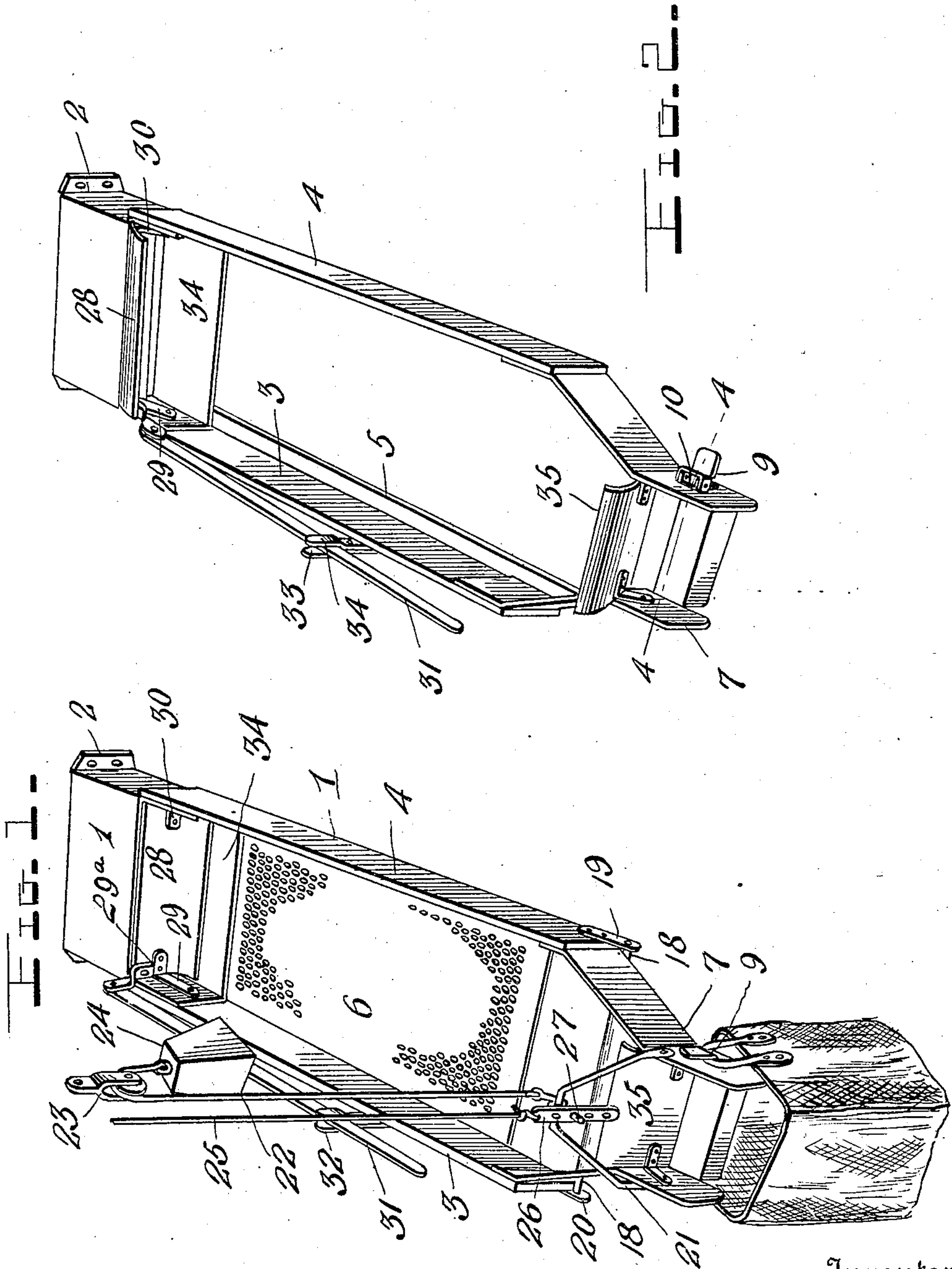


H. B. SACKETT.
COAL SCREEN.
APPLICATION FILED APR. 12, 1909.

969,659.

Patented Sept. 6, 1910.

2 SHEETS—SHEET 1.



Witnesses

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By

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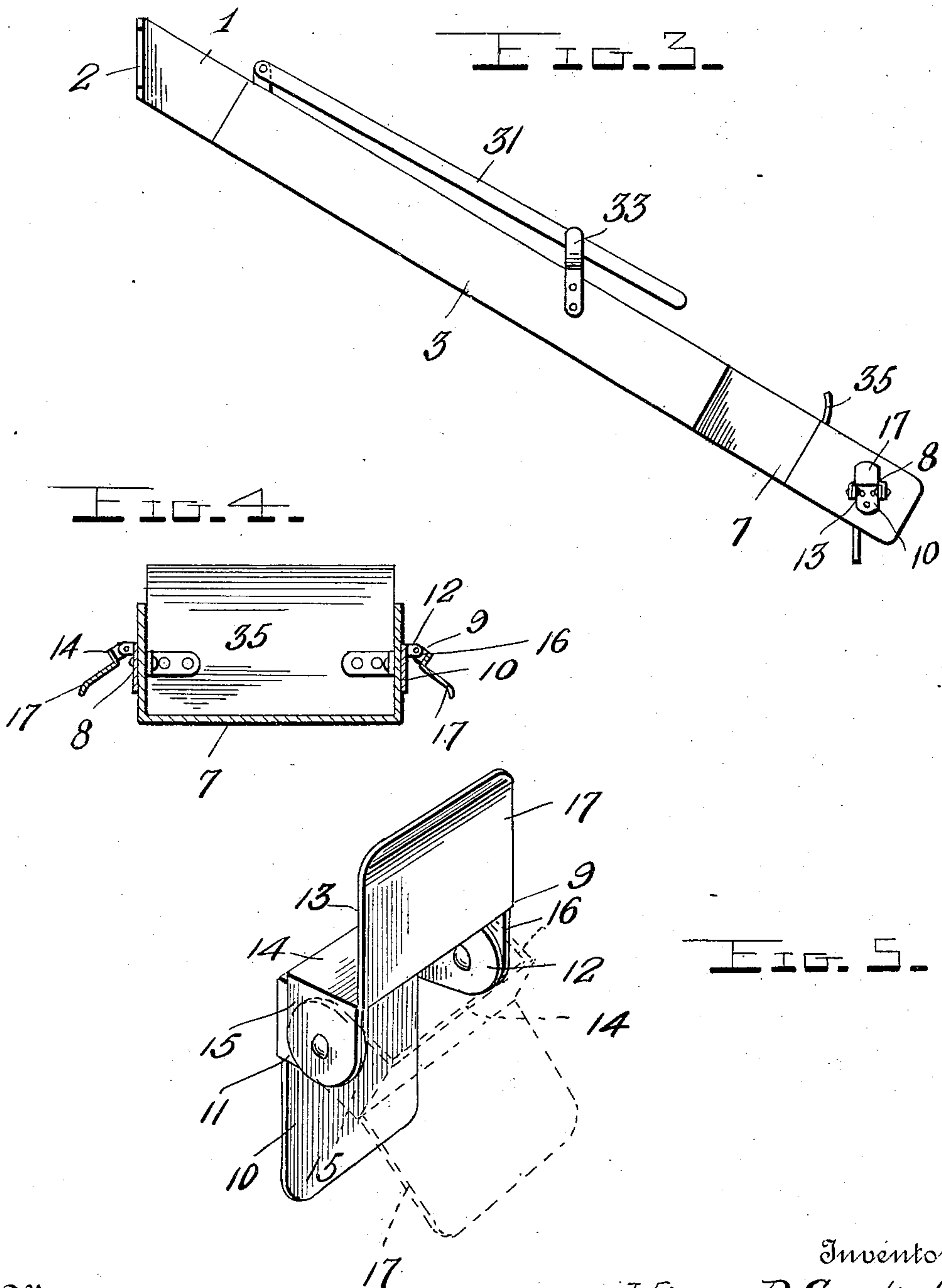
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UNITED STATES PATENT OFFICE.

HIRAM B. SACKETT, OF CHICAGO, ILLINOIS.

COAL-SCREEN.

969,659.

Specification of Letters Patent.

Patented Sept. 6, 1910.

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To all whom it may concern:

Be it known that I, HIRAM B. SACKETT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coal-Screens; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to screens designed for use in transferring coal from one receptacle to another and particularly in the unloading of it from a bin or car into bags for retail delivery.

The object of the invention is to provide improved cut-off valves for the hopper at the upper end of the screen and for the chute at the lower end of the screen from which the coal is run into the bags.

Another object is to provide improved means for operating the hopper valve provided with means for holding said hopper operating means in adjusted position.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings; Figure 1 represents a perspective view of this improved coal screen with a bag holder applied thereto and with the hopper and chute valves in closed position; Fig. 2 is a similar view showing the screen proper removed and the valves in open position; Fig. 3 is a side elevation thereof taken from the side equipped with the chute valve operating lever; Fig. 4 is a transverse vertical section taken on the line 4—4 of Fig. 2, and, Fig. 5 is a detail perspective view of the bag holding device detached and shown in operative position in full lines and in inoperative position in dotted lines.

In the embodiment illustrated a delivery chute 1, is shown having an incline of about nine inches per foot and which is provided with any suitable means for attaching it over an opening in the side wall of a pocket, the means here shown being in the form of apertured flanges 2, through which screws or bolts are designed to be placed for connecting it to the pocket wall. Arranged below the chute 1, is a screen supporting

frame preferably comprising vertically disposed side members 3, and 4, having laterally extending flanges as 5, arranged on the inner faces thereof near their lower edges to support the screen material 6, which may be made of any suitable material and of any desired mesh and which may be removably secured by any suitable means on said flanges 5. A bag spout or chute 7, is secured to the free outer ends of the side members 3, and 4, of the screen frame by bolts or any other suitable means. The spout as herein shown converges toward the outer end thereof and is provided on its outer faces of its opposite sides with bag supporting devices 8, and 9. These bag supports are preferably constructed as shown in detail in Fig. 5, and each comprises a supporting or base plate 10 adapted to be secured to the sides of the support by any suitable means preferably by bolts to provide for the ready removal thereof when desired. This plate 10, is provided at its opposite edges with outwardly extending right angularly disposed apertured ears 11, and 12, for connection with a movable member 13, now to be described. This member, 13, is preferably made in the form of an L-shaped plate the short arm 14, of which is provided at its opposite sides with outwardly extending right angularly disposed apertured ears 16, and 15, the apertures therein being designed to register with the apertures in ears 11, and 12, of the base plate for the reception of pins or rivets for hingedly connecting said ears. The long arm 17, of this movable L-shaped plate 13, constitutes an operating lever for raising and lowering said movable member into operative and inoperative position. When the member 13, is moved upwardly into operative position the short arm 14, extends at right angles to the side of the chute 7, and the long arm 17, is arranged in a parallel plane therewith, and spaced therefrom. The handle of the bag is designed to rest on said short arm and hold the member 13, in operative position as is clearly shown in Fig. 1. When it is desired to disengage the bag from the support the long arm 17, is turned downward into the position shown in Figs. 2, and 3, which causes the bag handle to be thrown down into the hand of the operator.

The spout 7, may if desired be detachably connected with the side members 6, of the screen frame and provided with means for raising it into inoperative position when de-

sired such for instance when bulk coal is being loaded into a wagon. In the form herein shown the bagger chute or spout 7, is hingedly connected to the lower end of the screen holder by rolling the upper edge or end of the bottom of the chute or spout 7, around a rod 18, and extending the ends of said rod through straps 19, and 20, which are bolted to the side members of the screen holder. A bail 21, is attached to the side members of the chute 7, and has a rope 22 connected therewith and passed up over a pulley 23, supported above the screen and is provided at its other end with a suitable weight 24, to hold the chute at any desired point when coal is being discharged in bulk into the wagons. When a filled bag of coal is attached to said chute 7, an extra support is required for holding the chute in position and for this purpose a wire or rope 25, is attached at one end to a suitable supporting structure (not shown) at a point above the screen and the other end thereof with a chain or strap 26, connected at its other end and adapted to engage a hook 27, carried by the bail for reliably holding the chute in adjusted position.

A valve 28, is arranged to close the opening at the free end of the chute 1, which leads from the pocket opening and is preferably made in the form shown in Figs. 1 and 2, being approximately semi-circular in cross section. This valve 28, is provided with right angularly disposed arms 29, and 30 which are preferably made about six inches long more or less being about one-half the diameter of the circle and they are pivotally attached at their free ends to the sides of the chute 1, at the upper end thereof of about four inches from the bottom. The width of a valve to cover a six inch opening should be about eight inches or more. This valve 28, is provided with an operating lever 31, connected at one end by a twisted link 29^a with the upper edge of the valve and is made of a length sufficient to extend to a point near the chute 7, at the other end of the screen in position for convenient manipulation by the operator. A forked spring clamp 32, is secured to the side 3, of the screen frame and preferably projects above the top edge of said side and is designed to receive the lever 31, and grip it firmly to hold the valve 28, yieldably in adjusted position. This clamp 32, is preferably composed as shown of two flat spring metal plates or strips 33, and 34 rigidly secured together at one end and with their free ends flared slightly outward in opposite directions to provide for the ready insertion of the lever 31, therebetween and to permit it to be quickly removed for changing the position of the valve.

The turning of the circular valve 28, at the point of delivery of the coal onto the

screen drops the pea and smaller particles onto the iron plate 34, above the screen wall. The sized coal glides downward into wagons or into bags arranged at the outer end of the chute 7, and the screenings fall through the meshes at the top of the screen into a suitable receptacle arranged therebelow. A continuous turning of the coal at this point is effected by raising the circular valve to a point approximately twice the diameter of the size of the coal to be screened. It will, therefore, be seen that coal cannot block in this opening if the incline of the chute 1 approximates nine inches per foot neither can a direct stream of coal pour through it. The pea coal cannot ride the larger pieces past the point where the sized coal is constantly turning into vacant spaces made by dropping out of the leading pieces, it being obvious that the valve made to face the stream of coal when closing follows it and drives it out of the way. The circular valve herein shown may by means of the lever handle 31, be oscillated freely, and it may be quickly and efficiently adjusted to hold it reliably in either open or closed position or at any desired height to vary the size of the opening, thereby giving the operator absolute control over the feed and insuring clean coal under all conditions.

A bagger valve 35, is arranged in the chute 7, and is mounted as shown in Fig. 3, to pass through the stream of coal and make a clean cut-off inclosing by driving the coal into the bags. This bagger valve 35, is operated by hand instead of by lever, but otherwise the construction and operation is the same as the valve 28. This valve is opened and not in use when bulk coal is loaded into the wagon. In bagging the coal the bagger valve may be used exclusively and the upper valve remain open if desired.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

I claim as my invention:

1. In a coal screen a delivery chute, a screen arranged therebelow, a rotary valve operable in said chute arranged to regulate the inflowing coal, a lever connected with said valve and a spring clamping fork arranged in position to yieldably engage said lever to hold the valve in adjusted position.

2. In a coal screen the combination of a delivery chute, means for securing said chute over an opening in the side wall of a pocket, a screen arranged below said chute,

a circular valve operable in said chute and facing in the direction of the incoming coal, a twisted link secured at one end to said valve, an operating lever connected to the
5 other end of said link to oscillate said valve and resilient means for engagement with said lever to hold the valve in adjusted position.

10 3. A coal screen having upright side members, a delivery chute arranged at the upper end of said screen, a rotary valve mounted to close the lower end of said chute, an upright secured to one side member of

said screen and having laterally spaced resilient clamping fingers at its upper end, 15 a lever connected at one end to said valve, with its other end arranged to be engaged by said clamping fingers for holding said valve in adjusted position.

In testimony whereof I have hereunto set 20 my hand in presence of two subscribing witnesses.

HIRAM B. SACKETT.

Witnesses:

CHAS. K. TROY,
J. A. NASON.