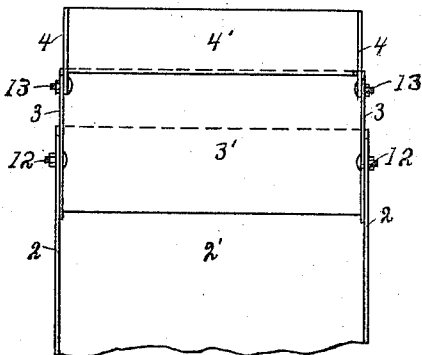
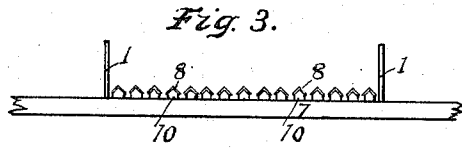
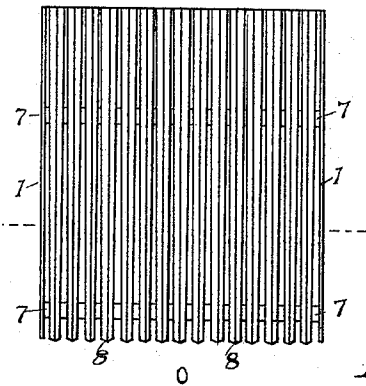
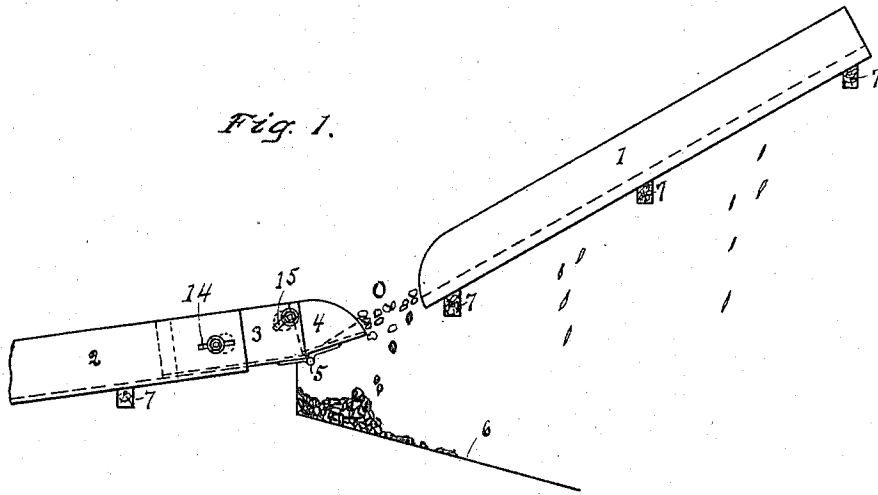


(No Model.)

W. M. JERMYN.
SLATE PICKER.

No. 579,583.

Patented Mar. 30, 1897.



Witnesses:
E. F. Merriam
J. A. Chalvers.

Inventor,
Walter M. Jermyn,
per D. B. Reppogle
Atty.

UNITED STATES PATENT OFFICE.

WALTER M. JERMYN, OF SCRANTON, PENNSYLVANIA.

SLATE-PICKER.

SPECIFICATION forming part of Letters Patent No. 579,583, dated March 30, 1897.

Application filed November 4, 1895. Serial No. 567,788. (No model.)

To all whom it may concern:

Be it known that I, WALTER M. JERMYN, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Slate-Pickers; and I 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

The object of my invention is to afford a simpler and more effective device for the separation of stone and slate from coal, particularly where the coal is broken and graded into sizes, as is customary at anthracite collieries.

My device consists in the construction and combination of parts herein particularly described, and illustrated in the accompanying drawings.

Referring to the drawings, Figure 1 is a side view of my device in operation, showing method of adjustment of the parts. Fig. 2 is a top view of the device. Fig. 3 shows an end view of the upper chute, as shown in Figs. 1 and 2. Fig. 4 shows the construction of the bars used in detail.

The device consists, essentially, of an upper chute 1 and a lower chute 2, with a space 0 between them. The upper chute is constructed of angle-iron bars 8, running parallel and longitudinal to the chute and may be separated by suitable rails, as 10, resting on cross-beams 7, and being fastened to the said rails by means of the eyes or screw-holes 9. The angle-iron bars used consist of two flanges 11, right angles each to each and tapering throughout their length, so that the spaces between them increase downward. The second or lower chute may be plainly constructed of bars, plate, or sheet metal, having the drop 4 opposite the lower end of the upper chute and in direct line therewith as to its lateral position. 4 is adjustable upward and downward by means of bolts 13, attached to lugs to the drop 4 and sliding in the slots 15 to the side 3 of the lower chute. The width of the space 0 is also adjustable

by means of bolts 12, attached to the sides 3 and sliding into slots 14 to the sides of the lower chute. The bottoms 2', 3', and 4' of the several parts of the lower chute are best constructed of sheet metal of any desired thickness. The pitches of the chutes used should be such that the force of gravity will impart a good rapid motion to the coal being cleaned, and the pitch may be varied for different collieries to suit the requirements of the coal to be cleaned. If the upper chute is arranged at an angle of about thirty degrees, it will be found generally satisfactory. It will be noticed that the ridges of the bars 8 of the upper chute are parallel, but the sides, on account of their tapering shape, diverge downward, so that the coal in sliding downward is continually coming to the wider parts of the spaces. This construction is required to prevent clogging and also to augment the motion of the coal and retard the motion of stone or slate.

The drop 4 is secured to section 3 of the lower chute by the hinge 5, which allows adjustment upward or downward to its upper edge. The slate or stony pieces are dropped onto an incline 6, designed to allow spreading, so that pieces of good coal may be raked out in the usual way, while the useless pieces are allowed to slide down into the waste-dump.

The operation of my device is explained as follows: Coal from the breaker is run into the upper end of the upper chute in such a way as to be spread over the whole width thereof and not run so fast as to lie too thick on the bars. All flat pieces, which are generally slate, adjusting themselves to the sides of the angle-bars 8 will press with their edges toward the openings between the bars, and as they slide or roll downward will drop between the bars as soon as they reach a point where the space is wide enough to let them through. As they fall through they strike the lower incline 6 at a point below where good coal is picked out and pass on downward with the waste. The pieces of coal and stone or slate which are not flat will roll on downward, and it is the separation of these for which my invention is peculiarly fitted, and the operation of separating these is performed by the adjustment of the width of the space 0 and the height of the up-

per edge of the drop 4. It is found in practice that a piece of coal, on account of its greater smoothness and lightness, will run down the chute at a more rapid rate than a piece of slate or stone, which has more or less gritty substance in it. Now the pieces which are moving most rapidly will leap across the space 0 and be conducted on downward to the receptacle for coal through the lower chute, while those pieces which have been retarded and are moving less rapidly will drop through and fall on the upper part of the lower incline 6, where provision is made for picking out any good pieces of coal which may have been incidentally retarded by striking other pieces, so as to fall through the space 0 with the slate and stone.

Of course any number of chutes with spaces between them may be utilized successively in the passage of the coal from the breaker to the bin or car where it is ready for market, and for larger and smaller sizes the upper chutes must be constructed with the bars 8 at

greater or less width according to the sizes of the coal to be cleaned.

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

In a coal-picker or cleaning apparatus, the combination with the chute having a series of angle-grate bars, the lower ends of which are slightly contracted, of a separate chute 2 having an extensible portion working therein, and means for adjusting the same, of the hinged end piece having sides, the adjusting-bolt carried by the said sides and working in apertures in the chute 2, of the angled incline 6, all arranged substantially as shown and for the purpose set forth.

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

WALTER M. JERMYN.

Witnesses:

F. H. McDONOUGH,
S. V. TRUMBULL.