

J. B. WILFORD.

Jigger.

No. 168,698.

Patented Oct. 11, 1875.

Fig. 1.

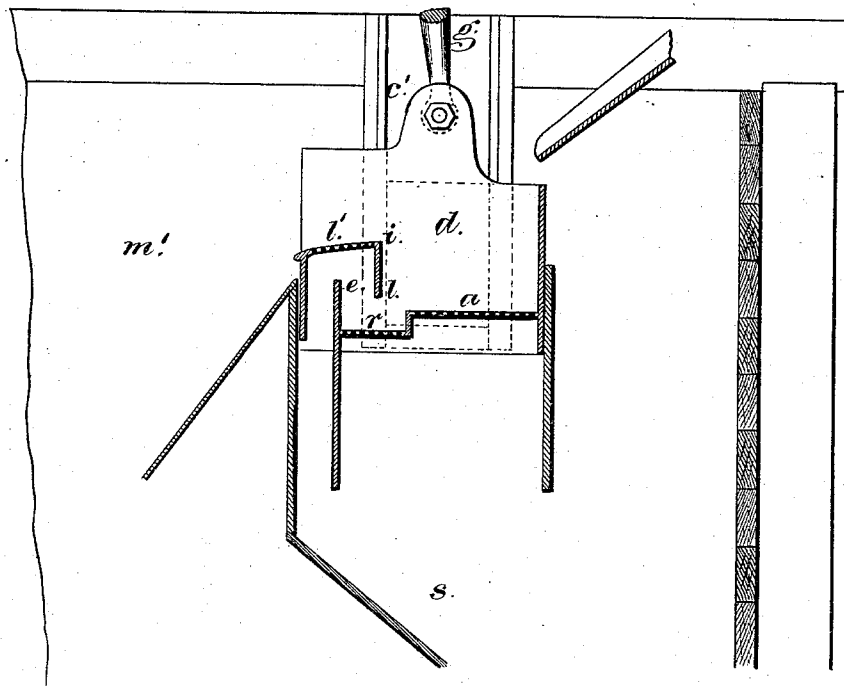
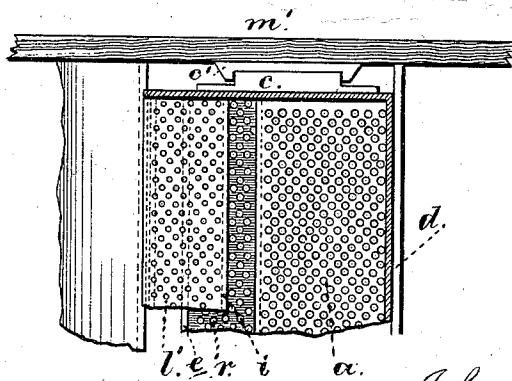


Fig. 2.



Witnesses

Chas. H. Smith
Geo. T. Pinckney

Inventor

John B. Wilford
per L. W. Perrell
att'y.

UNITED STATES PATENT OFFICE.

JOHN B. WILFORD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
HEZEKIAH BRADFORD, OF SAME PLACE.

IMPROVEMENT IN JIGGERS.

Specification forming part of Letters Patent No. 168,698, dated October 11, 1875; application filed
March 20, 1875.

To all whom it may concern:

Be it known that I, JOHN B. WILFORD, of Philadelphia, in the State of Pennsylvania, have invented an Improvement in Jigs for Separating Coal from Slate and other articles of varying specific gravity, of which the following is a specification:

My present invention is an improvement upon that for which Letters Patent Nos. 143,492 and 143,219 were granted to Hezekiah Bradford, and upon a device for which said Bradford has made application for Letters Patent.

In the jigs patented as aforesaid the coal and slate are separated by the difference of specific gravity in water, the mass in the jig being exposed to a movement with the jig in the water, and the supply is continuous and the delivery progressive both of the coal and of the slate.

My present improvement is made with reference to insuring the more speedy and free delivery from the jig of the heavier and larger pieces of the slate, and that without interfering with the uniformity of the jiggling operation.

In the drawing, Figure 1 is a vertical section, and Fig. 2 is a partial plan, of the said jig and appliances.

The box *d* of the jig is preferably rectangular, and provided with slides *c* at the end, moving in guides *c'* upon the tank *m'*; and a shaft and cranks with connecting-rods *g* are employed to give the reciprocating movement to the jig and its contents, substantially as in aforesaid patents. The bottom *a* of the jig is perforated with holes that are smaller than the materials that are retained in the jig; and there are two points of delivery—the one over the edge of the dam *i*, at which place the coal passes away upon the chute or shelf *h*, the other over the dam *e*, where the slate and heavier portions of the bone-coal pass away into the portion *s* of the tank, from which they are removed by a suitable elevator.

The essential feature of difference between the present device and those that have preceded it relates to the construction of the perforated bottom.

The heavier portions of the slate and bone coal pass beneath the lower edge *l* of the dam or side *i* of the jig-box; and there is a balance attained between the shorter column of heavier material that extends to the top of the dam *e*, and the higher column of lighter materials that extends to the top of the dam *i*, as in the jig invented by said Bradford, but there is a difficulty in securing the passage freely of the heavier pieces beneath the lower edge *l*, because said materials sometimes pile up against this side of the jig; and if the edge *l* of the side of the jig did not extend down as low as shown, then the coal might work down and escape beneath that edge *l* with the slate. These difficulties are prevented by my improvement, which consists in a depression, *r*, in the perforated bottom *a* beneath the lower edge *l* of the dam *i*, whereby an increased space is allowed for the passage of slate to the dam *e*; and the tendency of the slate and heaviest portions is to accumulate in this depression, and thereby prevent coal passing into the same; and in this manner the delivery of the slate is more reliable and the escape of coal over the dam *e* is effectually prevented.

I do not claim a separator formed of a stationary screen, with sections thereof at successively lower levels, through which screen water is forced by a pump.

I claim as my invention—

A reciprocating jig having the upper delivery-dam *i* for the lighter material and the lower delivery-dam *e* for the heavier material, in combination with the depression *r* in the perforated bottom of the reciprocating jig, that allows the heavier material to pass freely beneath the lower edge *l* of the dam *i*, for the purposes and as set forth.

Signed by me this 24th day of February,
A. D. 1875.

JNO. B. WILFORD.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.