

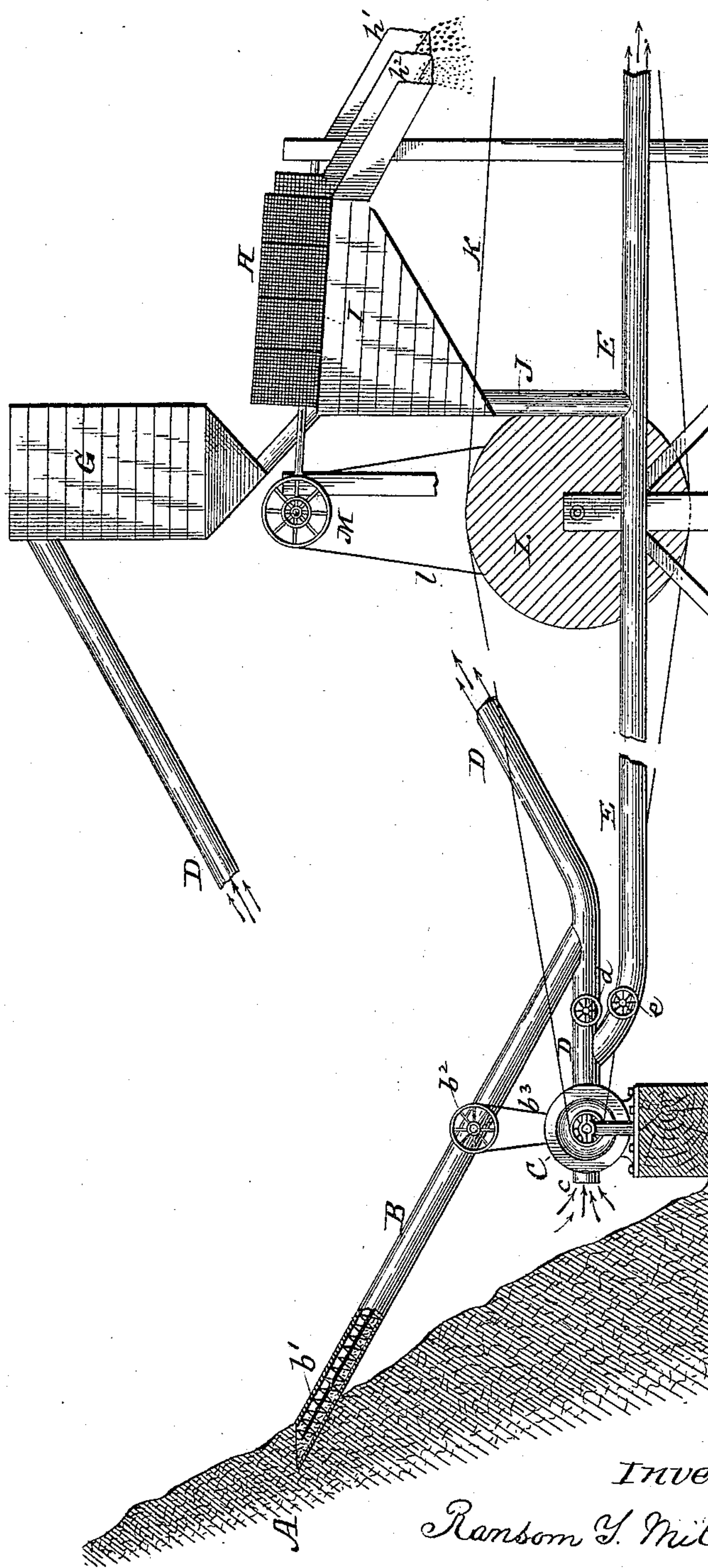
(No Model.)

R. Y. MITCHELL.

METHOD OF TRANSPORTING AND SORTING CULM.

No. 326,446.

Patented Sept. 15, 1885.



Witnesses:
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UNITED STATES PATENT OFFICE.

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METHOD OF TRANSPORTING AND SORTING CULM.

SPECIFICATION forming part of Letters Patent No. 326,446, dated September 15, 1885.

Application filed December 3, 1884. (No model.)

To all whom it may concern:

Be it known that I, RANSOM Y. MITCHELL, a citizen of the United States, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Methods of Transporting and Sorting Culm; and I do hereby 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.

The objects of my invention are to improve the present methods of transporting culm and to sort over piles of culm, and separate from it the chestnut, pea, and buckwheat coal. I attain these objects by a process hereinafter described, the means used in which are illustrated in the figure in the accompanying drawing, representing a side view.

Coal from the breakers is now sorted into many more divisions than formerly, the smallest sizes being known as "buckwheat," "pea," and "chestnut." It is but recently that the buckwheat has been separated from culm. A few years since the pea was not separated, and several years ago the chestnut size went into the culm pile. Consequently there are in the anthracite coal regions vast piles of what was considered culm when they were deposited, but which contain great quantities of coal of what are now merchantable sizes. It is important that those piles should be sorted over and the merchantable coal saved. One difficulty in doing this is experienced in the fact that the piles are moist and damp, and the particles of culm and coal dust adhere to each other and to the merchantable coal. While the piles are being sorted over it is important that the material should be dried, or partly dried, at least sufficiently enough to break up their adhesion.

In the drawing, A represents a pile of culm, and B is a chute by which culm is conducted downward. In this chute is the worm b' , which loosens the culm and pulls it into the chute B.

The worm b' may be operated through the medium of miter-gearing by the pulley b^2 , driven by the belt b^3 .

C is a pressure-blower of any approved

construction, by which air can be drawn into the pipe c and blown with great force into the air-pipe D. The gate d shuts off the air from that pipe D when desired.

The culm, descending the chute B, enters the air-pipe D, and is there taken by the current of air, and is blown upward into the hopper or bin G, from which it runs by gravity into the screen H. This screen can be made double, as shown in the drawing, the interior having smaller meshes than the exterior, so that any particles of slate or other refuse larger than the coal can be separated from the culm. The slate will be discharged into the chute h' , and the merchantable coal which escapes through the meshes of the interior screen can be conducted into bins by the chute h^2 . There can be as many of these screens as is desired to sort the coal into its various sizes.

The particles which pass through the finest and outside screen drop into the bin I, from which they descend into the pipe J.

The main air-pipe D has a branch, E, with a gate, e , and into this branch E the current of air can be diverted at will, and blow the descending dust and screenings from the pipe J in any desired direction or any practicable distance.

K is the band from the engine which operates the blower C, and can also drive the band-wheel L, which by its belt l drives the gearing M, which rotates the screen H.

Not only does the blast of air transport the material, but it also dries it, or partially dries it, and for this end the air entering the blower C can, if desired, be heated or dried by any means, so as to render it more capable of taking up moisture.

What I claim as my invention is—

The method of transporting culm by a current of air having the feed in front of the blower, at the same time drying it by such air, so as to render the culm more susceptible of being sorted into various sizes, substantially as shown and described.

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Witnesses:

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