

D. GROSS.

Improvement in Ore-Separators.

No. 130,425.

Patented Aug. 13, 1872.

Fig. 1

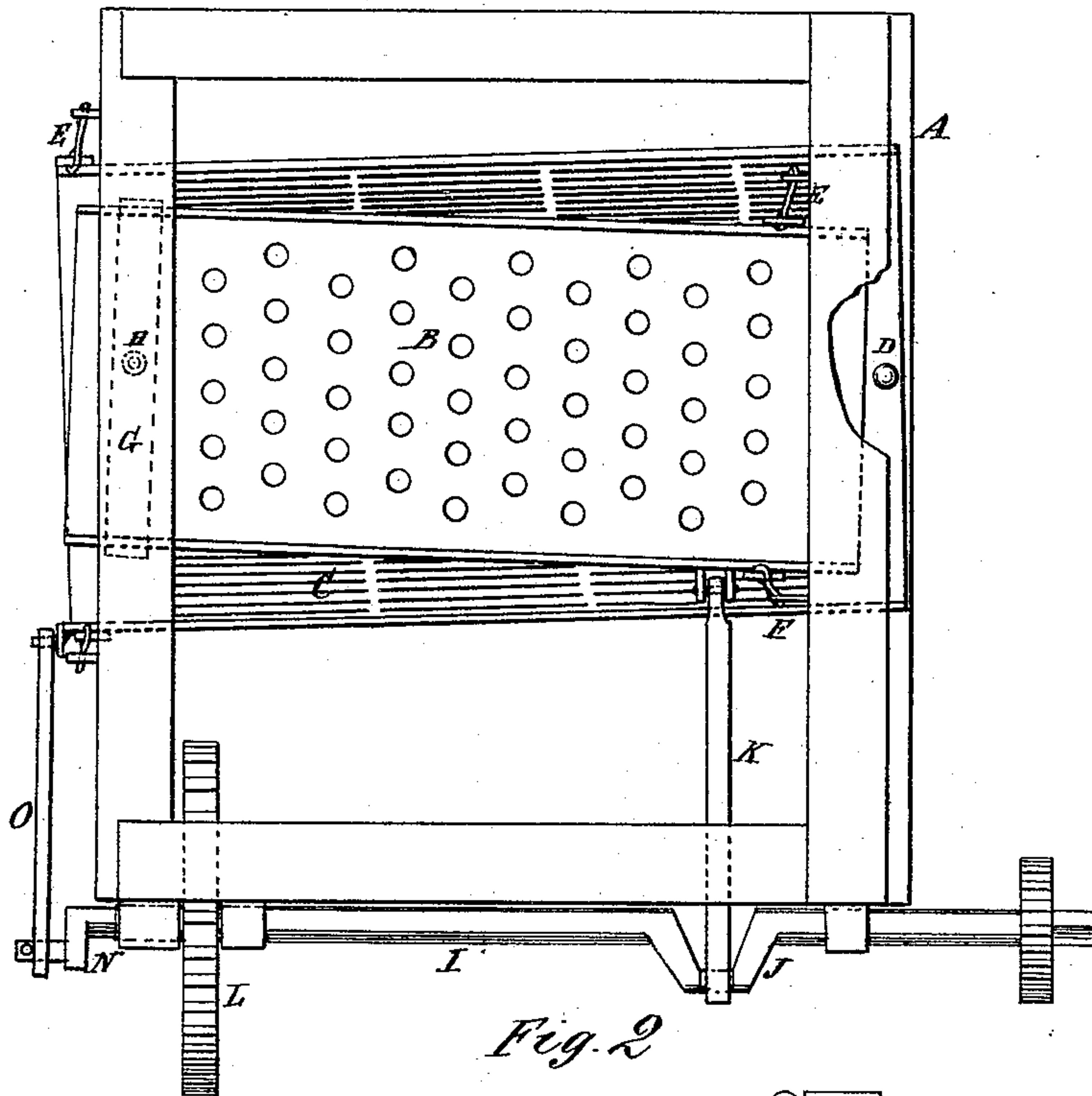
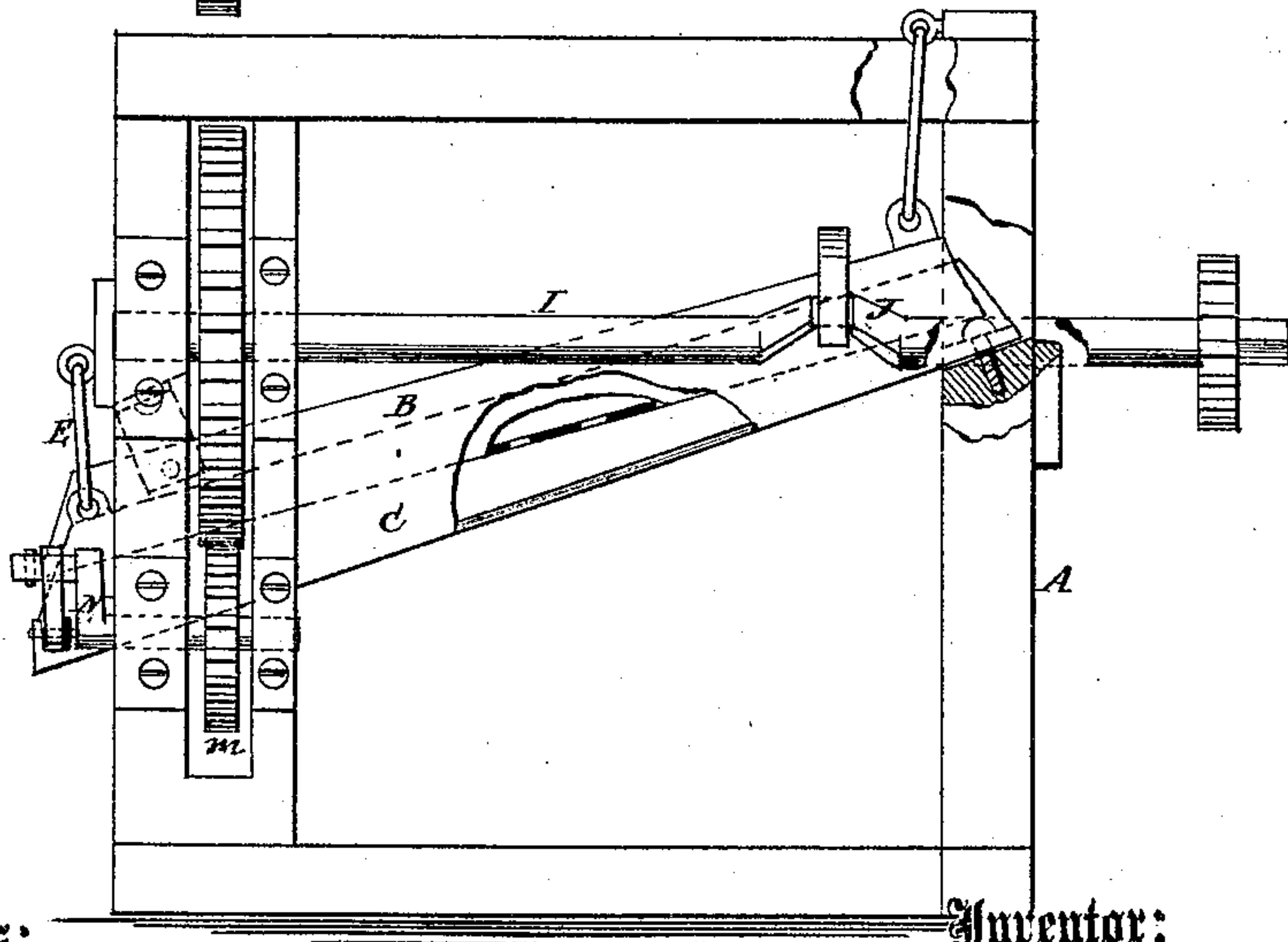


Fig. 2



Witnesses:

A. W. Almqvist
N. A. Graham

Inventor:

D. Gross.

PER

Munn & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

DAVID GROSS, OF MAXATAWNY, PENNSYLVANIA.

IMPROVEMENT IN ORE-SEPARATORS.

Specification forming part of Letters Patent No. 130,425, dated August 13, 1872.

Specification describing a new and useful Improvement in Ore-Cleaners, invented by DAVID GROSS, of Maxatawny, in the county of Berks and State of Pennsylvania.

The object of this invention is to furnish an improved machine for cleaning ores of sand, more especially designed for iron ores, but not confined exclusively thereto; and it consists in the arrangement of two screens and the manner of operating the same, as hereinafter more fully described.

In the accompanying drawing, Figure 1 represents a top or plan view of the machine partly in section. Fig. 2 is a sectional side elevation.

Similar letters of reference indicate corresponding parts.

A represents a frame, constructed of timber of suitable form and dimensions, to support the screens and the apparatus for vibrating them. B is the upper and coarser screen. C is the lower and finer screen. These screens are placed at an angle of about forty degrees (more or less) with the bed of the frame. The lower one is attached to the frame by a pivot, D, at its upper end. Its lower end is suspended from the upper part of the frame by the rods E E. The upper screen is suspended at its upper ends by the rods F F. Its lower end is attached to the frame by means of a metallic cross-strap, G, and pivot H, the strap and pivot being seen in dotted lines in Fig. 1. These screens are vibrated by means of the horizontal shaft I, which is revolved by a belt or by gearing from any part of the machinery used for crushing the ore, or by other means. J is a crank on this shaft which is connected with the upper end of the upper screen by the

rod K. On the end of the shaft I is a gear-wheel, L, which meshes into the wheel *m* on the crank-shaft N. The lower screen is vibrated by means of the connecting-rod O attached to the crank N and to the lower end of the screen. The two cranks are so placed that the screens vibrate in opposite directions on their respective pivots D and H. The screens are each provided with side flanges, and the lower screen is broadest, so that all the ore which passes through the upper screen is caught by the lower one.

In the process of washing the ore, a stream of water is constantly discharged upon the screens and in contact with the ore, which effectually cleans it of sand and other loose particles of foreign matter.

The advantage of having the screens vibrate in contrary directions is to largely relieve the frame-work and operating mechanism of the jar and consequent wear and tear which obtains in machines in which the sieves vibrate simultaneously in the same direction.

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

The upper coarse sieve B and the lower fine sieve C, arranged parallel or nearly so in an inclined position, and suspended by links and pivoted at opposite ends, respectively, and connected with the double crank-shaft I by rods K O in such a manner as to be simultaneously vibrated in opposite directions, as shown and described.

DAVID GROSS.

Witnesses:

DAN CLADER,
JOHN M. BRAUSE.