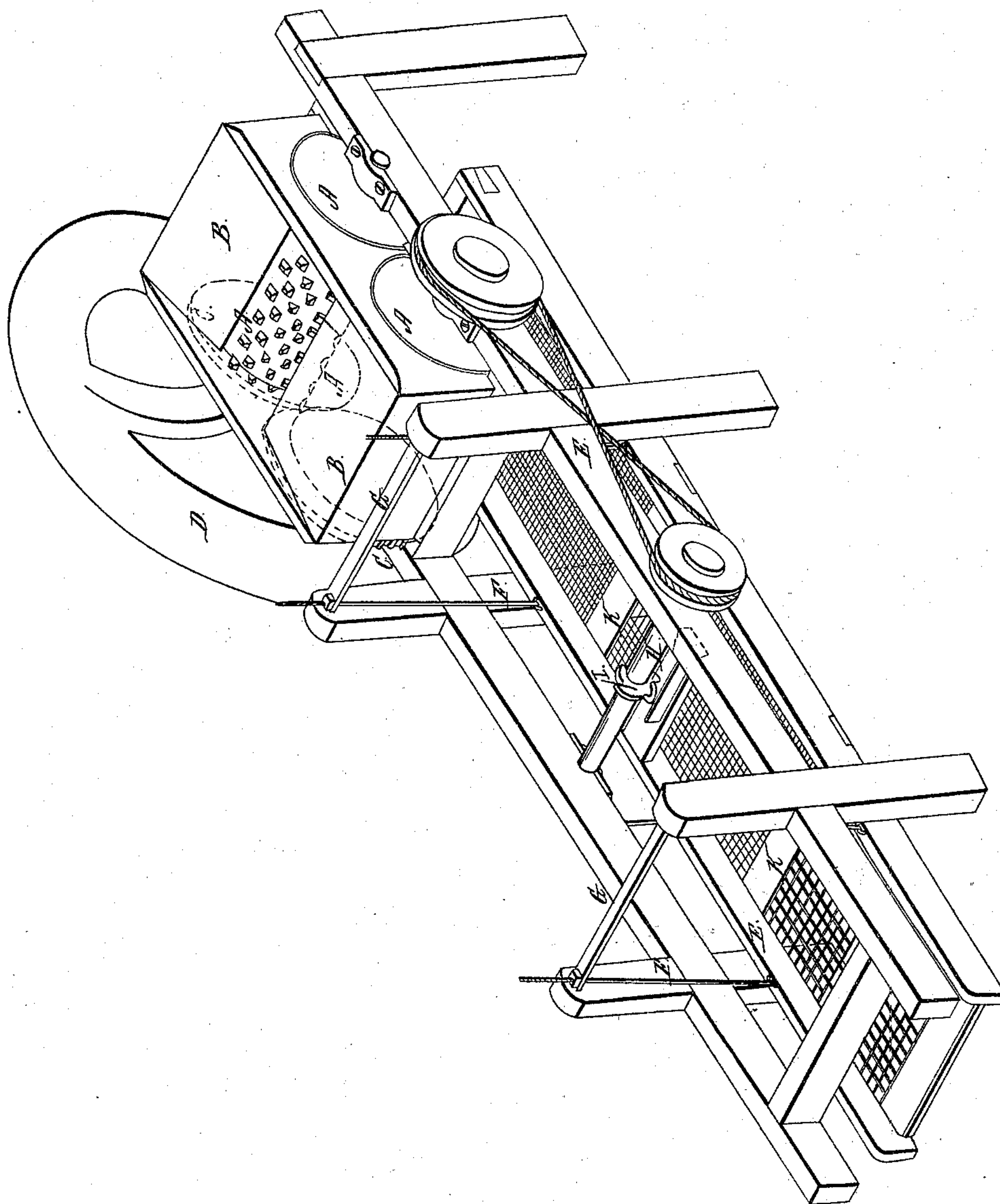


BREAKING AND SCREENING COAL.

No. 3,292.

Patented Oct. 6, 1843.





# UNITED STATES PATENT OFFICE.

JOSEPH BATTIN, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR BREAKING AND SCREENING COAL.

Specification forming part of Letters Patent No. 3,292, dated October 6, 1843; Reissued September 4, 1849, No. 142.

*To all whom it may concern:*

Be it known that I, JOSEPH BATTIN, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Machine for Effecting Simultaneously the Breaking and Screening of Coal; and I do hereby declare that the following is a full and exact description thereof.

The breaking part of my machine consists of two rollers of cast-iron, the peripheries of which are provided with teeth so placed as that in the revolution of the rollers, the teeth upon each of them shall stand opposite to the spaces formed by two contiguous teeth on the opposite roller. These rollers are geared together in order to cause them to preserve the same relative positions. The coal to be broken is to be thrown into a hopper above the rollers, which rollers revolve inward toward the coal.

Below the rollers, a long screen is suspended, in such manner as that it may have a vibrating motion communicated to it endwise, by means of revolving cams, or wipers. Immediately under the rollers the screen is furnished with fine meshes, which allow the dust, or minute particles, only, to pass through; next to this the meshes are larger, and through these the nut coal will pass; and this section is succeeded, in like manner, by a coarse screen, and so on to four, five, or more sizes. The screen is placed in an inclined position, and the coal, consequently, travels along it as it is made to vibrate, and is thereby assorted into different sizes.

The accompanying drawing is a perspective representation of the whole machine.

A, A, are the two cast-iron breaking rollers, and B, the hopper into which the coal to be broken is thrown.

C, C, are the two gearing wheels affixed on the shaft of the rollers, and by which they are made to turn simultaneously, and correctly.

D, is a fly-wheel, to regulate the motion.

E, E, is the screen, which is sustained by the rods, F, F, which are attached, by screw nuts at their upper ends, to the rock shafts, G, G.

A cam, or wiper, shaft H, crosses the frame of the machine, and carries the cams, or wipers, I. The shaft H, is made to revolve by means of a pulley, J, driven by a band that passes around a pulley on the shaft of one of the iron rollers. The wipers act against a piece of metal projecting up from the screen frame; to cause the screen to act efficiently, it ought to be made to strike against a suitable spring as it is thrown forward by the wipers. Between each of the screens, a flat plate of metal, K, K, is interposed, to separate the heaps of coal from each other. Motion may be communicated to the machine by any adequate power.

Having thus fully described the nature and operation of my machine for breaking and screening coal, what I claim as new therein, and desire to secure by Letters Patent, is—

The manner in which I have arranged, and combined with each other, the breaking rollers and the screen, the respective parts being formed, and operating, substantially as herein set forth and made known.

JOSEPH BATTIN.

Witnesses:

DANL. CLARKE,  
GEORGE EVETY.