D. NEVIN.

Improvement in Ore-Separators.

No. 131,064. Patented Sep. 3, 1872.

Fig. 1.

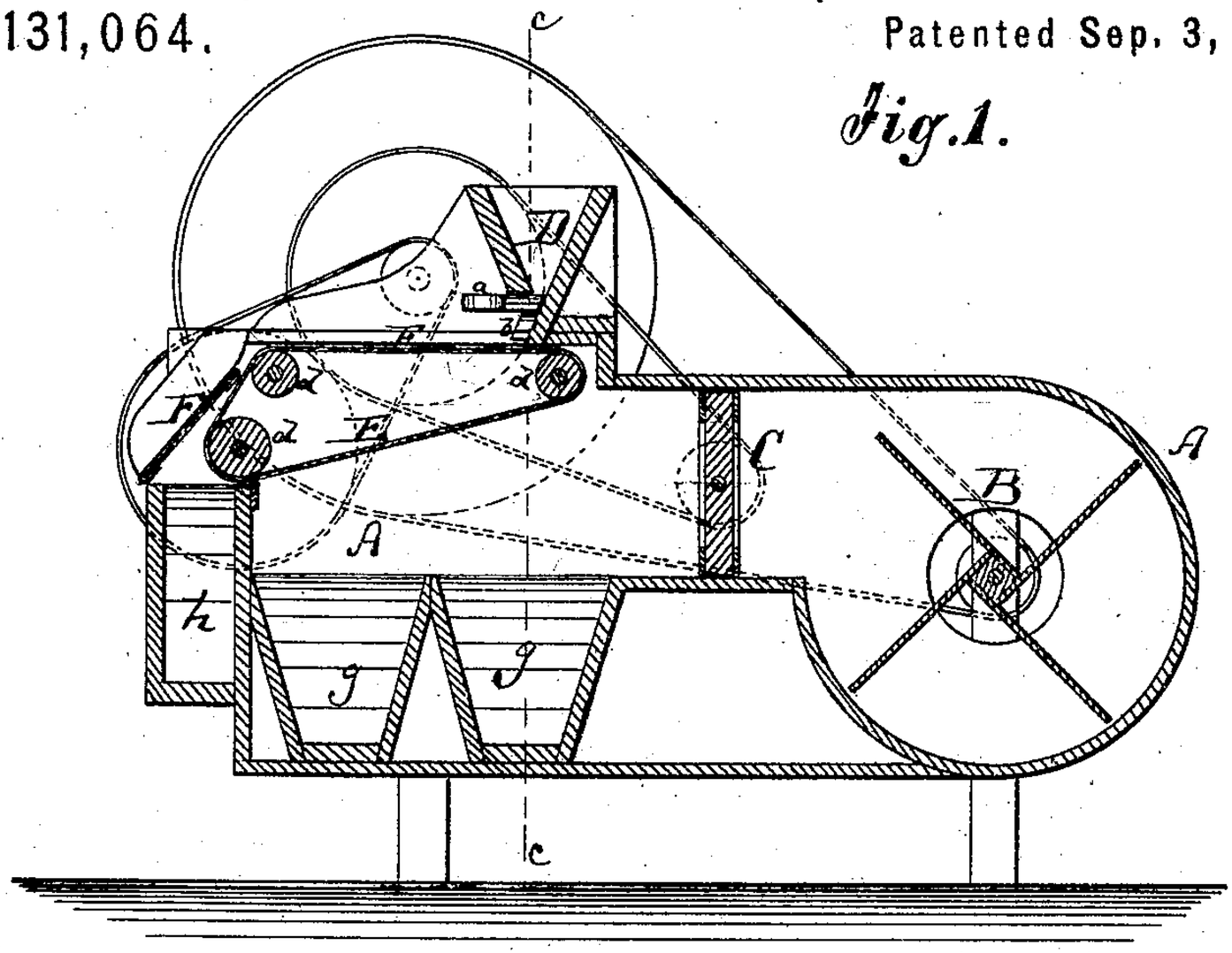


Fig. 4.

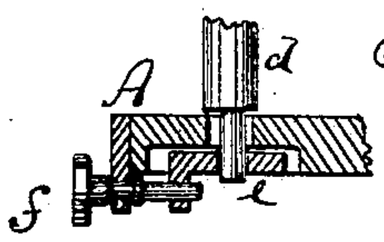


Fig. 2.

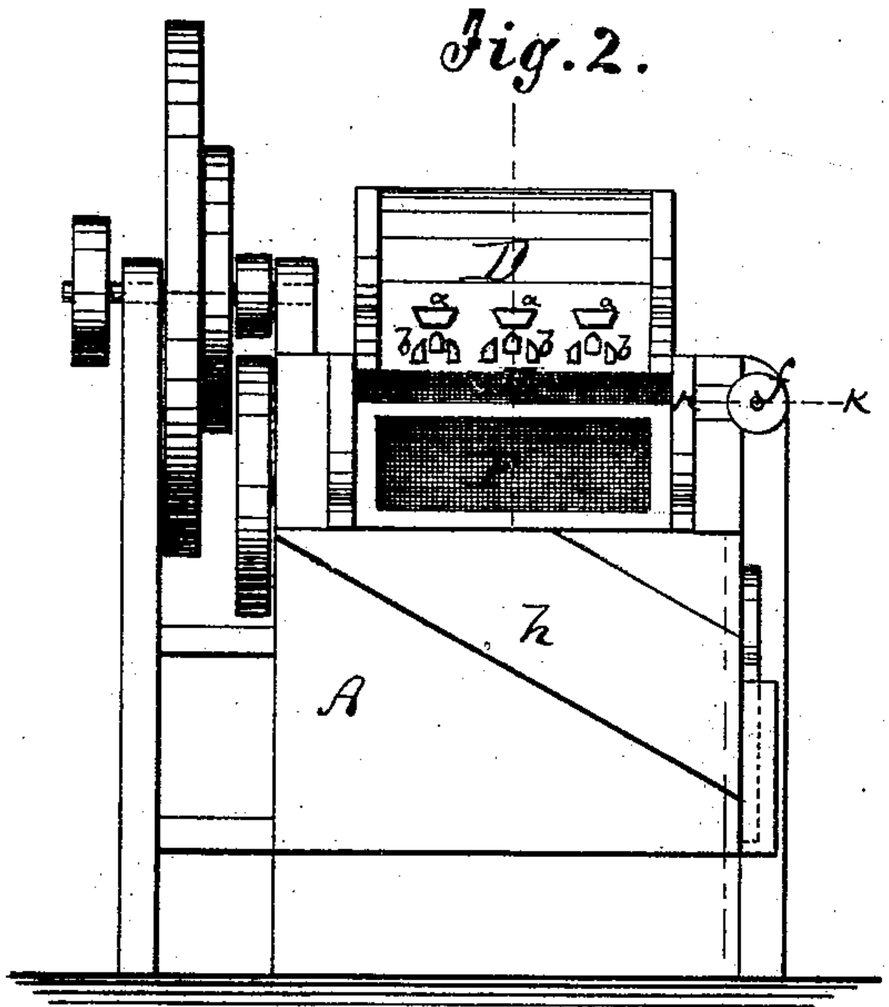
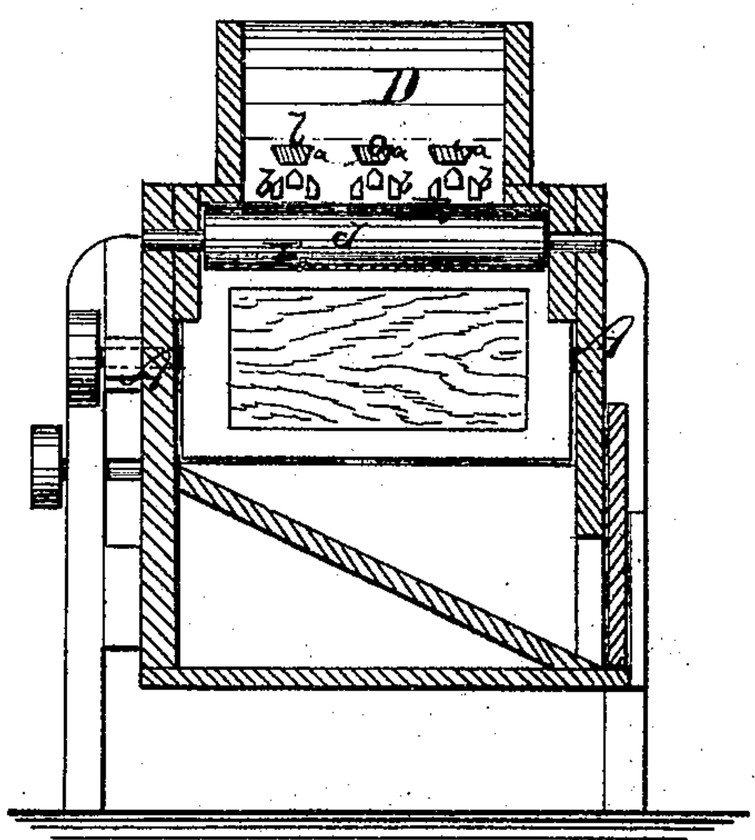


Fig. 3.



Witnesses:

A Benneckendorf.

W. A. Graham

Inventor:

D. Nevin.

Per Munn & Co

Attorneys.

UNITED STATES PATENT OFFICE.

DAVID NEVIN, OF GEORGETOWN, COLORADO TERRITORY.

IMPROVEMENT IN ORE-SEPARATORS.

Specification forming part of Letters Patent No. **131,064**, dated September 3, 1872.

Specification describing a new and Improved Ore-Separator, invented by DAVID NEVIN, of Georgetown, in the county of Clear Creek and Territory of Colorado.

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of my improved ore-separator. Fig. 2 is a front elevation of the same, and Fig. 3 a vertical transverse section on the line *c c*, Fig. 1. Fig. 4 is a detail horizontal section on the line *k k*, Fig. 2.

Similar letters of reference indicate corresponding parts.

This invention relates to a new ore-separator, in which air currents, or rather puffs, are used to effect the desired separation of the heavier from the lighter metals.

The invention also consists in the use of a continuous rotary wire-screen under the hopper, in the use of a screw for regulating the same, and of a stationary tail-screen, as hereinafter more fully described.

A in the drawing represents the frame or case of my improved separator. B is the rotary fan, hung in one end of the same, to produce a continuous air-current. C is a rotary blade covered with leather or otherwise made practically impervious to air. It is placed in the air-channel directly in front of the fan, and of such size as to fill said channel when in the position shown in Fig. 1. While being revolved the blade C interrupts the air-current whenever it thus closes the channel and then opens it again, thereby causing the air to be blown in puffs toward the forward part of the machine and not in a continuous current. D is the feed-hopper, into which the dry ore, reduced to proper fineness, is placed. One or more slide-gates, *a a*, in the bottom of the hopper serve to regulate the escape of ore therefrom. Lugs *b b*, sharp-edged on top, are placed against the side of the hopper, under the gates *a*, and serve to spread the ore so that it will be supplied across the entire width of the movable screen E, or the hopper may be used with one gate the whole width, and without the lugs for spreading the ore. The screen E is of wire-gauze of the requisite fineness, and is placed around rollers *d d*, whereby and whereon it is moved continuously and regularly, so that its upper part moves forward. One of the rollers, *d*, hangs in sliding bearings *e*, which can be adjusted lengthwise by means of a screw or screws, *f*, with the object of imparting to the wire-screen a suitable degree of tension, and true direction between the sides of frame. The driving-rollers are to be covered with leather or other material.

In operation, the puffs of air blown from below through the traveling screen E cause the ore on the latter to bound up and drop down alternately, the heavier falling lower and passing through the meshes of the screen E into lateral discharge-spouts *g*. The lighter ore reaches the tail-screen, through which some passes into a spout, *h*, while the very lightest material falls over the edge of the tail-screen. The several shafts and rollers are revolved by means of belts or other suitable mechanism.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The rotary wire-screen E arranged under the feed-hopper of an ore-separator, as specified.

2. The tail-screen F placed against and combined with the rotary wire-screen E, to operate as set forth.

DAVID NEVIN.

Witnesses:

HENRY C. HARRINGTON,

WM. N. HUTCHINSON.