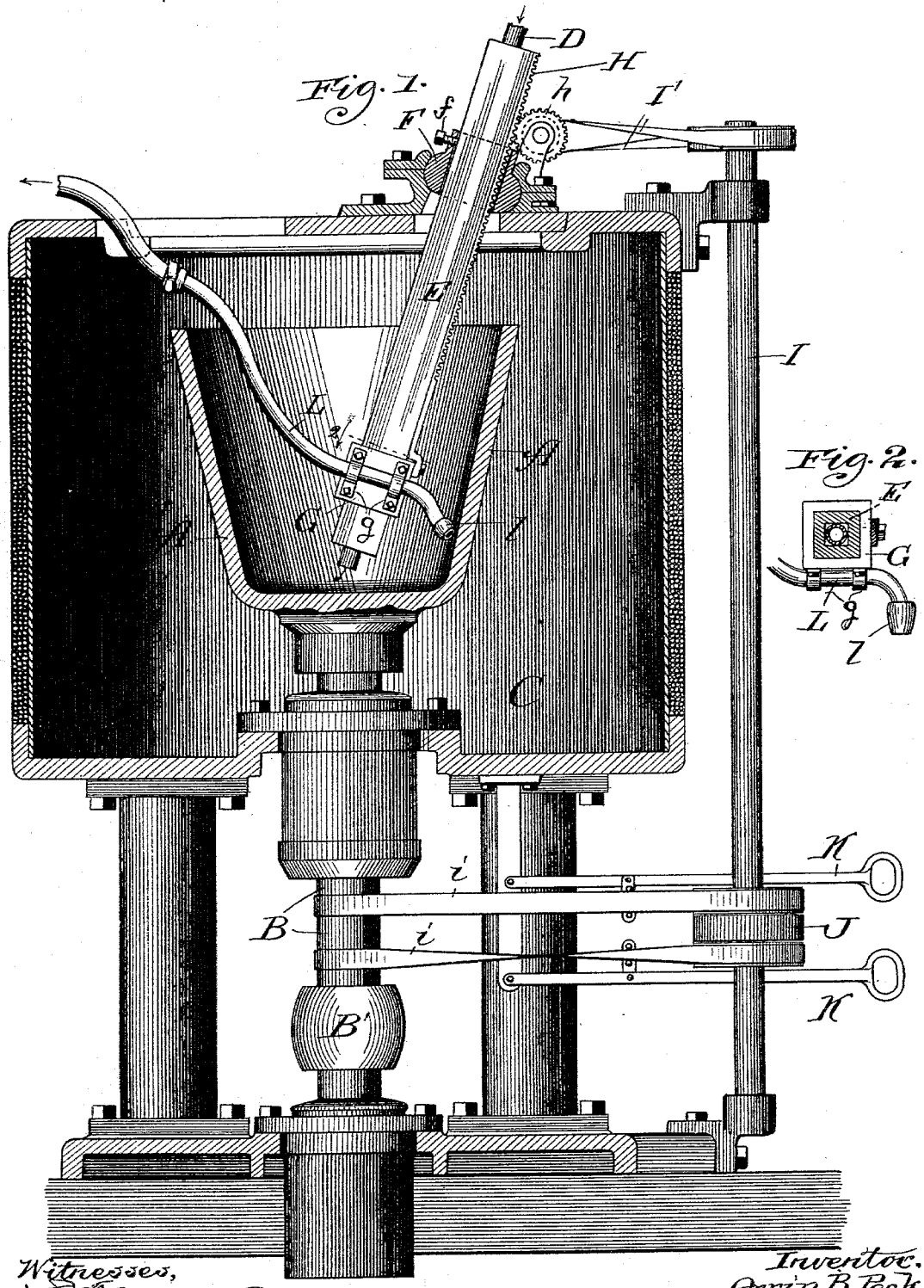
(No Model.)

O. B. PECK.

CENTRIFUGAL ORE SEPARATOR.

No. 490,040. Patented Jan. 17, 1893.



Witnesses,
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UNITED STATES PATENT OFFICE.

ORRIN B. PECK, OF CHICAGO, ILLINOIS, ASSIGNOR TO MELINDA PECK, OF SAME PLACE.

CENTRIFUGAL ORE-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 490,040, dated January 17, 1893.

Application filed June 14, 1892. Serial No. 436,738. (No model.)

To all whom it may concern:

Be it known that I, ORRIN B. PECK, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Centrifugal Ore-Separators, of which the following is a specification.

The object of my invention has more especial reference to the means for removing or unloading the heavier and more valuable particles of the material remaining on the separating surface of a centrifugal ore separator; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 represents a central vertical section of an apparatus containing my improvements; and Fig. 2 is a plan view of a section of one of the parts taken in the line 2 of Fig. 1, looking in the direction of the arrow.

In making my improvement in centrifugal ore separators, I make a rotatable vessel, A, mounted on a shaft, B, provided with a pulley, B′, through which power may be applied by means of a belt to rotate the vessel. The vessel has its separating surface arranged in a somewhat oblique position or angle to the axis of its revolution. In other words, it is made somewhat flaring to facilitate a movement of the particles being treated across it. I have shown the separating surface as the sides or walls of a vessel, although as the separating surface is the important part, I do not wish to confine myself simply to a vessel, but to cover a rotatable separating surface, however supported and supplied with material. As the material is deposited on, or supplied to, the separating surface by the action of centrifugal force, the lighter and more worthless particles pass rapidly across such surface, and are discharged into a curbing or other receptacle, C, while the heavier and more valuable particles accumulate on the separating surface. The material to be treated is fed in through a pipe or chute D, and preferably surrounding this pipe is arranged a column E. This column is arranged in a bearing or support F, in which it may be moved up or down and held at any desired point by means of a set screw *f*. Although in the drawings the column is shown slightly out of parallelism with the plane of the separating surface, it will be understood that it can be arranged in a position parallel to such surface, and I desire to say that I prefer to so arrange it. A collar or clamp, G, is arranged on the column, and movable along it. To support and move the collar along the column, a rack H is arranged on one side of it, extending beyond the separating surface, and engaging with a pinion, *h*, by rotating which the rack, with the clamp or collar G, may be moved longitudinally on the column. To rotate the pinion and effect this movement, I arrange a shaft I, driving a belt I′, to rotate the pinion *h* in the one direction or the other, as desired, and to rotate this shaft I provide belts, *i*, which may be shifted from loose pulleys onto a fixed pulley, J, on the shaft. One of these belts is straight, so that when it is moved onto the pulley J it will rotate the shaft I in one direction and the other is crossed, so that when it is moved onto such pulley it will rotate the shaft in the other direction. Suitable belt shifters K, are employed to shift the belts, as desired. In this way, the pinion, *h*, may be rotated in the one direction or the other, as desired, to run the rack H and the collar or clamp G longitudinally along the column E. A discharge cutter or scoop, L, is supported on or by the collar or clamp G, with its operative end *l*, which I prefer to make of a separate and removable piece, directed against the course of travel of the separating surface. As the collar or clamp G is moved along the column E, its cutter or scoop, will be moved over or across the separating surface, to operate at different positions along it for the removal of the particles accumulated thereon which it is desired to remove by the cutter or scoop. The cutter or scoop is adjustable through the clamps *g* toward or from the separating surface, and by moving the collar or clamp on the column, the cutter or scoop is adjustable across the separating surface, so that it is capable of being operated at different depths in the material accumulating, as well as different positions across the separating surface. It is capable of being run over the separating surface at desired depths, to remove the ma-

terial accumulating thereon, and if the columns be arranged parallel to the separating surface, the mouth or operative end of the cutter may maintain a position parallel to the angle of the separating surface while moving across it.

As the principal feature of my invention consists in the idea of arranging a discharging cutter or scoop which may be moved across the separating surface of a centrifugal ore separator practically parallel with the transverse plane of such surface and at an oblique angle to its axis of rotation, and at a desired proximity to such surface, I do not wish to limit myself to the details of construction which I have shown and described for effectuating this main idea or principle, and intend to permit as much latitude as may be desired in the form and construction of the scoop and in the arrangement of the means for adjusting the cutter or scoop across the separating surface, or toward or from it.

What I regard as new and desire to secure by Letters Patent is:—

1. In centrifugal ore separators, the combination of a rotatable separating surface, means for rotating such surface, a cutter or scoop for removing the material accumulating thereon, and means for moving such cutter or scoop along the separating surface transverse to the path of its rotation substantially as described.

2. In centrifugal ore separators, the combination of a rotatable separating surface, means for rotating such surface, a cutter or scoop for removing the material accumulating thereon, and means for moving such cutter or scoop across the separating surface and into desired proximity thereto, substantially as described.

3. In centrifugal ore separators, the combination of a rotatable separating surface, means for rotating such surface, a cutter or scoop for removing the material accumulating thereon, and means for moving such cutter or scoop in planes practically parallel to the transverse plane of the separating surface and oblique to the axis of its rotation, substantially as described.

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