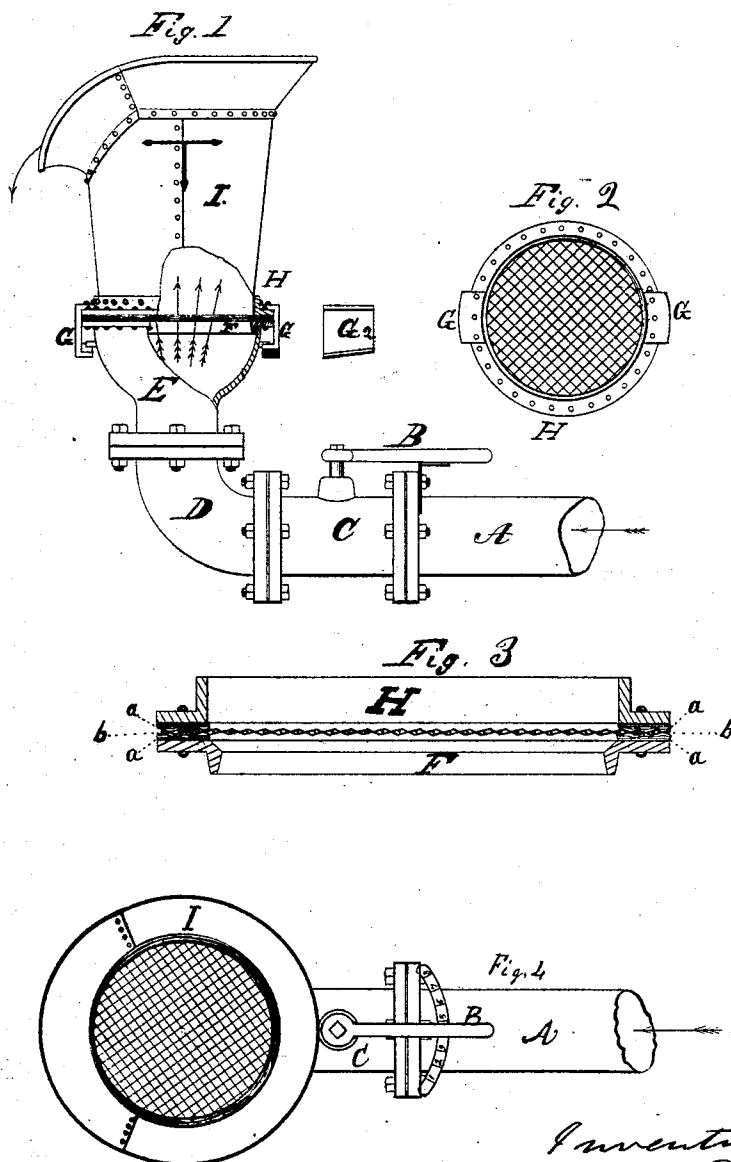


H. P. MINOT.
Ore-Separators.

No. 145,441.

Patented Dec. 9, 1873.



Witnesses,
R. S. Chamberlain
R. C. Russell

Inventor
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in person

UNITED STATES PATENT OFFICE

HIRAM P. MINOT, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ORE-SEPARATORS.

Specification forming part of Letters Patent No. **145,441**, dated December 9, 1873; application filed October 24, 1873.

To all whom it may concern:

Be it known that I, HIRAM P. MINOT, of the city of Chicago, county of Cook, State of Illinois, have invented a Separator, of which the following is a specification:

The object of my invention is to improve the construction and arrangement of a device to rapidly separate any heavy substance from all such foreign substances of less specific gravity with which it may be mixed, and is accomplished by the action of a current of water or other fluids through the apparatus; and it consists in the construction and arrangement of the parts of the device, as hereinafter more fully described, and pointed out by the claim.

Figure 1 represents an elevation of the apparatus.

A is a tube of a sufficient size. C is a casing containing a valve capable of controlling the force of the current of water through the apparatus. B is the handle controlling the valve. D is an elbow, giving the current an upward course into the bowl E. Resting on the bowl E, the edge of which is true, is the flange F, which sits into the bowl as far as the shoulder. H is also a flange, that, with an insertion of packing A A and fastened to flange F, firmly holds the wire screen or perforated bottom B. (More fully shown in Fig. 3.) The hopper I, being fastened to the flange H, gradually increases in size until it reaches the overflow. The hopper I, with the flanges H and F and wire screen or perforated bottom b, is fastened or adjusted to the bowl E by means of the lugs G G or an incline passing under and binding upon a pin fastened in the side of the bowl E.

The tube, casing, valve, elbow, bowl, wire screen or perforated bottom, and tapering hopper being provided, substantially as above described, the hopper being filled sufficiently with the mixture out of which the substance desired is to be extracted, and connections being made at A, by any convenient means, with a current of water running with sufficient force, the valve C is opened, and the water flows through the tube, screen or perforated bottom, the mixture to be separated, and the tapering hopper, and escapes at the top or overflow of the hopper, as described by the arrow. By means of the valve and the tapering hopper, the speed of the water or fluid is caused to decrease as it reaches the overflow, and is so regulated that it lifts the whole mass of the mixture to be separated off from the screen or perforated bottom, and subjects it to a lively agitation in the interior of the hopper, allowing the lighter parts to escape at the overflow, while the heavy portions of matter remain in the hopper, thus separating the heavy matters from the lighter. When the mass is sufficiently washed, the current is stopped by the valve, the hopper unjointed from the bowl, and the separated matter dumped out, when the process is repeated.

I claim as my invention—

The tapering hopper I, in combination with the screen b and valve C, constructed and arranged for operation, as and for the purpose specified.

HIRAM P. MINOT.

Witnesses:

F. C. RUSSELL,
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