H. A. WHITMAN.

SLATE PICKER.

APPLICATION FILED FEB. 8, 1910.

958,343.

Patented May 17, 1910.

21

Fig. 1

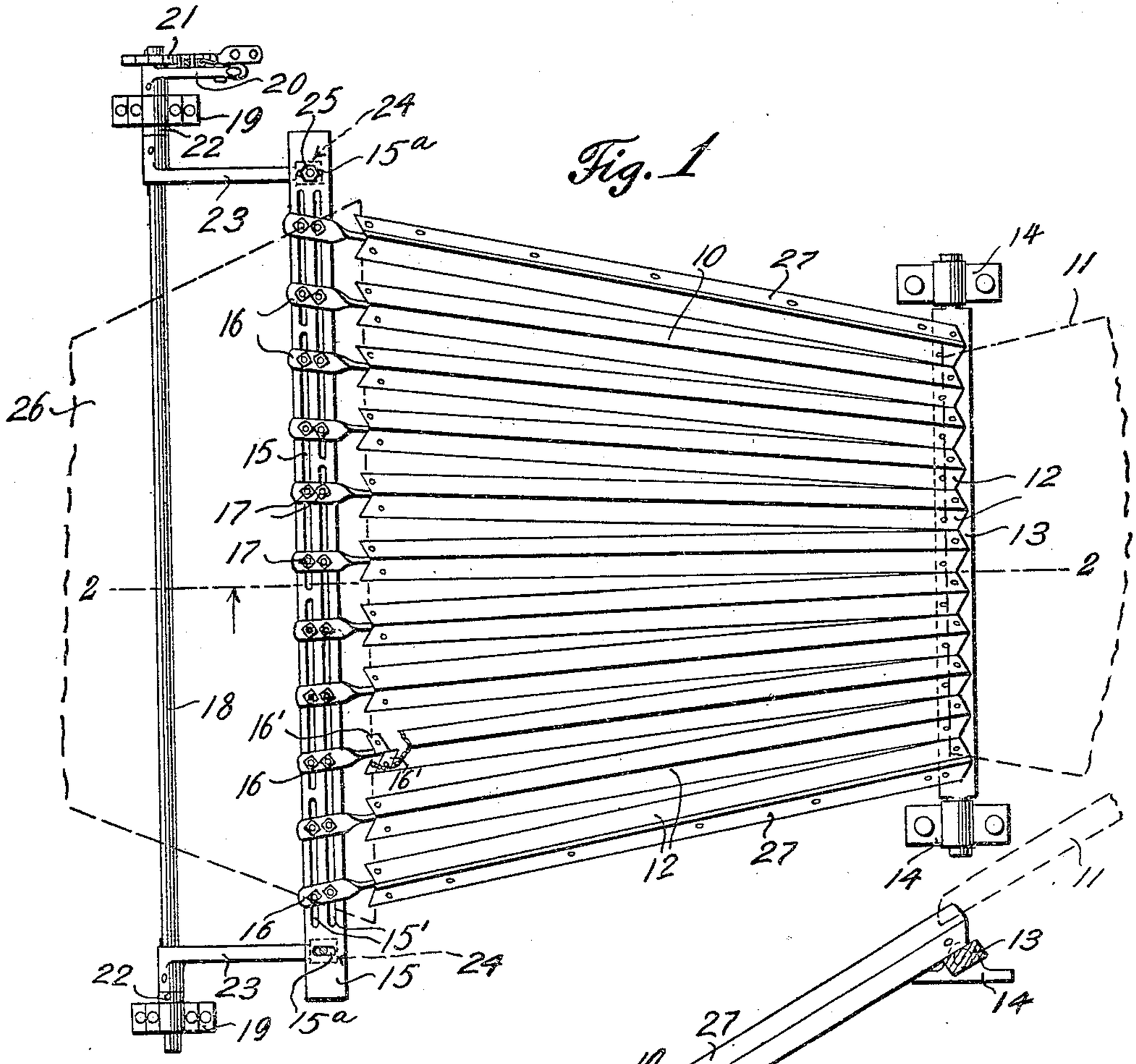

Fig. 2

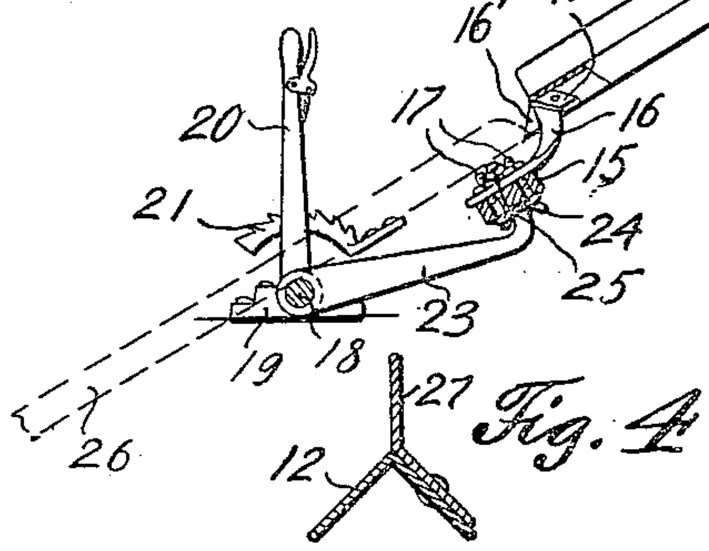

Fig. 3

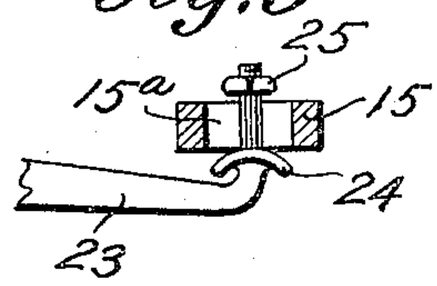

Fig. 4

Witnesses

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UNITED STATES PATENT OFFICE.

HARRY A. WHITMAN, OF JERMYN, PENNSYLVANIA.

SLATE-PICKER.

958,343. Specification of Letters Patent. **Patented May 17, 1910.**

Application filed February 8, 1910. Serial No. 542,695.

To all whom it may concern:

Be it known that I, HARRY A. WHITMAN, a citizen of the United States, residing at Jermyn, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Slate-Pickers, of which the following is a specification.

This invention relates to devices for separating slate from coal, and the novelty consists in certain specific features of construction hereinafter fully described and claimed and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the device; Fig. 2 is a transverse section on the line 2—2 of Fig. 1, and Figs. 3 and 4 are detail views of parts hereinafter described.

Throughout the following description and on the several figures of the drawings similar parts are referred to by like reference characters.

The device includes a screen structure 10 adapted to receive coal thereupon from a chute 11 and over which structure the coal is adapted to slide by gravity. The screen 10 comprises a plurality of slats 12 each consisting of an angle bar, the apex of the angle extending upwardly. The upper or receiving ends of the slats 12 are connected to a supporting bar 13 journaled for slight rotation at its ends in any suitable supports 14. The said upper ends of the slats lie against one another or at most only slightly spaced apart, while at their opposite or lower ends the spaces between adjacent slats are considerably wider, whereby the screen 10 is given a fan shape or flare. Each angle bar or slat 12 may be of any desired form or cross section, though I have found that a right angled form is quite satisfactory. The lower ends of the slats are individually supported adjustably upon a plate or bar 15, each of the slats having connected thereto a brace or foot 16. Each foot 16 is made up of plate metal the upper end of which is split and formed into a pair of lugs 16′ which are connected to the respective lateral members of the angle bar or slat by rivets or the like. The lower end of the foot is provided with a pair of holes adapted to register with slots 15′ in the plate 15, the slots being staggered along the length of the plate so that by means of a pair of bolts 17 passing through said holes and slots the position of the respective slats may be varied to modify the width of the spaces between them, as may be required by the kind of coal operated upon or the condition thereof as to moisture. The plate 15, in order to facilitate the proper location of the several feet 16, may be provided with marks or indicating means to show where the feet should be set for the purpose of arranging the device to operate upon standard sizes of coal. In this connection it is to be observed that the entire device may be made of different sizes or with slats of different sizes in accordance with the different sizes of coal to be operated upon thereby.

The plate 15 may be supported so as to vary the elevation thereof and the inclination of the screen 10 by any convenient means. As illustrated such supporting means includes a rock shaft 18 mounted in pillow blocks 19, and to one end of the rock shaft is a hand lever 20 which operates over a toothed segment 21 whereby the position of the handle may be locked as may be desired. The shaft 18 is prevented from longitudinal movement by a pair of collars 22 which coöperate with the pillow blocks 19. A pair of arms 23 are keyed to the rock shaft 18 and at their outer ends said arms have loose slidable and pivotal connection with the plate 15. Each of said arms is turned at its outer end and passes through a slot 15ª in said plate. A knuckle 24, rounded upon its upper surface, has immediate bearing contact for the plate, spanning the slot 15ª. The said arm and plate are prevented from separation by means of a nut 25. Upon rotation or oscillation of the rock shaft 18 by means of the lever 20 the arms 23 will be raised or lowered, raising or lowering in turn the plate 15 and the entire lower end of the screen, the peculiar connection between the arms 23 and said plate providing for the proper relative angular movement between the arms and the slats 12.

During the ordinary operation of the device the coal, being received from the chute 11, slides down the inclined screen 10 and thence over the plate 15 and rock shaft 18 by means of a chute 26. During the transfer of coal along the slats the fine particles of dust or thin pieces of slate slip between the adjacent slats and are thus separated from the coal.

The several parts of the device may be

made of any suitable materials and it is to be understood that the relative proportions of the same may be varied to a considerable extent without departing from the spirit of the invention hereinafter claimed.

As indicated in Figs. 1 and 4 the first and last angle bar slats 12 making up the screen 10 are each provided with a guide rail 27 secured permanently thereto and providing a vertical flange or extension to prevent the material passing along the screen from spilling laterally into the sides.

I claim:—

1. In a device of the character set forth, the combination of a plurality of angle bar slats, a rotary supporting bar for the upper ends of said slats, a plate having a series of longitudinal slots in pairs, a plurality of supporting feet adjustably connected to said plate through the slots, each of said feet having its upper end provided with a pair of lugs connected to the opposite flanges of the corresponding angle bar slat, and manual control means for varying the elevation of the plate and lower ends of said slats.

2. In a device of the character set forth, the combination of a plurality of slats, a bar to which the upper ends of the slats are connected close together, a plate, means connecting the lower ends of the several slats to said plate and in spaced relation each to each, and means to vary the elevation of said plate, said means including a rock shaft, a pair of arms rigidly connected to the rock shaft, the upper end of each arm passing loosely through an end of the plate, and means to maintain a proper operative relation between the plate and said arms, substantially as set forth.

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

HARRY A. WHITMAN.

Witnesses:
MARTIN MOYLE,
JOHN C. F. WHITMORE.