

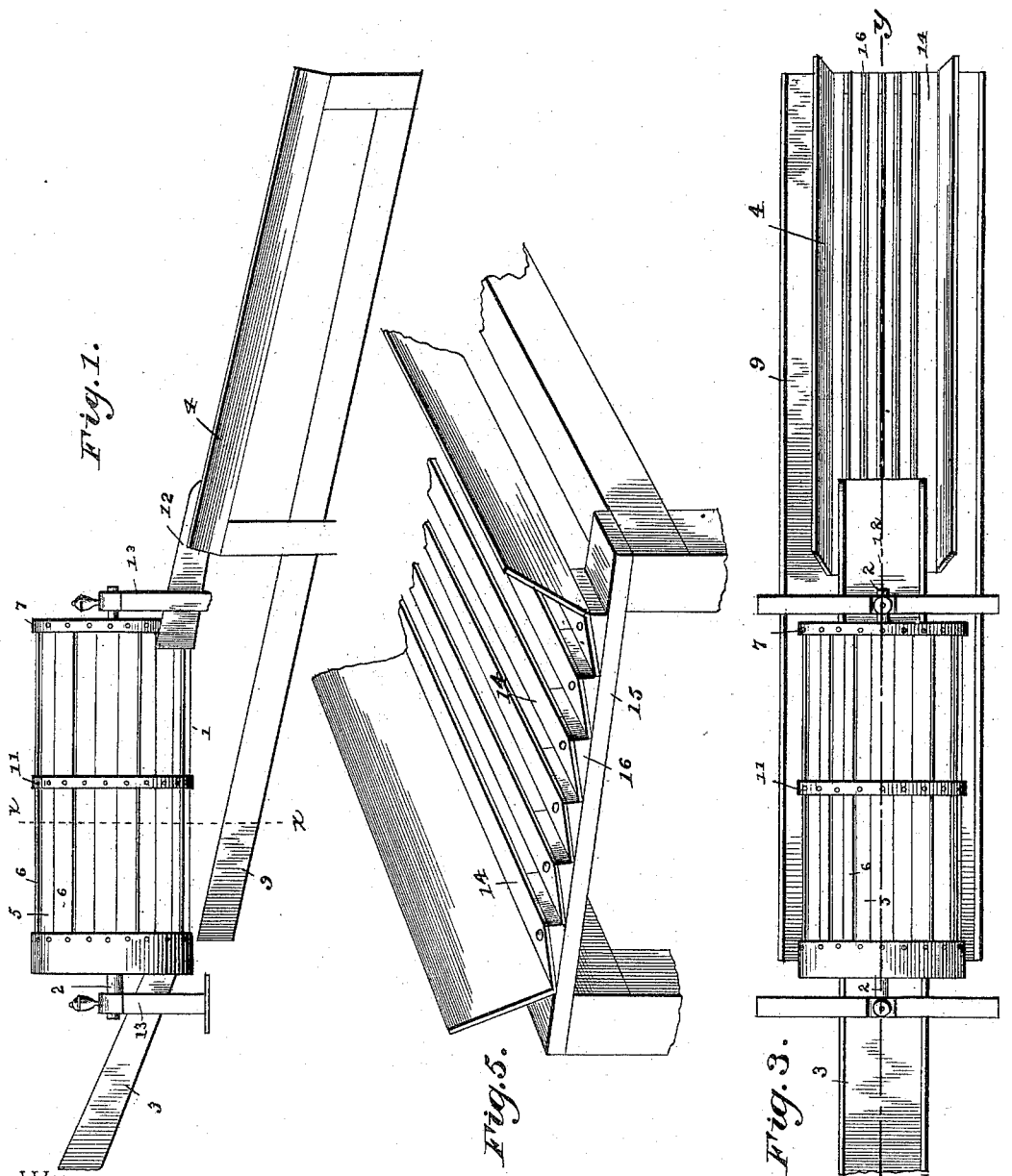
(No Model.)

2 Sheets—Sheet 1.

E. F. LONG.
COAL SEPARATOR.

No. 488,211.

Patented Dec. 20, 1892.



Witnesses

J. Ulke Jr.
N. H. Riley

By his Attorneys,

C. A. Snow & Co.

Inventor
Eugene F. Long.

(No Model.)

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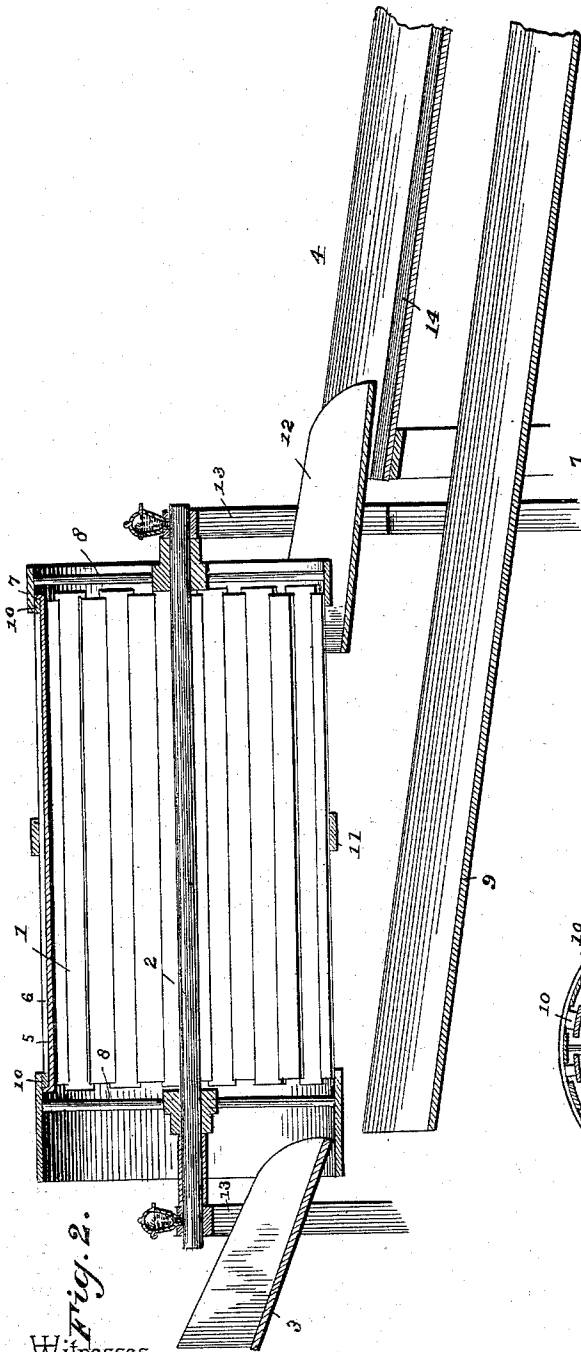


Fig. 2.

Witnesses

J. M. Kel, Jr.
N. F. Riley

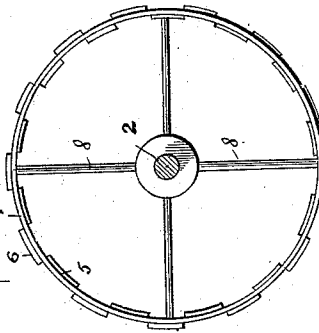


Fig. 6.

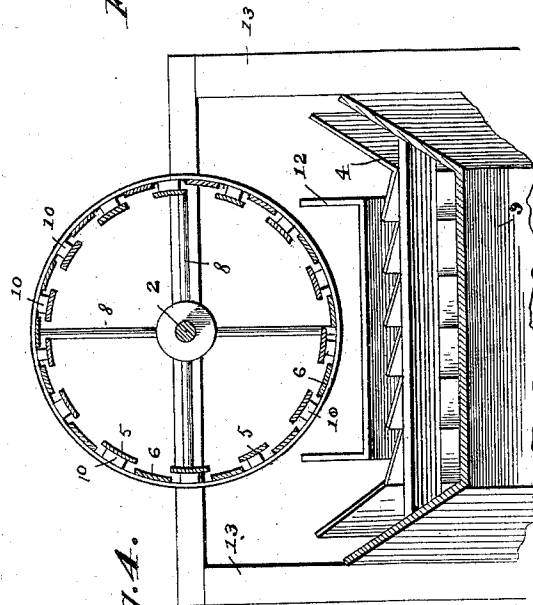


Fig. 4.

Inventor

Eugene F. Long.

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

EUGENE F. LONG, OF SCRANTON, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO EZRA H. RIPPLE, OF SAME PLACE.

COAL-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 488,211, dated December 20, 1892.

Application filed June 30, 1892. Serial No. 438,569. (No model.)

To all whom it may concern:

Be it known that I, EUGENE F. LONG, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented a new and useful Coal-Separator, of which the following is a specification.

The invention relates to improvements in coal separators.

10 The object of the present invention is to improve the construction of coal separators, and to provide an apparatus adapted to be readily employed for separating slate from all grades of coal.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

20 In the drawings—Figure 1 is a side elevation of a separator constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view on line *y—y* of Fig. 3. Fig. 3 is a plan view. Fig. 4 is a transverse sectional view on line *x, x* of Fig. 1. Fig. 5 is a detail perspective view of a portion of the coal discharge chute. Fig. 6 is an end elevation of a rotary screen illustrating a modification of the invention.

30 Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a rotary screen mounted on a shaft 2, and receiving coal from a supply chute 3 and emptying the same into a coal discharge chute 4, and consisting of inner and outer flat bars 5 and 6 connected by bands 7 and mounted on the shaft by means of spiders 8.

40 The flat bars of each series are arranged at regular intervals and have spaces between them of the width of the bar; and the inner bars are disposed opposite the intervals of the outer bars whereby open spaces are provided to permit the passage of slate which slides through the spaces, during the rotation of the screen, and falls into a waste chute 9 arranged beneath the rotary screen and the coal discharge chute 4. It will be seen that 50 various means may be provided for disposing the inner and outer series of bars rela-

tive to each other. They may be secured to the inner faces of the bands 7 as illustrated clearly in Fig. 4 with the inner series spaced by supporting blocks 10; or as illustrated in Fig. 6 the bars may be secured to the inner and outer faces of the bands. The rotary screen is strengthened by an intermediate band or rib 11 any number of which may be provided. The coal is delivered to the rotary screen by the chute 3 to the rotary screen, and it is delivered therefrom to the discharge chute 4 by a spout 12. The shaft 2 is journaled in suitable posts 13 arranged at the ends of the rotary screen. In passing down the discharge chute 4, the coal is further separated from the slate by inclined bars 14 which are secured to transverse bars 15, and are supported at an inclination by wedge shaped blocks 16, and are bolted to the same and to the transverse bars. As the mass of coal moves down the discharge chute, the slate slips out through the spaces between the inclined bars and drops into the waste chute.

It will be seen that the coal separator is simple and comparatively inexpensive in construction, that it is strong and durable, and that it is adapted for removing the slate from all grades of coal.

What I claim is—

1. In a separator, a rotary screen comprising series of inner and outer bars of equal width arranged at regular intervals, the inner series of bars being spaced from the outer ones and disposed opposite the intervals of the outer bars, whereby slate discharge openings are formed, substantially as described.

2. In a separator, a rotary screen comprising bands, outer bars secured to the bands and arranged at intervals, spacing blocks secured to the inner faces of the bands, and the inner bars secured to the spacing blocks and arranged opposite the intervals of the outer bars, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EUGENE F. LONG.

Witnesses:

HENRY GREENWOOD,
JOSEPH BEAVERS.