H. W. SANNER.

COMBINED CHUTE AND SCREENER.

APPLICATION FILED JULY 15, 1910.

990,600.

Patented Apr. 25, 1911.

2 SHEETS—SHEET 1.

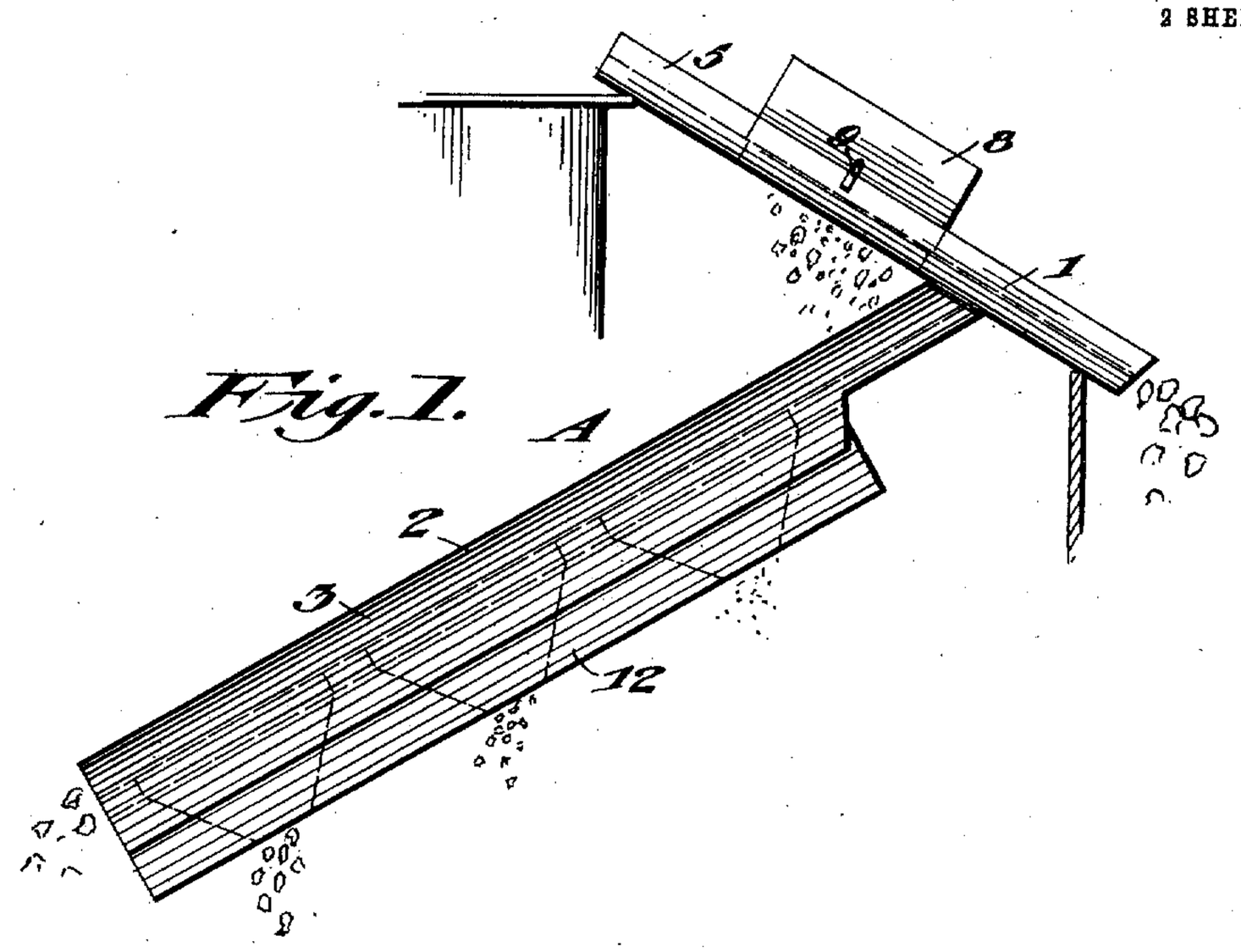

Fig. 1.

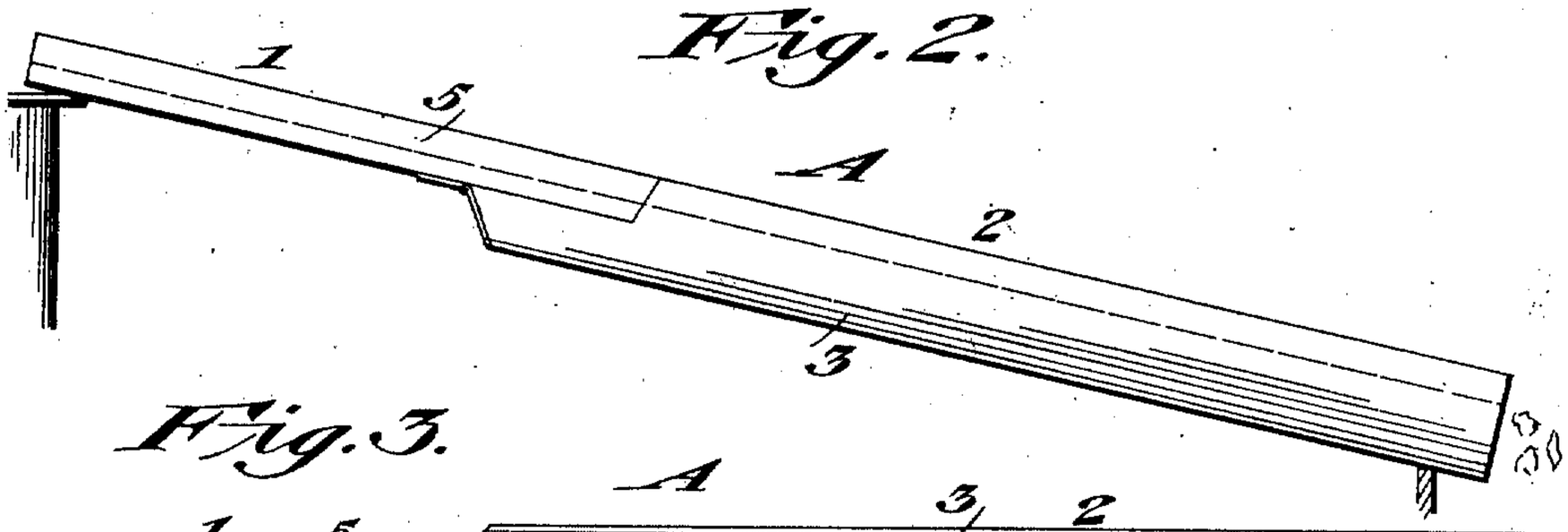

Fig. 2.

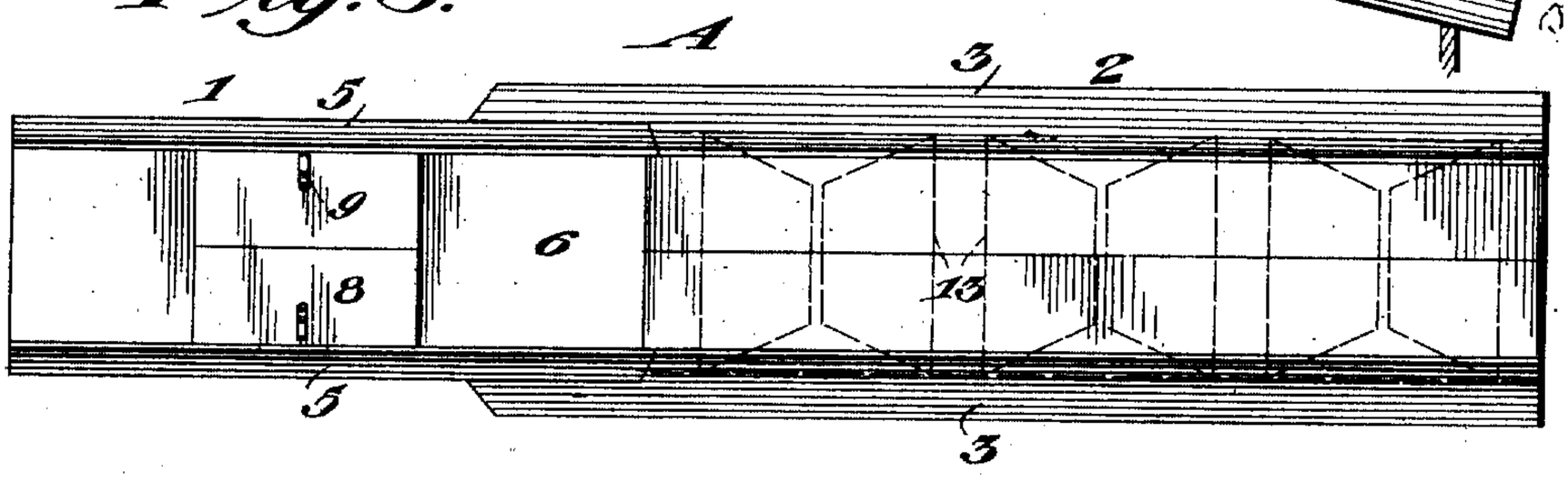

Fig. 3.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

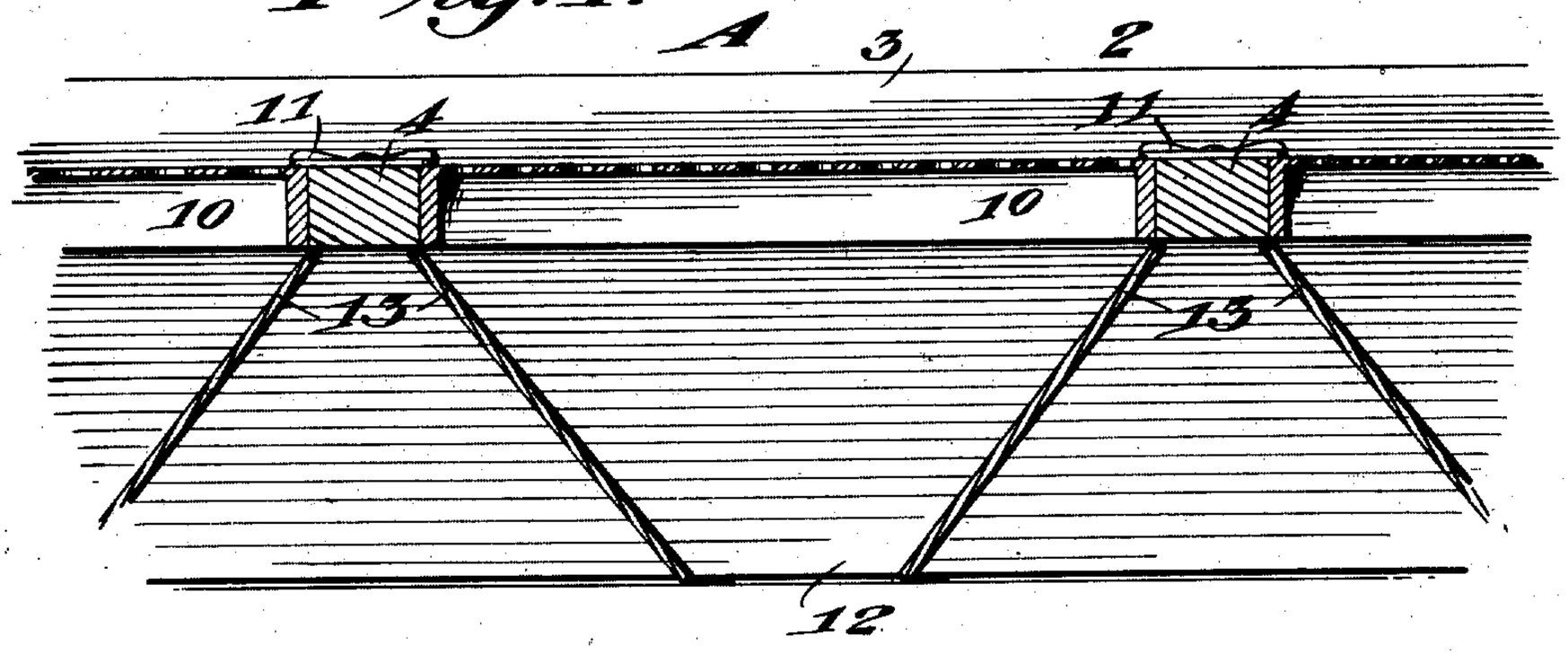


Fig. 5.

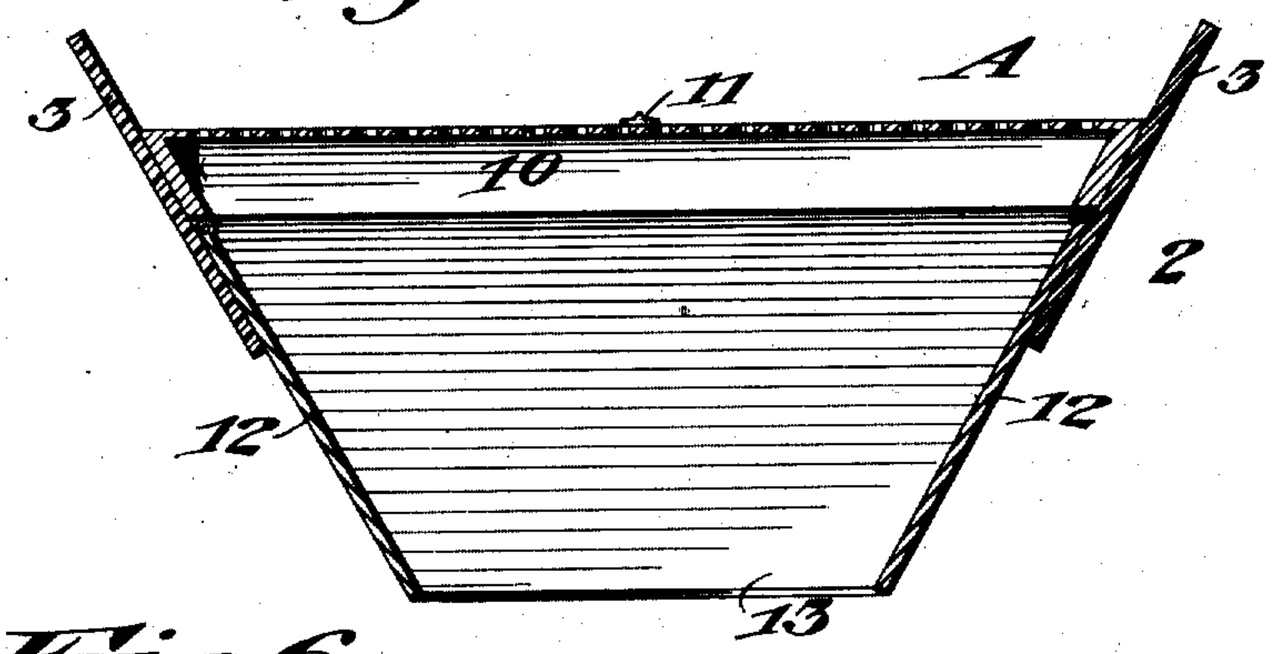


Fig. 6.

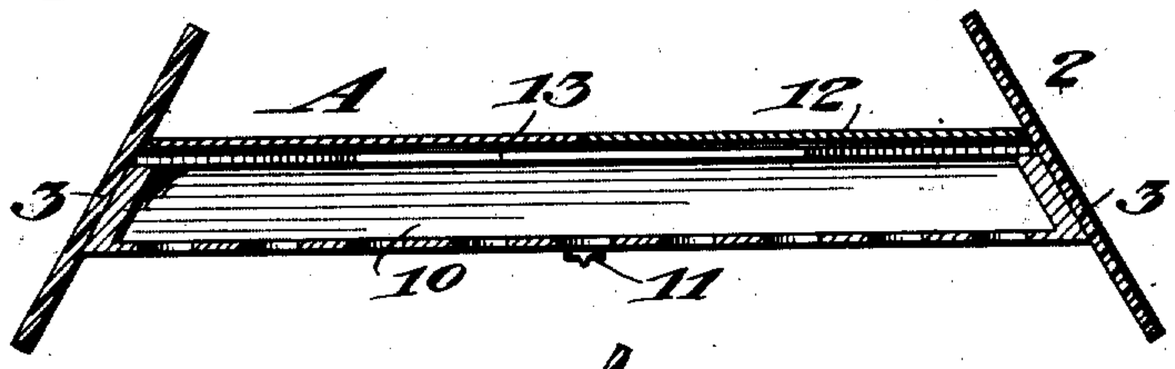
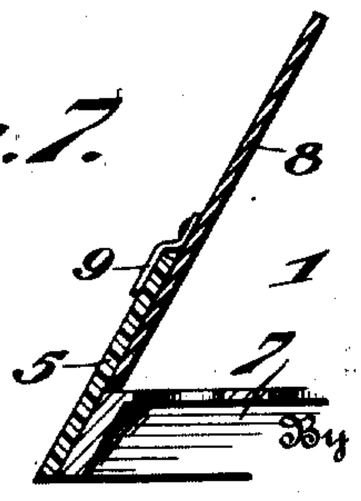


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

HARRY W. SANNER, OF BALTIMORE, MARYLAND.

COMBINED CHUTE AND SCREENER.

990,600. Specification of Letters Patent. Patented Apr. 25, 1911.

Application filed July 15, 1910. Serial No. 572,167.

To all whom it may concern:

Be it known that I, HARRY W. SANNER, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Combined Chutes and Screeners, of which the following is a specification.

My invention relates to an improvement in a combined chute and screen, the object being to provide a chute which is made in two sections, each section being provided with screens, the lower section having a plurality of screens of different meshes, whereby the different grades of coal can be separated.

A further object is in providing means for covering the screens when the device is used as a chute.

The invention consists in certain novel features of construction and combinations of parts which will be hereinafter fully described and pointed out in the claims.

In the accompanying drawings:—Figure 1 is a view in side elevation of a combined chute and screen when used as a chute and screen; Fig. 2 is a view in side elevation showing the invention in use as a chute; Fig. 3 is a plan view of the invention in extended position; Fig. 4 is a longitudinal sectional view of the lower section of the chute disclosing the screens; Fig. 5 is a transverse sectional view of the lower section; Fig. 6 is a transverse sectional view of the lower section when used as a chute; and Fig. 7 is a detail sectional view showing the manner of holding the doors in an open position.

A represents the chute, which consists of an upper and lower section, 1 and 2, respectively. The sides 3 of lower section 2 extend obliquely, so that the lower edges of the sides converge toward each other. The sides are held together by means of bars 4. The upper section 1 has the sides 5 thereof of a less width than the width of the sides 3 of the lower section, and the upper ends of the sides of the lower section are cut away to receive the lower ends of the sides 5 of the upper section, the upper section 1 being hinged to the lower section 2. The upper section 1 is provided with an opening about midway thereof, in which is received a screen 7. Doors 8 are hinged to the sides 5, which are adapted to close or cover the screen when the device is used as a chute, but when the screen 7 is in use, the doors will be swung to the position shown in Fig. 7, and the buttons 9 will be swung over upon the outer edges of the sides 5 for holding the doors open.

Screens 10 are received between the sides 3 and the bars 4 of the lower section, the screens being of different meshes for separating different grades of coal. The screens are held in position by means of turn buttons 11. The screens can be removed and changed to different positions for sorting different grades of coal.

Referring to Figs. 6 and 7, the difference of inserting the screens in the upper and lower sections will be noted. Fig. 7 indicates the manner of inserting the screen in the upper section, the surface of the screen being on a level with the bottom of the chute, while the screens in the lower section are mounted in a reverse manner from that shown in the upper section. Figs. 4, 5 and 6 indicate their position. Fig. 6 indicates the position taken by the screens when the device is in use as shown in Figs. 2 and 3, but Figs. 4 and 5 indicate the position or relation of the screens when the lower section is swung at an angle from the upper section, as shown in Fig. 1.

Doors 12 are hinged to the sides 3 and extend longitudinally of the chute. Wings 13 are hinged to the transverse bars 4 and extend transversely of the chute. When the coal is being discharged onto the upper section 1, and it is desired to screen the coal for separating or sorting it in different grades, the doors 8 will be raised and held in open or elevated position by the buttons 9. The lower section 2 will be swung at an angle and beneath the upper section 1. The position taken by the lower section 2 will allow the doors 12 to swing downward, as indicated in Figs. 4 and 5, and the wings 13 to swing downward. The wings 13 being tapered, will engage the side walls of the doors 12 so that a pocket will be formed beneath each screen 10, so that the coal, as it passes through the screen 7 of the upper section 1, will be discharged onto the lower section 2, and the different grades of coal separated, as they pass over the different mesh screens 10 of the lower section. The coal, as it passes through the screens 10, will enter the pockets formed therebeneath by the wings 13 and doors 12, through which the coal will be delivered to any suitable receptacle, while the coal which passes off

from the end of the upper section 1, will be delivered into another receptacle or vehicle from beneath, not shown.

When it is not desired to screen the coal, but merely deliver it from a car or bin to a vehicle, the lower section will take the position with respect to the upper section 1, as shown in Figs. 2 and 3. In this instance, the doors 12 and wings 13 will be on the upper side of the lower section 2, and will be in a lowered position, as indicated in Fig. 6, for forming a bottom for the chute of the lower section. The doors 8 of the upper section will be in a closed position, as indicated in Fig. 3. The upper edges or upper portion of the sides 3 will form a support for the doors 12 for holding them against outward movement, when the lower section is used as a screener, as is clearly indicated in Figs. 4 and 5.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A combined chute and screen comprising an upper and lower section, said sections being pivotally connected together, screens in the sections, said lower section adapted to be swung at an angle from the upper section during the screening operation, doors for covering the screens when the lower section lies in the same general plane with the upper section, said doors acting as the chute for delivering the coal as it is discharged through the screens when the lower section is swung at an angle from the upper section.

2. A combined chute and screen comprising upper and lower sections pivotally connected together, screens mounted in the sections, doors hinged longitudinally of the sections for closing the screens, and wings hinged transversely of the lower section for forming a pocket in connection with the doors of the lower section when the lower section is used as a screener.

3. A combined chute and screen comprising an upper and a lower section pivotally connected together, the lower section adapted to be swung at an angle from the upper section during the screening operation, screens mounted in the sections, the screens of the lower section being held therein in a reverse position from the screen of the upper section, doors pivotally connected to the lower section, and wings pivotally connected to the lower section, said doors and wings forming pockets to receive the coal as it is discharged through the different screens.

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

HARRY W. SANNER.

Witnesses:
CHARLES L. MEINKEN,
PHILIP B. ROLLE.