No. 892,406. PATENTED JULY 7, 1908.

F. S. CONVERSE.

COAL SCREEN.

APPLICATION FILED AUG. 6, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

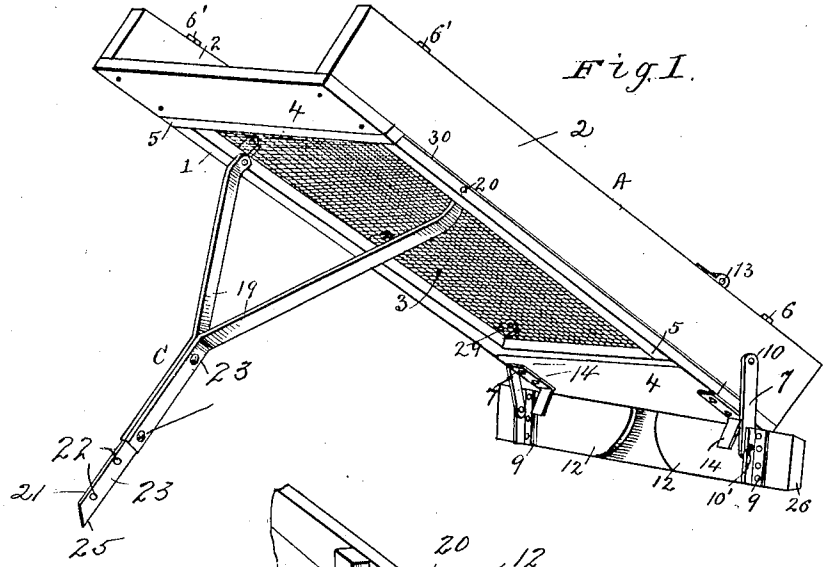
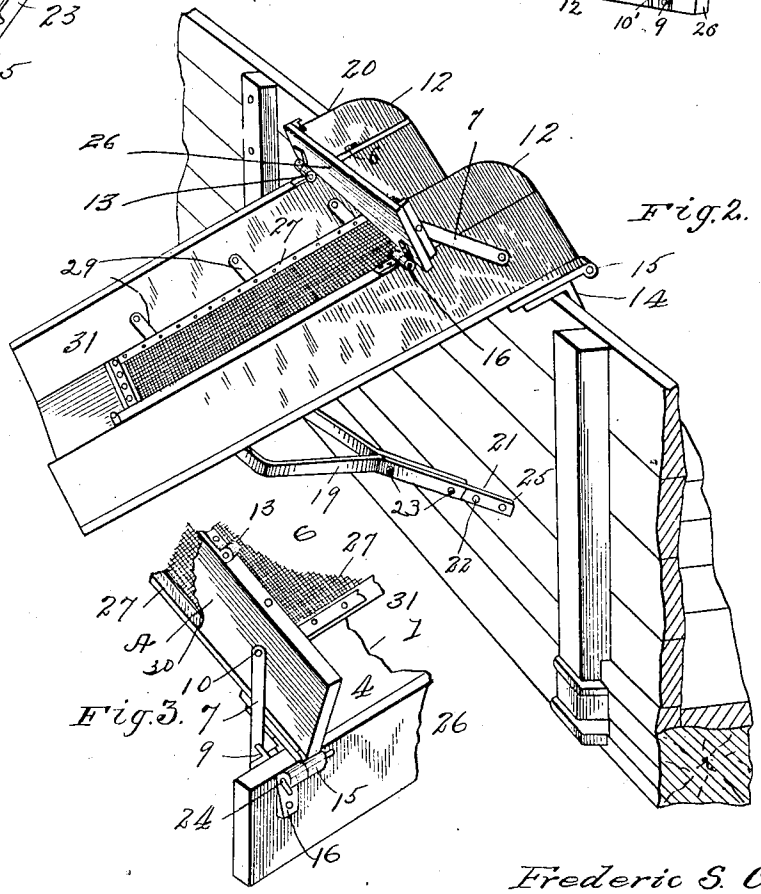



Fig. 2.




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2 SHEETS—SHEET 2.

Fig. 4.

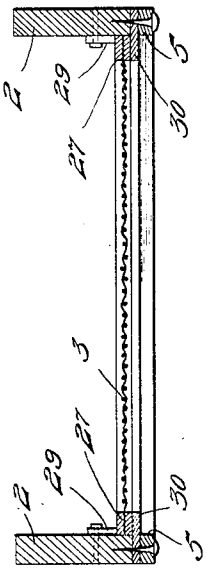
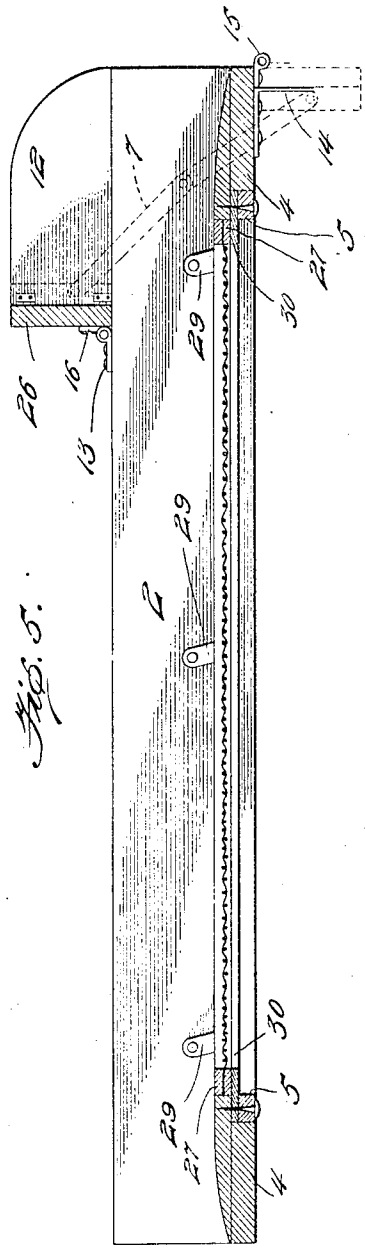



Fig. 5.




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# UNITED STATES PATENT OFFICE.

FREDERIC S. CONVERSE, OF LYONS, NEW YORK.

## COAL-SCREEN.

No. 892,406. Specification of Letters Patent. Patented July 7, 1908.

Application filed August 6, 1906. Serial No. 329,363.

*To all whom it may concern:*

Be it known that I, FREDERIC S. CONVERSE, a citizen of the United States, residing at Lyons, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Coal-Screens, of which the following is a specification.

This invention relates to improvements in screens, such as are used for screening coal, sand, or gravel, either on the ground or on a car or wagon, commonly called a car or yard screen.

The object of my invention is to provide a screen which may be adjustably supported on the ground or attached to the side of a car or wagon at any desired pitch or inclination, to enable the coal, sand or gravel to be readily sifted therefrom; and further, to provide a screen with an adjustable and movable combination baseboard and hopper to facilitate the screening of coal and other like substances, all as hereinafter more fully described, and as shown in the accompanying drawings, wherein—

Figure 1 is a perspective view of the screen complete ready for use as a yard screen. Fig. 2 is a similar view, showing the screen attached to the side of a portion of a coal car in position for screening coal from a car. Fig. 3 is a perspective view of a corner portion of the body of the screen, and the adjustable movable baseboard and hopper secured thereto. Fig. 4, is a transverse sectional view of the screen, and Fig. 5, is a longitudinal sectional view of the same with the base board shown in the hopper position in full lines and in the supporting position in dotted lines.

Similar letters and figures refer to like parts throughout different views of the drawings.

This device consists principally of the longitudinal body A, the adjustable and movable combination baseboard and hopper, adjustable crutch support C, and the removable screen 3.

The rectangular body of the screen A, and the transverse board 26 which forms the baseboard of the screen as well as the front of the hopper thereof are preferably made of wood. The transverse cross-pieces 4 and the inner surface of the transverse board 26 are preferably covered with sheet metal to insure durability from the rough usage to which such a device is subjected. All the other parts of the device are preferably made of metal. Still the same may be made in any size, form, and material as desired. The body A comprises the bottom 1, side walls 2, transverse cross-pieces 4 which are secured bolted or otherwise permanently fastened to the under edges of said walls at either end as at 6—6′ in such a manner as to preserve the contour of the screen.

In the bottom 1 of the frame work of the screen and between the side walls 2, and the transverse cross-pieces 4 thereof I secure longitudinal and transverse cleats 5. Between said cleats and the under edges of said side walls I fasten longitudinal metal plates 30 which project inwardly sufficient to permit the screen 3 to rest thereon by lapping said plates. This screen 3 I construct by securely riveting thereon at 27 metal binding around its outer edges and on either side as best seen in Fig. 2.

To effectively secure the locking of the screen proper in the bottom of the frame-work and to prevent said screen from working ahead, I upset the edge of the metal covering on the inner edge of the transverse cross-pieces 4 as at 31 and pivot on the inner sides of said side walls 2 clamps 29 spaced at proper distances apart. These clamps are rounded at their outer ends and are adapted to clamp the screen firmly to the plate 30 of the frame work as best seen in Fig. 2. As the upper end of the screen in Fig. 1 becomes the lower end of the screen in Fig. 2 when the screen itself is reversed end for end these clamps all have to be reversed accordingly, as the tendency of the screen is to work downward when the coal or other substances are thrown thereon. It is therefore obvious that when the screen wire fabric wears out or it is desirable to replace the same for any reason, for instance for different kinds of coal, it will not be necessary to purchase a new frame work, as the worn screen or the one which it is desired to be removed may be taken off, simply throwing up the clamps 29 and replacing the screen by new or another wire fabric of a different mesh and the clamps again thrown down.

On the outside of the side walls 2 near the inner end of the screen I pivot the straps 7 at 10. To the outer ends of these straps 7 as at 10′ I pivot the angle plates 9 which are of themselves fastened to the transverse baseboard 26. On the inside of said adjustable and movable base-board 26 I hinge the adjustable lateral wings 12 which form the side

walls of the hopper in connection with the transverse board 26 as best seen in Fig. 2: thus making a sufficient transverse discharge opening for handling coal or other like substances as desired. On the bottom of this end of the screen and directly beneath the side walls and running longitudinally therewith and on the upper edges of the side walls 2 near their ends are strap eyes 15 and 13 respectively, which are adapted to be engaged with the strap eyes 16 on the outer face of the board 26 by means of the pins 24 which pins are held in place by suitable split keys as will be readily understood. Beneath said strap eyes 15 are secured angle irons 14 which are suitably adapted to be engaged with the upper edge of the side of the car D or with the upper edge of the side of a wagon, by hooking over the same, while permitting the screen to be adjusted to any desired inclination.

21 is a leg provided with a point 25 and several spaced holes 22, and 19 are diverging straps pivoted at 20 to the cleats 5 near the upper ends of the screen and provided with bolts and nuts 23 adapted to take into said spaced holes 22 to lengthen and shorten the support C for the purpose of elevating and lowering the screen to any desired pitch or inclination to facilitate the screening of coal or other like substances.

Assuming the screen to be in the position shown in Fig. 2 and it is desired to use the same to screen coal, sand, gravel or other like substances on the ground, the transverse hopper is released from its position on the top of the edges of the side walls 2 of the frame of the screen by removing the pins 24 from the strap eyes 13 and 16 respectively, and the wings 12 (which are held open and in position by springing the same over the nuts 6) are swung inward on their hinges and against the board 26 of the hopper, then the hopper is swung on the pivots 10′ and 10 outward and downward and inward over and under the inner end of the screen which brings the strap eyes 15 and 16 directly opposite each other thereby permitting the pin 24 to be inserted and locked with a split key as best seen in Fig. 3 when the hopper becomes the base-board of the screen. The wings 12 are held in place and prevented from swinging outward by coming in contact with the angle irons 14 as best seen in Fig. 1.

When it is desired to use the device as a yard screen, the part 26 acts as a base board or support for the screen as shown in Fig. 1. But when it is desired to use the screen as a car or wagon screen, the position of the body of the screen as well as all of its parts is reversed, that is, the support or base board 26, is swung around and over the end of the screen and fastened on top thereof as at 13, Fig. 2, while the lower end of the screen Fig. 1, is raised and becomes the upper end of the screen as shown in Fig. 2, and the crutch support C swung against the car as shown in the drawings.

The pitch of the screen is adjusted by moving the crutch support C inward or outward on the pivots 20. In case the elevation of the outer end of the screen is found to be too high or too low the difficulty is remedied or overcome by removing the bolts 23 from the spaced holes 22 and sliding the support leg 21 upward or downward as the case may be and the bolts 23 re-inserted in their proper spaced holes 22 and the crutch support again swung into position and the screen given its desired pitch or inclination for screening purposes.

Now, when it is desired to screen coal, sand, gravel or other like substances from a car or wagon, the base board 26 is released from in under the screen by removing the pins 24 and swinging the baseboard on the pivots 10 and 10′ outward and upward and inward over the end of the screen which brings the strap eyes 15 and 16 respectively on the top edges of the side walls 2 of the frame of the screen and directly opposite each other when the pins 24 are inserted and fastened with the split keys, then the wings 12 are spread apart and swung over the nuts 6—6 which hold the wings open and in position to form the hopper as best seen in Fig. 2. The screen is then placed in position on a car or wagon by hooking the angle irons 14 over the top edge thereof and swinging the crutch support C inward and against the side of the car or wagon, the weight of the screen as so hung with the angle irons 14 being sufficient to press the point 25 of the leg 21 firmly and solidly against the side of the wagon or car while the pitch or inclination of the screen is determined in the same manner as hereinbefore described. It therefore follows that with my improvement when coal or the like is thrown on the screen in the position of Fig. 1 the same will traverse nearly the entire length of the screen and the dust and fine fragments of the coal or the like will readily separate itself from that which is desired; it is also the case when the same is thrown in to the discharge transverse opening of the hopper in the position of Fig. 2.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A coal screen comprising a supporting frame having an opening therein, a frame carrying a screen arranged in said opening, dogs pivoted to the sides of the supporting frame to engage and secure the screen frame therein, a base board pivoted at one end of the supporting frame and adapted to act as a support or as a hopper.

2. The combination with a coal screen, of a base board pivotally connected at one end thereof, lateral wings hinged to said base board, said base board adapted to form a

support for one end of the screen, or when the screen is reversed, to form in combination with the lateral wings, a hopper.

3. The combination with a coal screen, of connecting bars pivoted to the sides thereof, a base board pivotally connected to said bars and adapted to support the lower end of the screen, and lateral wings hinged to the base board adapted to rest upon the sides of the screen to form a hopper in conjunction with the base board.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERIC S. CONVERSE.

Witnesses:
ALICE HORRIGAN,
MARY E. WHITMAN.