illustrating wires secured together in staggered groups.

Fig. 3 is an enlarged sectional view taken on line 3—3 of Fig. 1.

Referring to the drawing in detail, the frame of the screen is indicated generally by the reference character 5, the side bars of which being formed with openings to receive the supporting rods 6 that are arranged in parallel spaced relation with respect to each other, throughout the length of the screen frame.

These rods 6 provide supports for the screen wires 7 that are formed with loops 8 that are so located that the loops fall opposite to the supporting rods 6 which are extended therethrough, securing the wires 7 of the screen within the frame.

In cross section, the side edges of the wires 7, converge towards the lower edges of the wires providing spaces between the wires which widen towards the lower edges of the wires so that the screening spaces will be self clearing.

Ordinarily these wires vibrate simultaneously or sympathetically under the weight of coal passing thereover, which vibrations cause exces-

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sive wear on the wires to cause them to break at their points of mounting on the supporting rods.

As shown, the loops 8 of the wires which are positioned over the rods 6 adjacent to the ends of the frame, are secured together as by welding indicated at 9, throughout the entire width of the screen.

In carrying out the present invention, the wires of the screen are divided into groups of predetermined numbers of wires, the loops of each group being secured together by welding indicated at 10. As shown by Fig. 2, the groups of wires formed by welding predetermined groups of wires together, are arranged in staggered relation with respect to each other so that the wires of the groups vibrate independently of each other, thereby distributing wear which ordinarily would be directed to the wires adjacent to the loops, to the end that the life expectancy of the wires of the screen will be increased over wire screens wherein the wires are secured to their supporting rods independently of each other.

In the present showing the wire screen is illustrated as resting on brackets 11 that are secured to the frame of a flume, to the end that the screen may be readily and easily removed or replaced.

Having thus described the invention, what is claimed is:

1. In a coal dehydrating screen, a frame embodying side members, supporting rods disposed transversely of said frame, the ends of said rods being connected to said side members, a plurality of parallel screen wires extending longitudinally of the frame providing a screening surface within the frame, adjacent groups of screen wires being welded together and to alternate supporting rods at points in staggered relation with respect to each other, whereby said groups of wires flex independently of each other.

2. In a coal dehydrating screen, a frame embodying side members, supporting rods disposed transversely of said frame, a plurality of groups of parallel screen wires extending longitudinally of the frame throughout the length of the frame, spaced loops formed on said wires in which said supporting rods are secured by welding, said loops of each group of wires being also welded together, and adjacent groups of screen wires being welded to alternate supporting rods at points in staggered relation with respect to each other, whereby said groups of wires flex independently of each other.

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