

UNITED STATES PATENT OFFICE.

EDWIN D. McLEAN, OF NEW ATHENS, ILLINOIS.

IMPROVEMENT IN COAL-SCREENS.

Specification forming part of Letters Patent No. 188,748, dated March 27, 1877; application filed August 30, 1876.

To all whom it may concern :

Be it known that I, EDWIN DEWHURST McLEAN, of New Athens, in the county of St. Clair and State of Illinois, have invented a new and useful Improvement in Coal-Screens, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to supply to coal miners and mine proprietors or operators a portable coal-screen that can be operated in the mine for the loading of the mine-cars with clean coal instead of the good coal mixed with waste, which is sent out of the mine now, without an exception that I am aware of, so common is the practice.

Coal, as it is taken down from its wall by the miner, is, from necessity, very dirty. The miner, in holing or working under the coal to undermine it and get it down, cuts a large amount of coal into dust or slack, and more or less of the fire-clay and slate of the floor and roof become intermixed with the slack.

The economical value of my invention is strikingly shown at this stage of operation in all mines. Twenty per cent. of the coal raised to the surface will pass through a one and a quarter inch or usage screen as waste, which, as valueless waste, has to be hauled away from the mine's mouth at a great expense, or be there burned, which process scarcely reduces the bulk materially, there being so much earthy matter that the heaps are an expensive disfigurement of a mine's surroundings.

By the attachment to a mine-car of the device illustrated in Fig. 1, an adjustable screen is provided, upon which all the coal and waste combined may be shoveled. The coarse clean coal will shoot into the car, while the slack will drop on the side of the track. Nothing,

therefore, need be raised to the surface but clean profitable coal. My screen is very light, and each miner easily sets his screen on the car's side opposite to the shoveling.

A, Fig. 1, is the square screen-frame. *a* is a movable side-board fastened to the side by staples: It is to be placed opposite to the shoveler when the coal is cast from front or rear. *D* is a pair of hinged legs, to regulate the pitch of the screen to suit either wet or dry coal; *b b*, a swinging bar that may be held in any of the adjusting-notches *d d*, to maintain the screen at a desirable angle, with its handle bearing against the car. *C* is an apron of sheet-iron that hangs beneath the lower end of the screen, to deflect the waste as far as possible from the side of the car and the track. *E* is the screen, having the bars set apart according to the rules that prevail relating thereto; *e*, a stiffening-bar under the screen; *F F*, hooks by which the screen is hung to the car or wagon; *f*, hinge for the beams *D* to vibrate on; *G*, car or wagon to be loaded. My screen is usually 2½' to 3' square, the iron bars being one-half-inch iron.

I do not claim the invention of a screen as such.

I claim as my invention—

A portable coal-screen, attachable to a coal-car by suspension-hooks and held in any desired sloping position by supporting bars notched for reception of hinged adjustment-rod, in combination with a coal-car, for the purpose and in the manner as herein described.

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Witnesses:

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