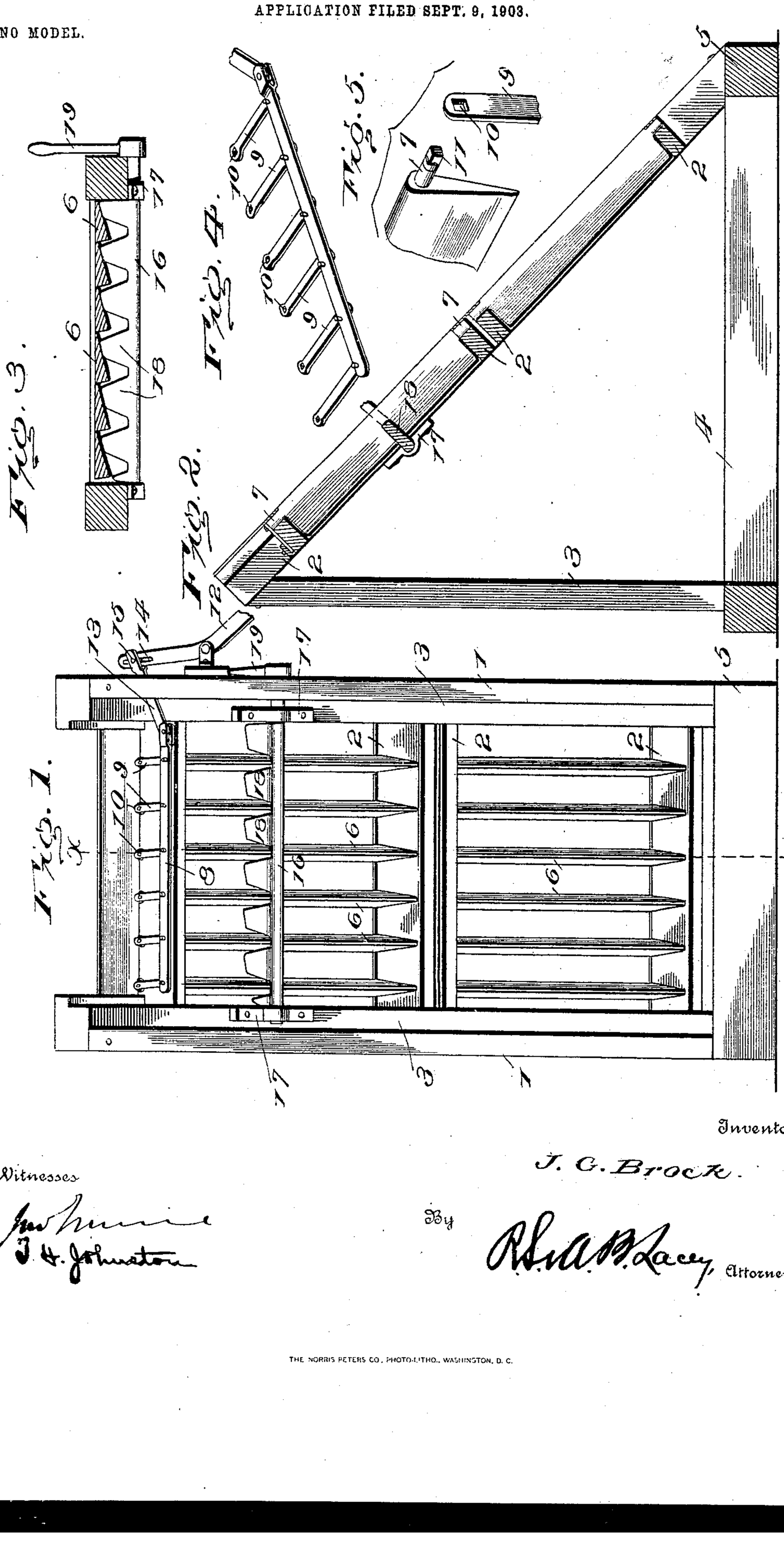
No. 763,362. PATENTED JUNE 28, 1904.

J. G. BROCK.

COAL SIEVE OR SEPARATOR.

APPLICATION FILED SEPT. 9, 1903.

NO MODEL.



Witnesses

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No. 763,362. Patented June 28, 1904.

UNITED STATES PATENT OFFICE.

JOHN G. BROCK, OF EXCELLO, MISSOURI.

COAL SIEVE OR SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 763,362, dated June 28, 1904.

Application filed September 9, 1903. Serial No. 172,454. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. BROCK, a citizen of the United States, residing at Excello, in the county of Macon and State of Missouri, have invented certain new and useful Improvements in Coal Sieves or Separators, of which the following is a specification.

This invention provides an improved structure of sieve for separating coal in its special adaptation, the particular object of the invention being to secure a device of this class having separating means peculiarly mounted, so as to be operated to present a separating-surface, through which the coal may pass, or an unbroken surface, to thereby change the percentage of "slack" or "nut run." Certain of the separator-bars are movably mounted and adapted to be thrown into separating position or to present a flat surface, as before mentioned, to alter the amount of sieve or separating surface.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a rear elevation of a separating device embodying my invention. Fig. 2 is a sectional view on the line X X of Fig. 1. Fig. 3 is a sectional view through the inclined frame and the pivoted lock-bar carried thereby. Fig. 4 is a detail perspective view of the operating-bar connected to the screen-bars for operation thereof. Fig. 5 is a detail perspective view showing the exact form of the upper end portion of each of the separator-bars and the connecting-arm, by which same is connected to the operating-bar, parts broken away.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The separator comprises an inclined frame, consisting of side bars 1 and cross-bars 2, the upper end portion of the said frame being supported by uprights 3. A ground-frame, comprising side bars 4 and end bars 5, is also utilized as a part of the structure. Intermediate of respective cross-bars 2 of the inclined frame and paralleling the side bars 3 are disposed a plurality of separator-bars 6, which are mounted in sets, which for purposes of description will be designated "upper" and "lower" sets. The lower set of separator-bars 6 are rigidly mounted in the inclined frame, whereas the upper set of bars are movably mounted. The under sides of the bars 6 are inclined or beveled, as most clearly shown in Fig. 3 of the drawings. The bars 6 are adapted for a rotatory movement, being provided with journals 7, which are disposed upon the uppermost cross-bars and held in position by suitable means. The bars 6 are of relative oblong form, and the upper set of the said bars are adapted to be operated into such a position as to come in contact with each other and present an unbroken surface. In another position the upper set of bars are separated to present a separating-surface to permit the material to pass therebetween. The positions of the upper set of bars, as above described, are secured by rotatory movement, caused by an operating-bar 8, which is adapted for an oscillatory movement adjacent the uppermost cross-bar 2 and which is secured to the journal portions of the upper set of bars by means of connecting-arms 9. The arms 9 are provided with oblong openings 10, which receive the squared ends 11 of the journals 7 of the respective separator-bars. The bar 8 is actuated by an operating-lever 12, pivoted to a side of the inclined frame and connected to the said bar 8 by means of a link 13. A slot 14 receives the pivot element 15, carried by the link 13, this structure being provided for obvious reasons.

In the rigid position of the upper set of separator-bars 6 when the latter are disposed in their vertical positions the lock-bar 16 is provided, which is mounted transversely of the inclined frame and supported in brackets 17. Projections 18 extend from the lock-bar 16, same being spaced from each other and pro-

vided with inclined sides to correspond to the form of the separator-bars. When the separator-bars are disposed in their vertical positions, as shown in Fig. 1, the lock-bar 16 is operated by lever 19, so as to throw the projections 18 between the said bars, and thereby prevent play thereof and to support same. Likewise when the bars 6 are in their horizontal position the projections 18 are disposed in an uppermost position, so as to abut against the under side of the said bars, and thus support the same as they are disposed in contact when presenting an unbroken surface. The uppermost ends of the projections 18 are beveled to thus conform to the beveled inclined sides of the respective bars. In order to vary the positions of the upper set of bars to throw them into either a vertical or horizontal disposal, the lock-bar 16 is previously operated by the lever 19, so as to disengage the projections 18 from supporting positions relative to the said bars.

The provision of a separating device, as above set forth, having movable separating-bars, obviates the necessity of placing upon the upper portion of the sieve or separator and above certain separator-bars of plates presenting an unbroken surface, as is usually done. The use of plates to alter the surface conditions of the separator is undesirable, and these plates are very cumbersome, inconvenient, and otherwise disadvantageously used.

Having thus described the invention, what is claimed as new is—

1. In a separator device of the class described, the combination with a supporting-frame, movable separator-bars disposed upon the frame, operating means for the separator-bars, and an independent lock-bar provided with projections for engaging the respective separator-bars to brace and support the same when in separated position or otherwise disposed.

2. In a separator device of the class described, the combination with a frame, movable separator-bars disposed upon the frame, means for operating the separator-bars, an independent locking-bar, and engaging members projected from the locking-bar and coöperating with the separator-bars to brace and support same.

3. In a separating device of the class described, the combination with a supporting-frame, movable separator-bars journaled in the frame and of approximately oblong form, means for operating the said bars so as to throw the same into vertical and horizontal positions, said bars when in vertical positions being spaced from each other and when in horizontal positions approximately in contact with each other, and a lock-bar independent of the operating means and provided with a plurality of projections for cöoperation with the separator-bars when disposed in their vertical or horizontal positions.

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

JOHN G. BROCK. [L. S.]

Witnesses:
RAY LUCAS,
W. P. LENSFORD.