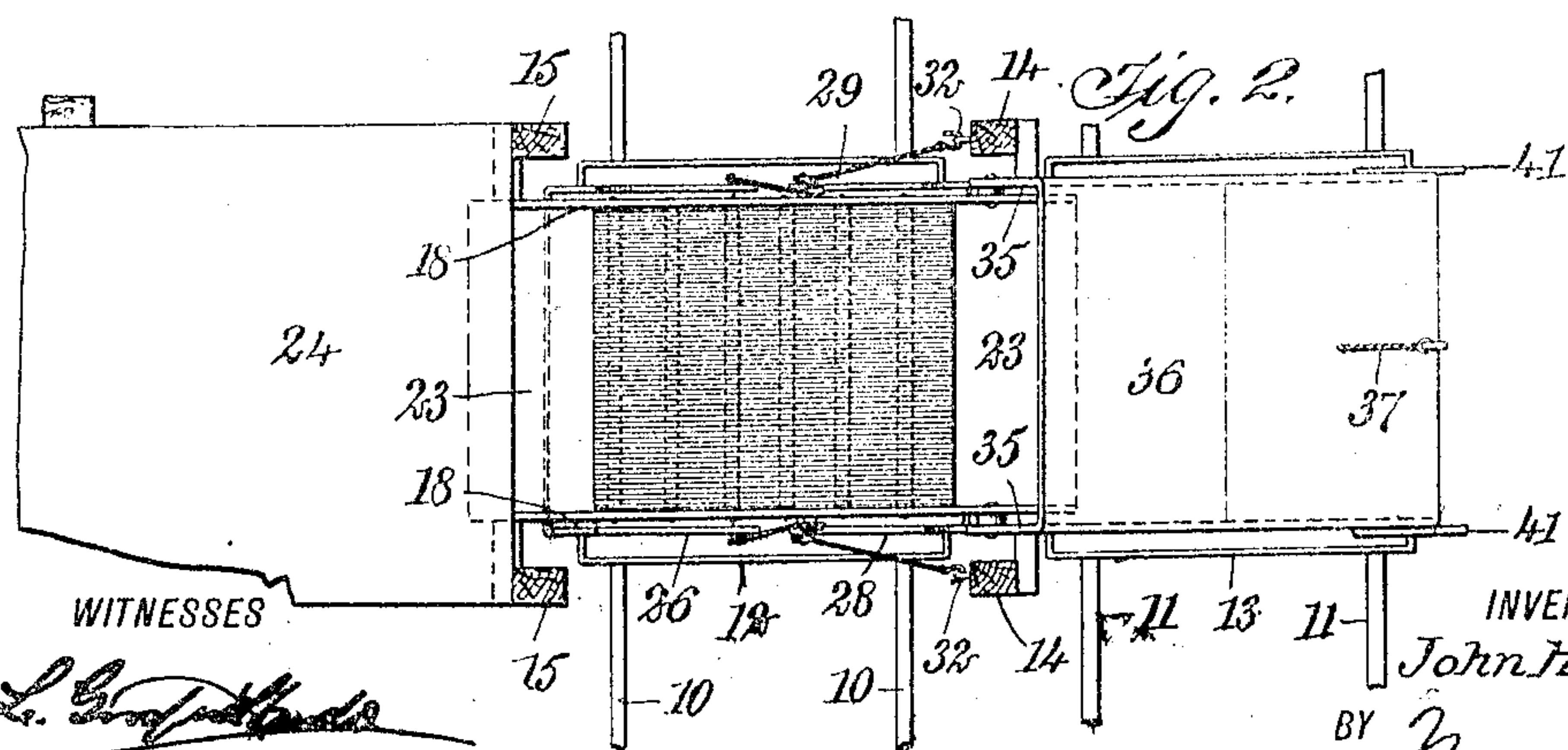
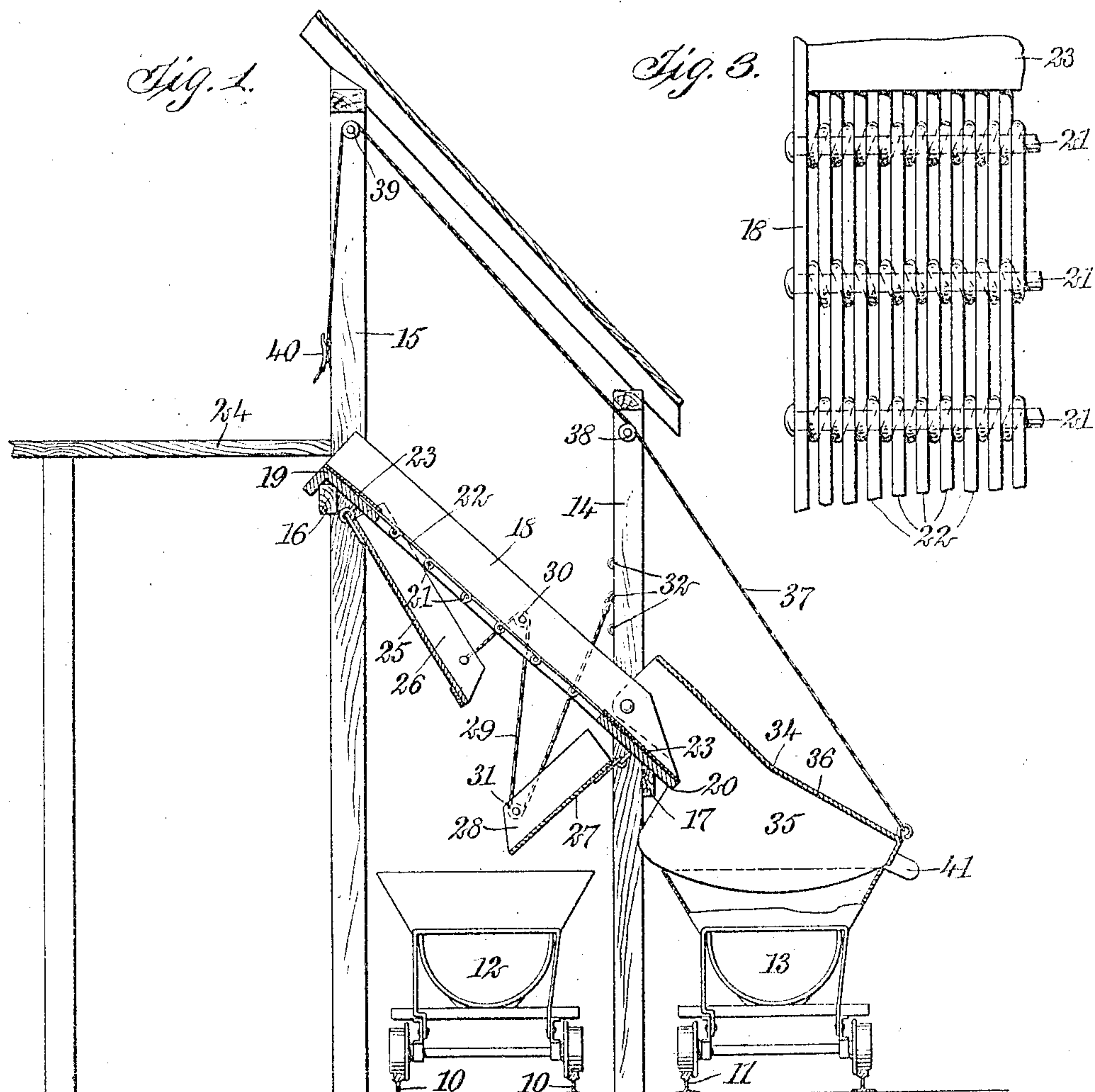


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J. H. LYNCH.  
SCREENING APPARATUS.  
APPLICATION FILED MAR. 9, 1909.

944,097.

Patented Dec. 21, 1909.



WITNESSES

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# UNITED STATES PATENT OFFICE.

JOHN H. LYNCH, OF HAVERSTRAW, NEW YORK.

## SCREENING APPARATUS.

944,097.

Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed March 9, 1909. Serial No. 482,362.

*To all whom it may concern:*

Be it known that I, JOHN H. LYNCH, a citizen of the United States, and a resident of Haverstraw, in the county of Rockland and State of New York, have invented a new and Improved Screening Apparatus, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in screening apparatus, and more particularly to an apparatus designed for screening sand, gravel, coal, or the like, into two different grades and delivering each to a separate car or receiver.

The apparatus is designed to be so mounted that cars may be run along separate tracks beneath the apparatus, and as soon as filled, replaced by empty cars upon the same tracks.

The invention consists in the combination of parts hereinafter described, and more particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a vertical section through an apparatus constructed in accordance with my invention; Fig. 2 is a top plan view thereof; and Fig. 3 is an enlarged detail showing the construction of the screen proper.

It is, of course, understood that my improved screening apparatus may be constructed of any size desired, and may be used for screening any desired material, but the particular form illustrated is especially designed for screening coal, sand or gravel, and delivering the different products to separate cars. In this construction, I employ two railroad or car tracks 10, 10 and 11, arranged parallel and adapted for supporting and transporting suitable cars 12 and 13. Between the tracks are arranged two uprights 14, 14, and opposite to these and at one side of the track 10 is a second pair of uprights 15, 15. The two uprights 15, 15 are connected by a transverse member 16 at a suitable elevation above the car tops, and the uprights 14, 14 are connected by a transverse member 17 at a much lower elevation. My improved screen is supported upon these transverse members 16 and 17, and is set at an inclination so that material placed upon the upper end of the screen

will travel down the same and either through the meshes thereof or off the lower end. The screen includes two side plates or bars 18, 18, connected together at their upper and lower ends, respectively, by floor bars 19 and 20. Extending across from one side bar to the other, are a plurality of rods 21 in the plane of the floor bars 19 and 20, and arranged parallel to each other and parallel to the upper and lower ends of the screen. A second set of rods 22 extends longitudinally of the screen and from the upper floor bar 19 to the lower floor bar 20, and each rod 22 is wrapped once around each transverse rod 21, as clearly shown in Fig. 3. The transverse rods 21 all lie beneath the general plane of the rods 22, and act not only as supports for the last-mentioned rods, but also act to subdivide the longitudinal slots between the rods 22 into short sections. Each rod 22 as it extends around each transverse rod, operates not only to hold the rods together and in predetermined relationship, but also constitutes a spacer for defining the minimum distance between adjacent rods 22. The rods 22 may be of any diameter desired and the rods 21 may be spaced apart to any extent desired, for it is evident that the size and position of these rods define the size of the apertures in the screen. The upper and lower ends of the rods 22 may be concealed and protected in any suitable manner, but, as shown, I provide sheet metal plates 23 upon the upper surfaces of the floor bars 19 and 20, and covering the ends of the rods 22.

The material to be separated is dumped on to the upper end of the screen from any suitable form of platform 24, and the finer particles pass through the apertures between the rods of the screen, while the coarser particles pass over the upper surface of the screen and drop from the lower end thereof. For directing into a car or receiver, the material which passes through the meshes of the screen, I provide two baffles or troughs movable relatively to each other and movable in respect to the screen. One of these baffles or troughs 25 is hinged to the screen adjacent the upper end thereof, and preferably to the under side of the upper floor bar 19 and extends downwardly beneath the screen and at an angle thereto. The baffle or trough is slightly wider than the screen and is provided with side flanges 26 for engagement with the outer sides of the side walls 18 of the screen. The second baffle or



trough 27 is hinged to the screen at the lower end and preferably to the lower side of the floor bar 20. This baffle normally extends downwardly and outwardly at an angle to the screen, and at approximately right angles to the baffle or trough 25. This baffle is also provided with side bars 28, which come adjacent the outer sides 18 of the screen when said baffle is moved upwardly to its limiting position. The free ends of the two baffles are supported so that a movement of one results in a corresponding movement of the other, and whereby the two baffles may come to an equilibrium or balance each other. Preferably a cord 29 is secured to the sides of the upper baffle 25, and thence upwardly over pulleys or sheaves 30 on the sides of the screen, thence downwardly about pulleys or sheaves 31 on the sides of the lower baffle, and then upwardly to a ring or other fastening means 32 on the upright 14. This rope arrangement is preferably duplicated upon opposite sides of the screen, as is illustrated in Fig. 2. By supporting the free ends of the two baffles in the above manner, it will be noted that a downward movement of the lower end of the upper baffle will tighten the cord or rope, so as to draw upwardly the lower end of the lower baffle and a lowering of the free end of the lower baffle will raise the free end of the upper baffle. As the material passes through the screen, it strikes the baffle 25 and slides off the free or lower portion thereof. Material passing through the lower portion of the screen comes directly on to the lower baffle, and the two baffles will come to such positions that the forces tending to move them will counteract each other. With the baffles in this position, which is substantially that shown in Fig. 1, the material will be guided and directed toward the center of the car 12, so as to effectually load the latter and prevent the material from becoming scattered on the ground about the car.

In dealing with different kinds of material, it may be necessary to vary the effective length of the ropes 29, and this may be done in any suitable manner. For instance, a plurality of rings 32 may be provided in the uprights 14 and each rope may have a hook for entering in one of these rings.

The material which does not pass through the screen should be directed into a second car 13, and in order to prevent this material from becoming scattered and to insure the proper guidance of the material, I provide a hood or shield 34, pivoted to the lower end of the shield and adapted to rest at its lower end upon the car being filled. This hood or shield preferably comprises side plates 35 pivoted to the side plates 18 of the screen

and spread out at their lower ends to a width substantially equal to the width of the car. These side bars are connected by a top plate or cover 36, the upper end of which is spaced a short distance above the top of the screen; and the lower end of which terminates adjacent the upper edge of the car. The material passing off the lower end of the screen comes beneath the cover 36 and between the side walls 35, and is compelled to enter the car 13. As previously stated, the lower end of this hood or shield preferably rests upon the car, and in order to support it out of engagement with the car to permit the removal of the latter and the placing of a second and empty car, a cord or rope 37 is preferably provided, the lower end of which is connected to the lower end of the hood, and the upper end of which extends over pulleys 38 and 39 on the uprights to a fastening device 40 adjacent the platform. By pulling on the rope 37, a person on the platform may raise the hood to inoperative position. The hood, if desired, may be provided with outwardly-extending handles 41 at its lower end, by means of which a person on the ground may easily raise the hood.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In combination, an inclined screen, a baffle pivotally secured adjacent the under side of the upper end of the screen and extending downwardly therefrom at an angle to the screen, a second baffle pivotally secured adjacent the under side of the lower end of said screen and extending toward the other baffle, and a cord connecting the free ends of said baffles and movable over a support intermediate the ends of the cord, whereby a downward movement of one baffle is accompanied by a corresponding upward movement of the other baffle.

2. In combination, an inclined screen, a baffle pivotally secured adjacent the under side of the upper end of the screen and extending downwardly therefrom at an angle to the screen, a second baffle pivotally secured adjacent the under side of the lower end of said screen and extending toward the other baffle, and a cord having one end connected to the first-mentioned baffle and extending over a pulley on the side of the screen and over a second pulley on the end of the second baffle and having its other end adjustably supported.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. LYNCH.

Witnesses:

JOHN J. O'BRIEN,  
MARK O'BRIEN.