

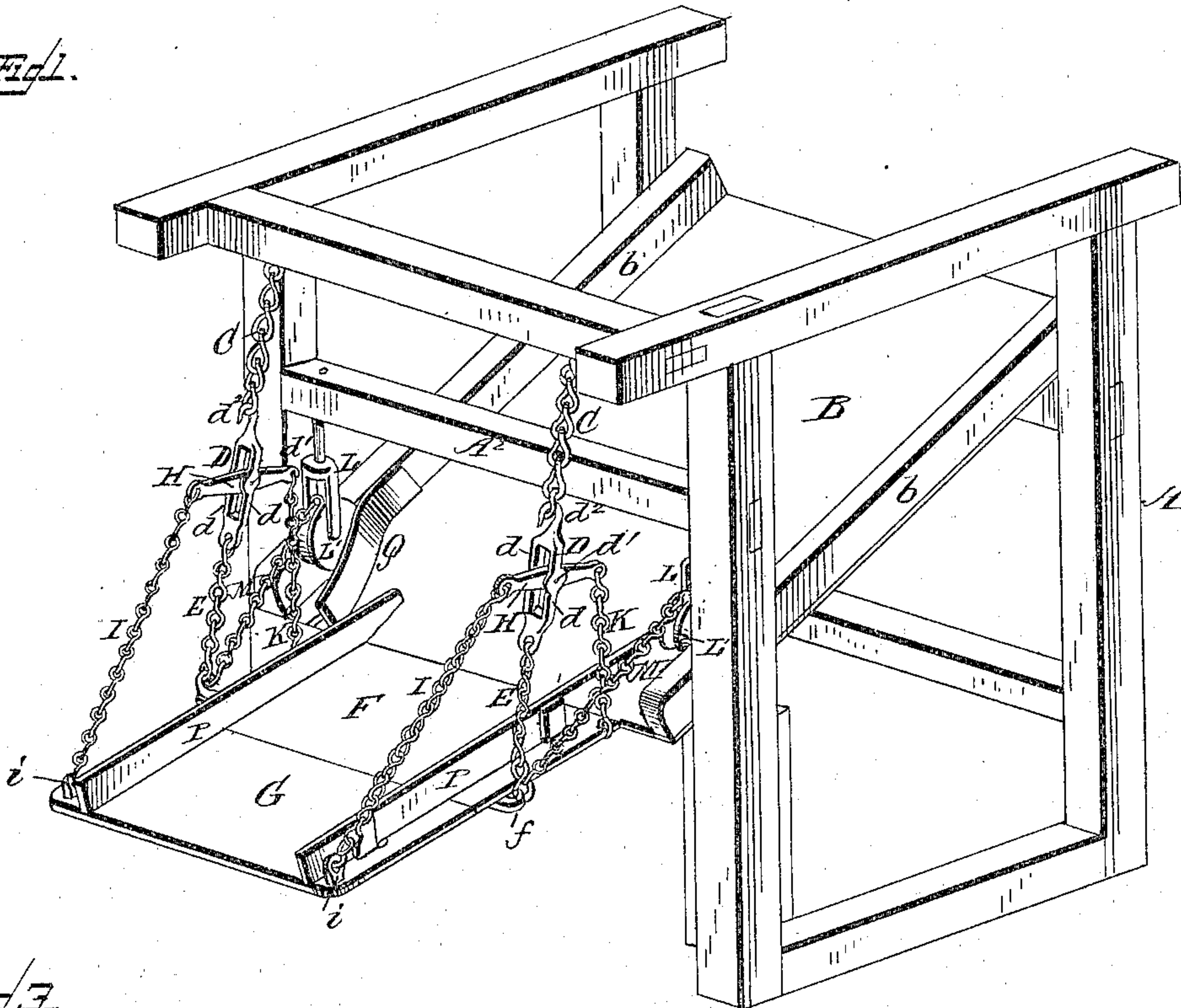
(No Model.)

J. McEACHERN.

COAL CHUTE.

No. 324,865.

Patented Aug. 25, 1885.



~~CONFIDENTIAL~~  
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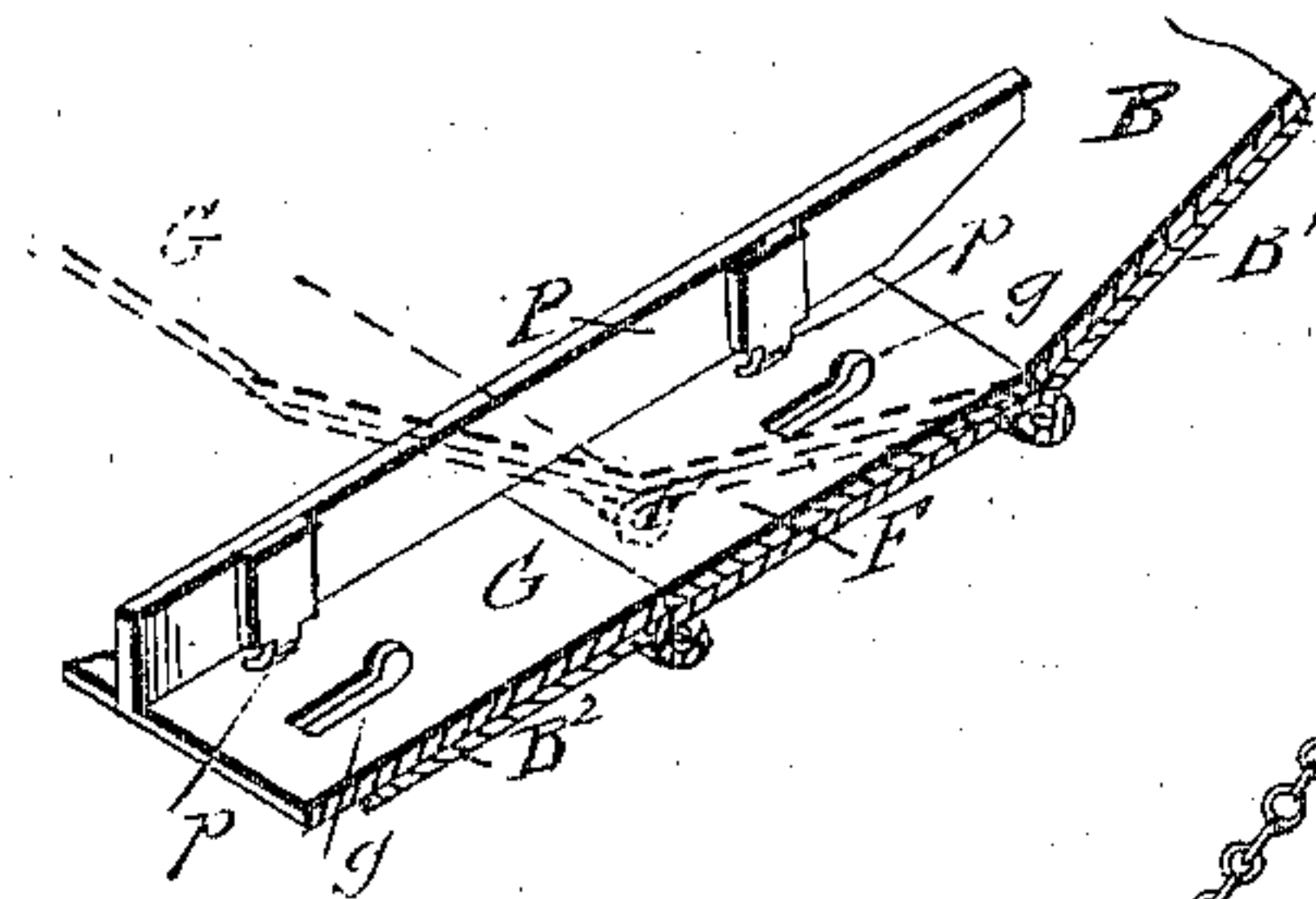
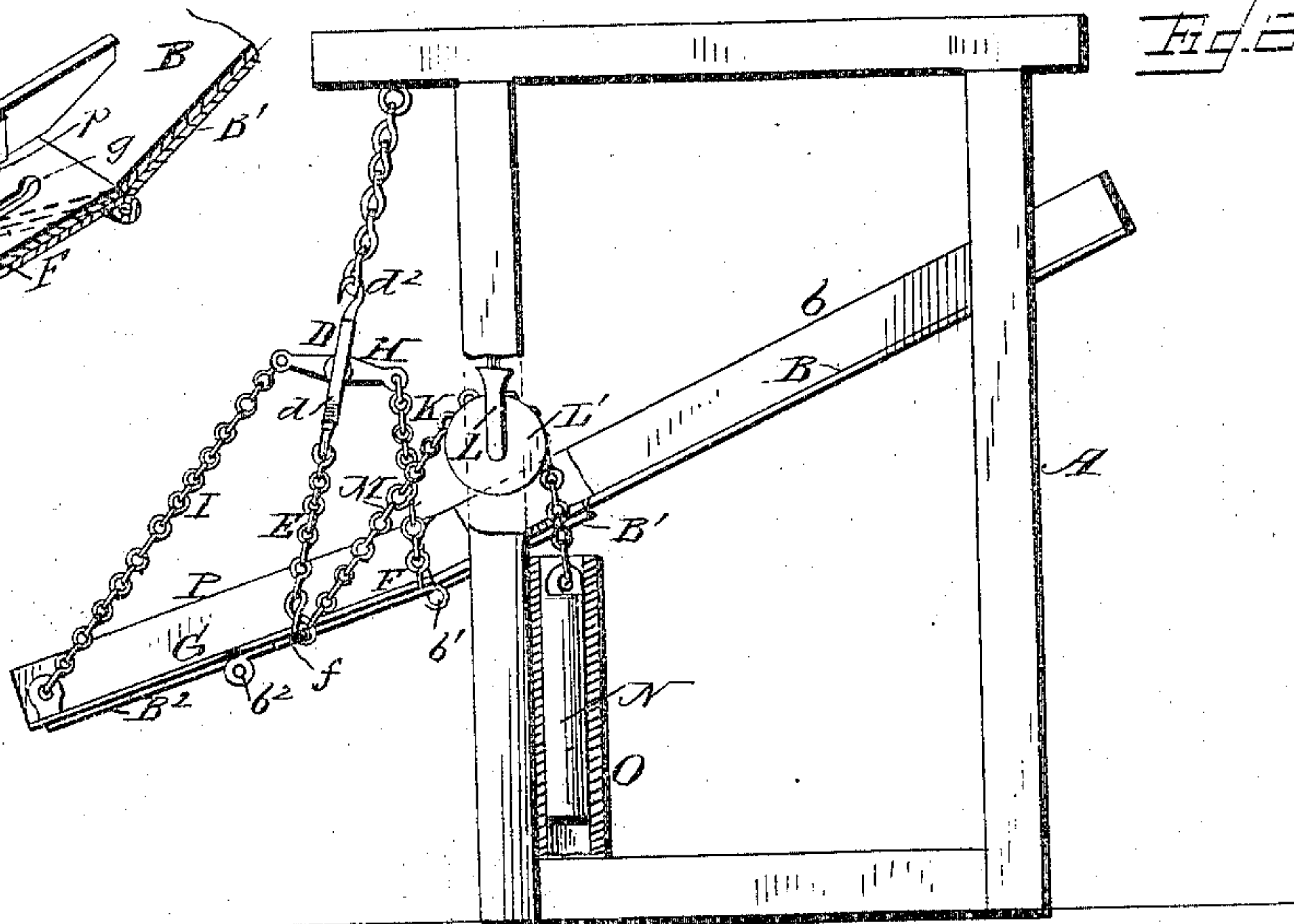


Fig 2.



*WITNESSES*

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# UNITED STATES PATENT OFFICE.

JAMES McEACHERN, OF WENONA, ILLINOIS.

## COAL-CHUTE.

SPECIFICATION forming part of Letters Patent No. 324,865, dated August 25, 1885.

Application filed April 30, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES McEACHERN, a citizen of the United States, residing at Wenona, in the county of Marshall and State of Illinois, have invented certain new and useful Improvements in Coal-Chutes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 is a perspective view of a chute and frame provided with my improvement. Fig. 2 is a side elevation of the same partly in section, and Fig. 3 a detail view of one of the guide-bars and chute-sections.

This invention has for its object to provide an improved extension for chutes that will be cheap, durable, and easily manipulated.

The novelty consists in a double folding chute or platform, one section of which is weighted and constructed to fold upward, while the other or outer section is hinged to said weighted section and constructed to fold downward, being assisted in such movement by its own weight; also, in combining with said folding sections an equalizing device for distributing the strain on the sustaining or brace chains, all as shown in the accompanying drawings, and more fully hereinafter described and claimed.

In the drawings, A represents a frame, and B a chute, of ordinary construction, designed to be used in loading box-cars at a coal-shaft or grain at a warehouse. The chute B is provided with side rails, *b*, to prevent the material passing down said chute from falling over the sides.

To the front cross-beam, A', of the frame A are secured, preferably to the under side, by eyebolts or in any convenient way, one end of the chains C C.

D D are links, each cast in one piece and comprised of the side bars, *d*, the center of each of which is enlarged, as shown at *d'*, to receive the pivot-pin of an equalizing-lever soon to be described. These side bars terminate at their upper ends in a hook, *d''*, which is passed through a link of the chain C. The lower end of this link is provided with a hole in which is secured one end of the main supporting-chain E.

F is the inner section of the double folding extension chute or platform, and G is the outer section thereof.

To the under side of the chute B are secured, in any convenient manner, straps B', terminating at one end (the outer) in eyes, and on the under side of the section F of the extension are similar straps, with the exception that they have an eye at each end.

On the under side of the section G are straps B<sup>2</sup>, the inner ends of which terminate in eyes. Through the coincident eyes of the straps are passed pivot-pins *b' b''*, on which the two sections turn. The outer straps of the section F are provided with extensions *f*, to which are secured the other ends of the main supporting-chains E.

H is an equalizing-lever pivoted in the link D and free to oscillate between the side bars thereof. To one end of this lever is attached one end of the brace-chain I, the opposite end of which is secured to a stud, *i*, projecting from the outer end of the section G. To the other end of this lever is attached one end of the inner brace-chain, K, the other end of which is attached to the inner edge of the section F, as shown.

Near each end of the brace rod A<sup>2</sup> of the frame A is secured a pulley-block, L, carrying a pulley, L'.

M is a chain secured at one end to the extension *f* of the strap B<sup>2</sup> on the under side of the section F. After passing over the pulley L' this chain has attached to its other end a weight, N, which is inclosed in a box, O, made for this purpose and secured to the frame in any convenient manner.

Near the inner corners of the section F, and near the outer corners of the section G, are formed key-hole-shaped slots *g*.

P are guide-bars designed to keep the material from falling off the sides of the extension and to guide the said material into the receptacle. Each of these bars is provided at each end with a hook, *p*, having an enlarged head, and by inserting the head of these hooks in the enlarged part of the slots and then drawing the bars toward the outer edge of the extension, said bars will be locked in place. When thus locked in position, they not only serve to guide the material into the receptacle, but keep the extension-sections in their unfolded position and brace the same against any tendency to double up.

Q are guide-plates attached to the side rails



of the chute B near their lower ends. These guide-plates serve not only to guide or direct the falling material onto the extensions, but in a measure to prevent the material from coming in contact with and clogging up the pulleys L'.

My device can be readily attached to any chute now in use without the employment of a skilled mechanic, and will be found very efficient and durable.

The operation is as follows: The sections F and G are extended, as shown in the drawings, when the guide-bars P are secured in position in the manner already described, and the coal or material being unloaded is dumped into the inclined chute B, down which it slides onto the extensions F G, being prevented from falling over the sides of the chute by the side rails, b, and guided onto said extensions by the guide-plates Q. The weight of the material is borne by the main supporting-chains C E; but if from a sudden strain or any other cause the chains E should break, the weight would be borne by the brace-chains I K, and by reason of their connection with the equalizer H, which is free to oscillate on its pivot, the strain on said chains would be evenly distributed, no matter on which section the greater weight happens to be placed.

When not in use, the guide-rails P are removed and the sections are folded by simply lifting on section F by means of the chains E,

or any other convenient way, when the section F will turn on its pivot and fold upward, being assisted by the weight N, while the section G will turn on its pivot and fold downward, being carried by its own weight.

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

1. An extension for chutes, composed of two sections hinged together, the inner section constructed to fold upward and the outer section to fold downward, combined with a weight attached to said inner section, substantially as and for the purpose specified.

2. The combination, with the folding sections of an extension-platform, of supporting-chains, an equalizing-lever, and brace-chains connecting said lever with said sections, as and for the purposes specified.

3. A coal-chute consisting of a frame provided with a chute and an extension thereto, composed of two hinged sections having detachable guide-bars, a weight, supporting-chains, and equalizing-lever and brace-chains, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JAMES McEACHERN.

Witnesses:

EDWARD LAUGHHLIN,  
JAMES J. C. RAMSEY.