J. G. BRANT.

COAL CONVEYER.

No. 4.415 Patented Mar. 14, 1846.

Fig. 2.

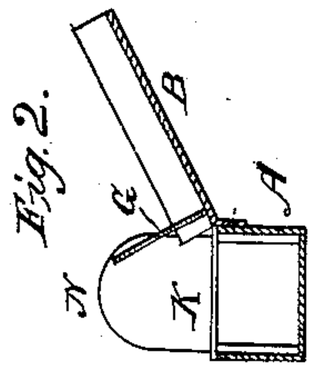

Fig. 1.

UNITED STATES PATENT OFFICE.

JOHN G. BRANT, OF CUMBERLAND, MARYLAND.

CONVEYING, CLEANING, AND ASSORTING COAL.

Specification of Letters Patent No. 4,415, dated March 14, 1846.

To all whom it may concern:

Be it known that I, JOHN G. BRANT, of the town of Cumberland, in the county of Allegany and State of Maryland, have invented a new and useful mode of washing, transporting, and separating coal by conduits, grates, and a current of water in which the coal is conveyed from the mine to the railroad or canal, which mode is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a plan or top view of the conduit, reservoirs, chutes, grates, &c. Fig. 2 is a vertical section at the line *x x* of Fig. 1.

A represents the inclined conduit, leading from the mine to the depot in which the coal is conveyed, washed, and separated. It is made of any suitable size, strength and material—generally of boards—the top being composed of transverse slats A′ for bracing the sides together.

B is an inclined chute leading from the mine to the upper end of the conduit for conveying the coal and dirt mixed with it, to the conduit of water and grates.

G is a gate at the lower end of the inclined chute B, against which the coal, dirt, &c., rests until raised for letting the coal &c shoot into the conduit.

R is a reservoir into which the water is collected preparatory to being let into the inclined conduit A by raising the gate N.

K is a grate placed over the upper end of the conduit A and under the lower end of the chute B for preventing very large pieces of coal going into the conduit.

L is a grate in the bottom of the lower end of the conduit for separating the fine and coarse coal—the former with the fine dirt passing with the water through the spaces between the grate-bars into the reservoir E and the latter passing over the grate into the reservoir F.

Operation: Shovel the coarse and fine coal and dirt, with other impurities, into the chute or inclined trough B. Let it rest against the gate G. When it is necessary to commence the operation of conveying, washing, and separating the coal, raise the gate N, which will cause a current of water to pass through the conduit A. Then raise the gate G which will let the coal slide down the chute B into the conduit through the grate K—the large lumps of coal resting upon the bars of the grate until broken up into pieces sufficiently small to pass through the spaces between the bars. The current of water passes down the conduit through the grate L into the reservoir E carrying with it the fine coal—the coarser coal shooting over the lower end of the conduit into the reservoir F. The water then passes out from the reservoirs E and F through the grates M carrying off with it all the fine dirt, sticks, sulfur, &c., mixes therewith leaving the coal in a clean state in the reservoirs ready to be shoveled therefrom into the boats, cars, wagons, carts or other articles for transportation. During the passage of the coal through the conduit the larger pieces are broken into smaller pieces by their coming in contact; and wherever sulfur appears, or other injurious substance, the water will remove the same by the agitation of the coal therein.

M are grates in the sides of the reservoirs for allowing the water to pass off with the particles of dust and dirt floating therein leaving the coal in the reservoirs in a proper state for the market—washed and separated. The slate separated from the coal being the heaviest will remain in a pile at the middle of the reservoir while the coal will be carried by the water toward the sides of the reservoir.

A^2 represents the manner of adding a branch conduit to the main stem A.

C is a gate which may be turned obliquely across the conduit on the dotted lines C^2 when it may be required to convey the coal to other places. The grate L^2, reservoirs E^2 and F^2 and grates M^2 are made like those at the lower end of the main stem of the conduit. *a* and *c* represent another branch conduit and hinged gate for altering or changing the direction of the current.

The several parts above described may be arranged in various ways without changing the character of the invention and the angle of inclination of the conduits may be one, two, or more degrees of inclination,—more or less as may be required. The coal thus conveyed from the mine to the depot will not only be cleansed from all impurities—broken to the required size—separated the fine from the coarse—thoroughly washed—but will be left in a state fit for the closest inspection—having its value greatly enhanced and lessening the expense of transportation from the mine to the depot immensely—beside imparting to the coal a qual-

ity of brightness and cleanness that it cannot acquire by any other mode of transportation.

What I claim as my invention and desire to secure by Letters Patent is—

Conveying, washing, and separating coal simultaneously by a current of water, in the manner above described, or other mode substantially the same.

JOHN G. BRANT.

Witnesses:
E. H. WILLIAMS,
PATRICK KINNEY.