Oct. 29, 1935. D. L. CRAMP 2,019,253

SCREEN

Filed Aug. 26, 1933 2 Sheets-Sheet 1

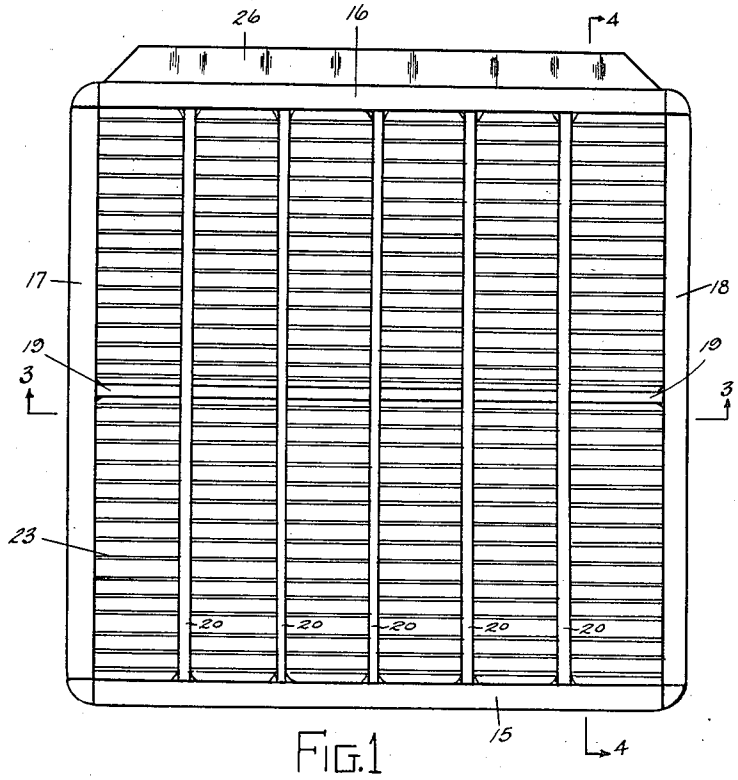

FIG. 1

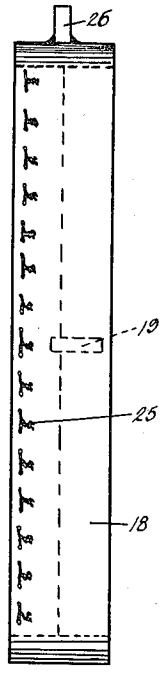

FIG. 2

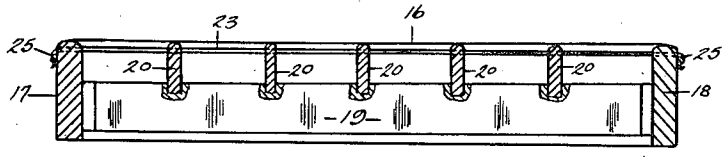

FIG. 3

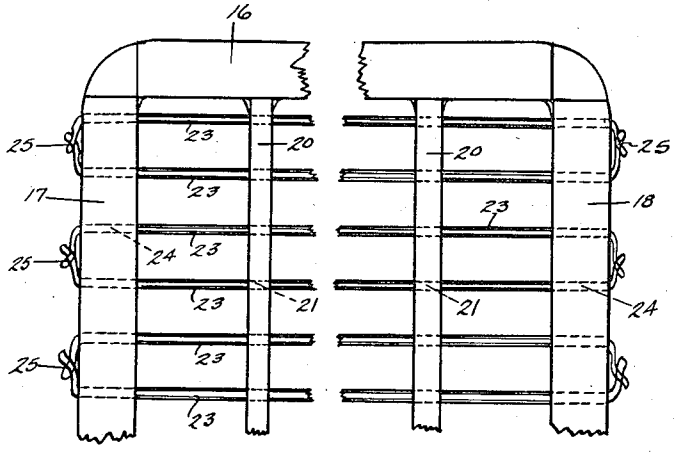

FIG. 5

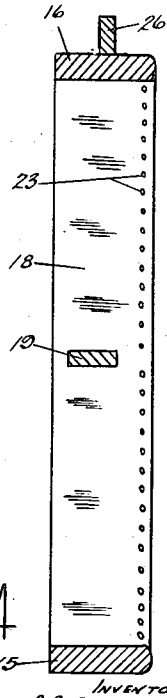

FIG. 4

INVENTOR
D. L. Cramp
By E. J. Fotheringham
ATTORNEY

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SCREEN

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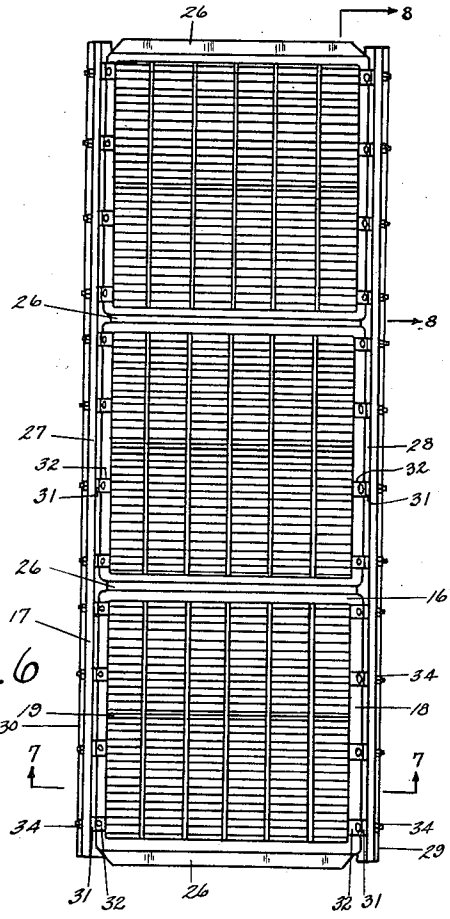

FIG. 6

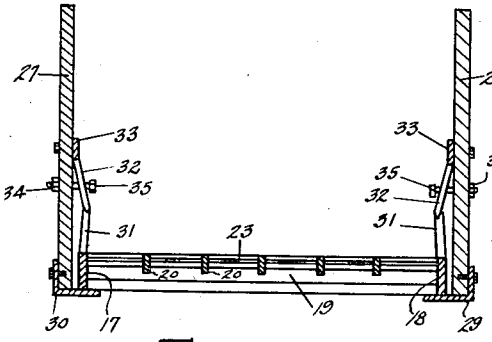

FIG. 7

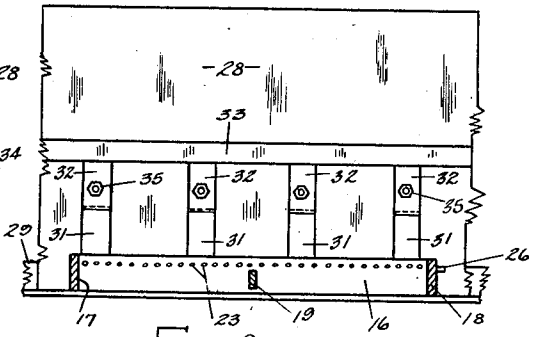

FIG. 8

INVENTOR
D. L. Cramp
By C. J. Fetherstonhaugh
ATTORNEY

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UNITED STATES PATENT OFFICE

2,019,253

SCREEN

David Leo Cramp, Kirkland Lake, Ontario, Canada

Application August 26, 1933, Serial No. 686,994

2 Claims. (Cl. 209—400)

The invention relates to a screening device, as described in the present specification and illustrated in the accompanying drawings which form a part of the same.

The invention consists essentially of the adoption of the sectional principle as applied to screens for various purposes as pointed out in the claims for novelty following a description in detail of an acceptable form of the invention.

The objects of the invention are to facilitate the repair or replacement or removal of the screen sections used in screening ore, sand, gravel, coal and other material and thus economize in the matter of time and material and at the same time save expense in labor and maintenance through delays in repairing the screens which otherwise must occur; to construct a device in which the sections are easily removable without the necessity of destroying the screen cloth as is the usual practice at the present time; to increase efficiency in screening and reduce the cost of the operations and thereby improve conditions in mining and contracting plants, as well as evening the product through the aforesaid facilities for keeping the screen interstices in proper shape; and generally to provide a screen that will be durable in construction and efficient for many purposes.

In the drawings, Figure 1 is a plan view of a screen section.

Figure 2 is a side elevational view of the screen.

Figure 3 is a cross sectional view of the screen taken on the lines 3—3 in Figure 1.

Figure 4 is a longitudinal sectional view taken on the lines 4—4 in Figure 1.

Figure 5 is a fragmentary detail of the screen showing an acceptable form in which the wires are inserted and held.

Figure 6 is a plan view of a plurality of screens mounted in the frame and ready for use.

Figure 7 is a cross sectional view of the screen and frame taken on the lines 7—7 in Figure 6.

Figure 8 is a fragmentary longitudinal sectional view taken on the lines 8—8 in Figure 6.

Like numerals of reference indicate corresponding parts in the various figures.

Referring to the drawings, the screen frame is formed of the end walls as indicated by the numerals 15 and 16 and the side walls 17 and 18 and which are welded together and reinforced by the slotted cross brace 19 which supports the longitudinal bars 20 having the spaced orifices 21 close to their upper ends 22 through which the wires 23 are inserted.

The orifices 21 of the bars 20 are in alignment with the orifices 24 which are made in the side walls 17 and 18, the wires projecting through and beyond the orifices of the side walls and are bent and secured together in any suitable way such as in pairs as indicated by the numeral 25.

Prior to the insertion of the wires in the frame, the upper portion of the frame is case hardened by using a composition such as steliting which is accomplished prior to the boring of the holes of the orifices in the bars and side walls so as to make the top surface of the screen durable and capable of resisting the constant rubbing of the ore or other matter which is travelling along the screen, thereby insuring longer life to the screen.

The screen section may be used with any number of units suitably joined together and inserted in a screen frame but as herein shown in the drawings, each of the screen sections has the projecting lip 26 which abuts the adjacent screen and acts as a strengthening member for the structure.

The screen box which consists of frame walls 27 and 28 is supported by means of the angle bars 29 and 30 forming the base and the screens which are inserted within the screen box may be supported by the same angle bars and are held therein by means of the pivoted brackets 31 and 32. The upper end of the bracket 32 abuts a strap member 33 which is rigidly secured to the frame walls 27 and 28 so that when the nut 34 of the adjusting bolt 35 is turned, the brackets 31 and 32 will be pulled in parallel to the wall 28 tending to squeeze down upon the side walls 17 and 18 of the screen frame and hold it rigidly in position.

There are preferably eight brackets to each of the screen sections so that a firm grip and holding means is established and in this way it will easily be seen that these screens may be quickly removed for repairs or other reasons without in any way dismantling the remaining portion of the screen.

In the operation of the invention, the screen frames are simply mounted in the screen box and held down by the brackets or clamps and are ready for use and it will be noted that the ore or other matter travels longitudinally on to the screens so that the longitudinal bars of the screen section really form guides for the travel of the ore, while the wire which takes the place of the screen cloth being inserted transversely in the screen sections, forms a grid so as to provide a better screening operation.

What I claim is:

1. A screen comprising a frame, longitudinal

riding rails integral with two of the opposing ends of the frame and having apertures throughout their length, a cross brace integral with the other two opposing ends of the frame and having notches forming seats for the longitudinal riding rails, and a plurality of wires extending across the frame and threaded through the apertures of said rails and through apertures formed in the opposing ends of the frame parallel to said bars, said wires forming fastening means with one another in pairs exterior to the frame.

2. A screen comprising a frame formed of end walls and side walls welded together, the latter having a plurality of apertures throughout their length, a slotted cross brace integral with the side walls, a plurality of riding rails integral with the end walls and seated on the slotted cross brace and having a plurality of apertures throughout their length, a projecting lip forming an integral part of one of the end walls, and a plurality of wires extending across frame and threaded through the apertures of said rails and said side walls and twisted together in pairs exterior to the side walls of the frame.

DAVID LEO CRAMP.