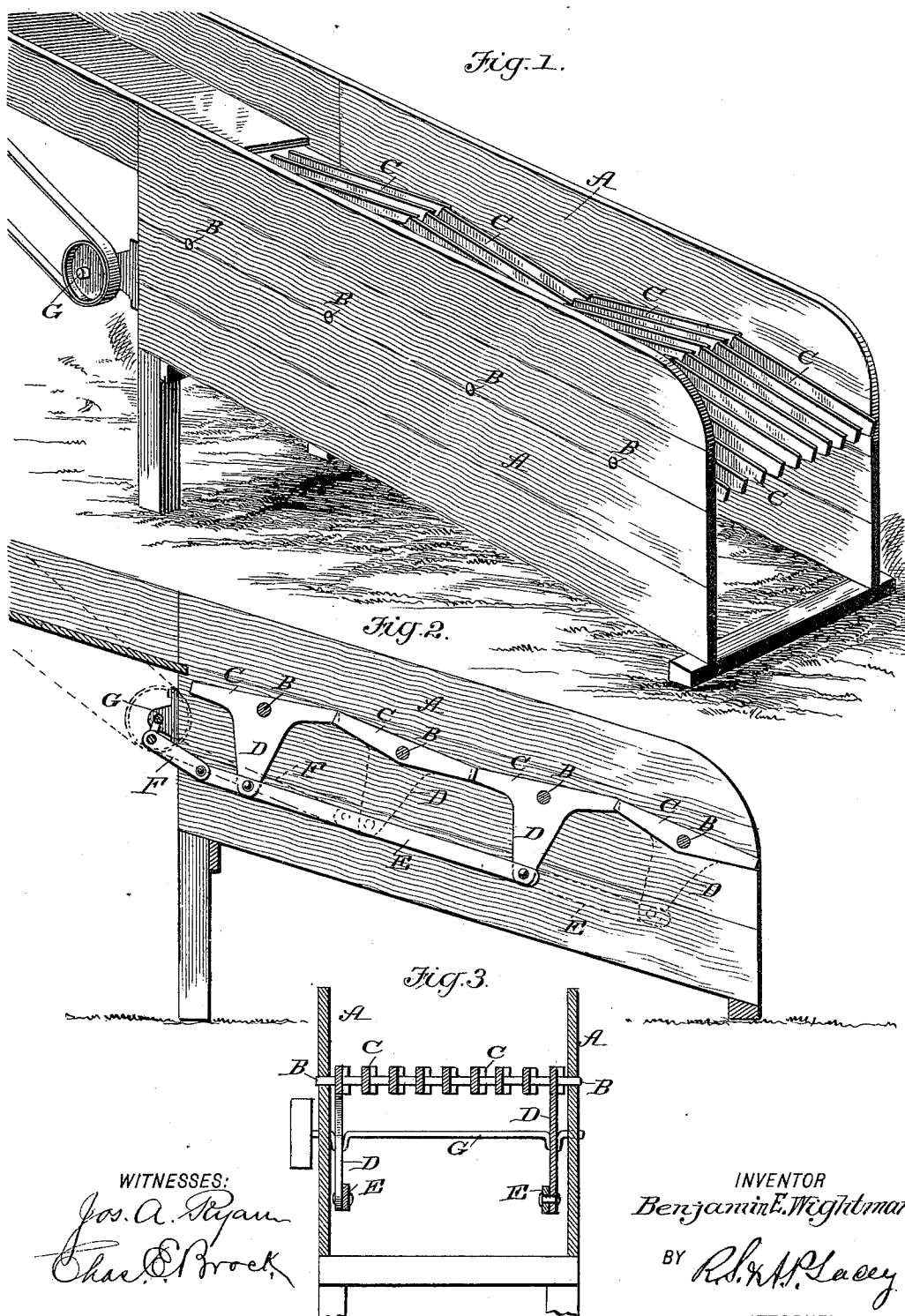


(No Model.)

B. E. WIGHTMAN.
COAL SCREEN.

No. 566,260.

Patented Aug. 18, 1896.



UNITED STATES PATENT OFFICE.

BENJAMIN E. WIGHTMAN, OF OSKALOOSA, IOWA.

COAL-SCREEN.

SPECIFICATION forming part of Letters Patent No. 563,260, dated August 18, 1896.

Application filed October 9, 1896. Serial No. 566,202. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN E. WIGHTMAN, of Oskaloosa, in the county of Mahaska and State of Iowa, have invented an Improved Coal-Screen, of which the following is a specification.

This invention is an improved coal-screen or device for separating the dust from the lump coal, and the invention can also be employed for other purposes, such as screening gravel, broken rock, and the like.

The object of the invention is to provide an exceedingly simple and easily-operated device which will thoroughly agitate the mass of coal passing thereover, and thereby thoroughly separate the dust therefrom.

With these and such other objects as will hereinafter appear the invention consists in the peculiar construction of the several parts and the novel combination or arrangement, all of which will be fully described hereinafter, and pointed out in the claim.

In the drawings forming a part of this specification, Figure 1 is a perspective view of a screen constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section. Fig. 3 is a transverse section.

In carrying out my invention I employ a trough-shaped or box-like body portion A, and within the sides of the same near their upper edges are journaled at regular intervals a series of transverse shafts B, adapted to rock freely in the sides of the body portion. Mounted upon each shaft are a series of screening-bars C, arranged vertically, that is, with their narrow edge uppermost, and the end bar of each series is formed with a depending member D, but in practice these members are arranged alternately upon the opposite end bars. By this I mean that in the first section the right end bar will be provided with the depending member, while in the second section the left end bar will have said depending member, and in the third section the right end bar said member. It will also be noticed that the bars are arranged to overlap each other, and thereby produce a continuous surface of one end of the screen to the other.

Connecting the depending members in par-

allel series are the parallel links E E, and connected to said links are the pitman-rods F F, which derive their power from a crank-shaft G, driven from any suitable source.

In practice the screen is arranged in an inclined position the same as coal-screens now in use. The inclination of the screen facilitates the progress of the material when being agitated by the bars, and while the coal passes down the surface of said screen the crank-shaft is rapidly revolved, operating the pitman and link rods. Each acting upon the depending members causes the series of screen-sections to rock in a wave-like motion, thus presenting a moving and broken surface, over which the coal travels, and subjecting the same to momentary stoppages and jarrings, thus thoroughly agitating the mass and sifting all the dust therefrom.

If desired, the screen-bars can be arranged for the purpose of grading the coal by simply adjusting the width of the space between the said bars, and by this construction the large lumps of coal will pass through first, and then by gradually decreasing the space between the bars the small coal can be collected, it, of course, being understood that proper chutes will be arranged for carrying off the different grades of coal.

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

The combination with the body or trough portion A of the shafts B arranged transversely therein, the rock-bars C mounted in series on said shafts, said series forming collectively an inclined screening-surface, and an end bar of each series having a depending member D, said end bars with depending members being arranged alternately at opposite ends of the said series, the links E, the pitman F, and crank-shaft G, substantially as set forth.

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

BENJAMIN E. WIGHTMAN.

Witnesses:

JOHN F. LACEY,

JAMES B. BREWSTER.