(No Model.)

J. MARSHALL.

APPARATUS FOR SEPARATING GOLD FROM SAND, &c.

No. 568,913. Patented Oct. 6, 1896.

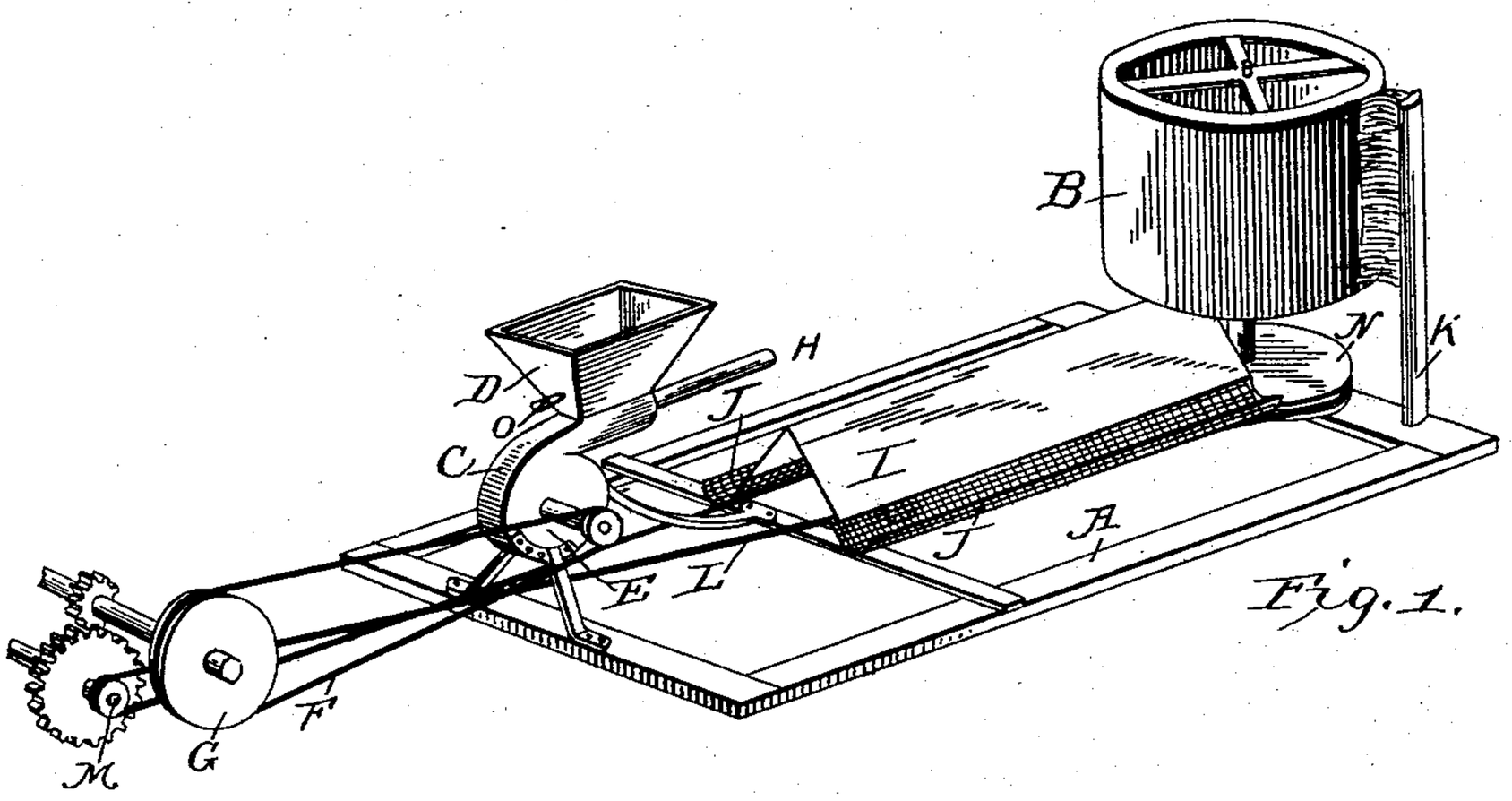

Fig. 1.

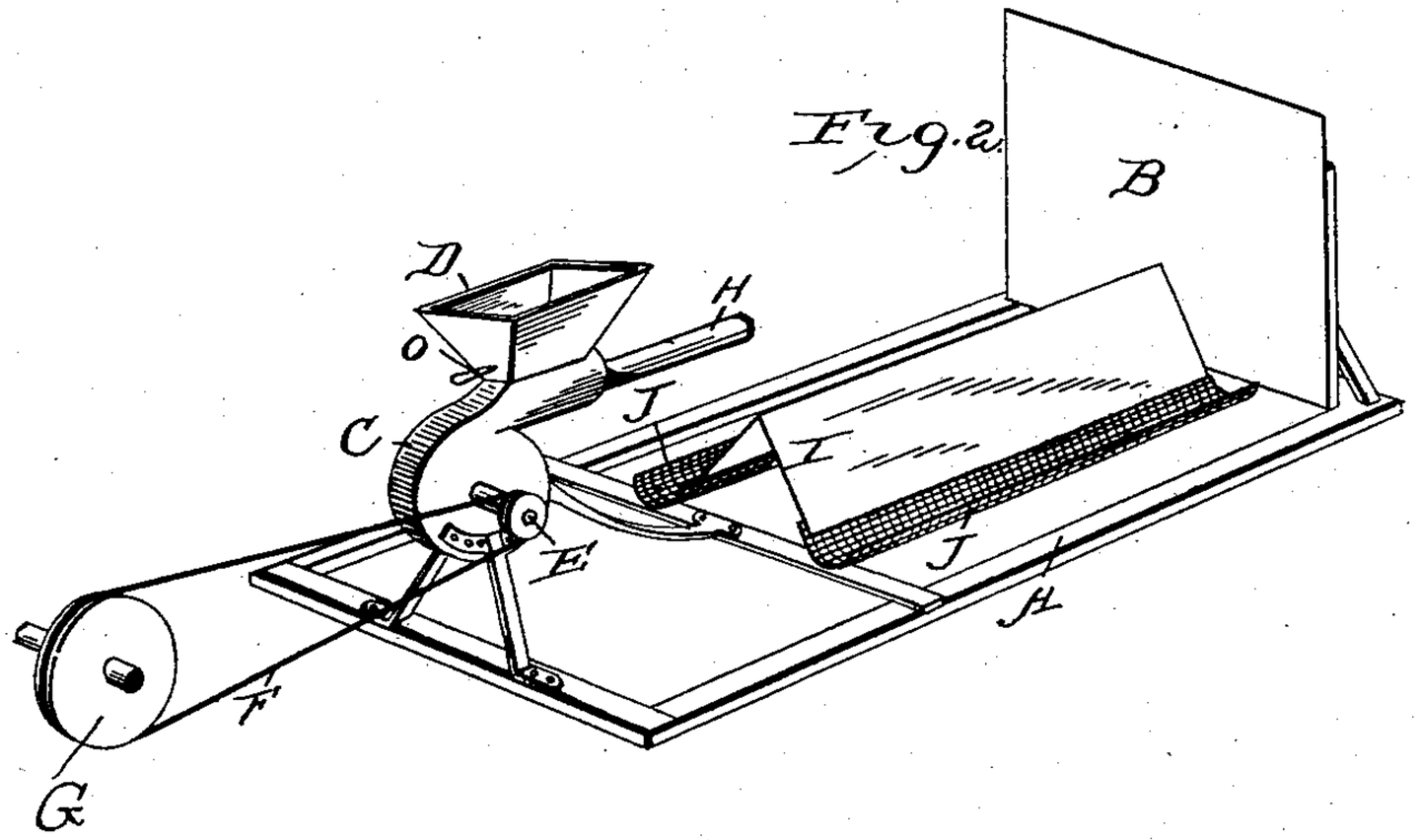

Fig. 2.

Attest
Walter Donaldson
F. L. Middleton

Inventor
John Marshall
by Spear & Seely
Atty's.

UNITED STATES PATENT OFFICE.

JOHN MARSHALL, OF FAIRFIELD, CALIFORNIA, ASSIGNOR TO THE MARSHALL GOLD SAVER COMPANY, OF SAME PLACE.

APPARATUS FOR SEPARATING GOLD FROM SAND, &c.

SPECIFICATION forming part of Letters Patent No. 568,913, dated October 6, 1896.

Application filed August 9, 1895. Serial No. 558,800. (No model.)

To all whom it may concern:

Be it known that I, JOHN MARSHALL, a citizen of the United States, residing at Fairfield, in the county of Solano and State of California, have invented a new and useful Apparatus for Separating Gold from Sand, Crushed Quartz, or other Comminuted Substance Containing Gold, of which the following is a specification.

The object of my invention is to provide means whereby gold may be readily and cheaply separated from sand, crushed quartz, or other comminuted substance containing gold without the use of water. This I accomplish by blowing the sand, crushed quartz, or other comminuted substance containing gold from a pipe or nozzle in a shower or spray against an amalgamated plate of silver-plated copper or other suitable amalgamated surface, the gold amalgamating with the quicksilver, while the sand and other foreign substance fall by gravity to the ground.

From the following description of the machine for the application of my new process such process will be fully understood.

It will be understood that the amalgamated plate may be of any suitable form and set up in any suitable position.

In the drawings, Figure 1 is a perspective view of the machine, showing the amalgamated plate in a cylindrical form mounted upon a suitable framework, so that it may be revolved for presenting its entire surface to the spray, and at the same time making it possible to automatically brush the plate for taking therefrom particles of fine dust which adhere to the quicksilver, but which are readily removed by a brush without disturbing the gold, also showing the connections between the machine and the pulley-wheels of a driving-shaft. Fig. 2 is a perspective view of the machine, showing the amalgamated plate in a flat form and stationary.

Similar letters refer to similar parts in the two figures.

Upon the base or foundation A is the blower C, consisting of a fan in a hollow cylindrical box, from which projects a spout. These blowers are constructed upon the same principle as the ordinary blacksmith's blowers now in general use.

Fixed in the spout of the blower is the hopper D, in the bottom of which is the regulator O for regulating the supply of sand as it passes from the hopper into the spout. In the end of the spout is the pipe or nozzle H.

The pulley-wheel E is fixed to the end of the fan-shaft and is operated by a cord or belt F, which passes around the pulley-wheel G of an engine.

At the opposite end of the base is the amalgamated plate B, against which the sand containing the gold is blown.

I prefer to put the quicksilver on a silver-plated copper plate, although other metallic plates which can be suitably quicksilvered will serve the same purpose.

Fig. 2 shows the plate B in a flat form and stationary. This form would be less expensive than the former, but the plate would have to be cleaned more frequently and the dust removed by a hand-brush, for if the surface is not kept free from fine dust the gold will not combine with the mercury.

It will be understood that in blowing the sand from the nozzle H to the plate B, which is at such a distance that the sand will be greatly scattered, a great deal of the sand and much of the gold, specially the larger grains of gold, will fall before the plate is reached. To catch any gold which may thus fall, the roof-shaped amalgamated plate I is placed between the nozzle and the plate B in such a position that if the gold be not too coarse it will amalgamate with the quicksilver, and arranged under the lower edges of the plate I are the wire screens J J, being of such fineness as will allow the sand to pass through but will catch any grains of gold which might be too large to be held by the quicksilver on the plate I, a grain of gold as large as a grain of sand being readily held thereon.

I do not desire to limit myself to the shapes or positions of the plates B shown in the figures, but these plates may be of any desired shape or form and set up in any desired position.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination, the amalgamated plate B, the blower having a nozzle directed thereto and adapted to blow the material thereagainst the amalgamated roof-shaped plate I between the blower and the amalgamated

plate B and the screens J, J, along the edges of the roof-shaped plate, substantially as described.

2. In combination, the blower, the amalgamated plate B arranged opposite the same, and an amalgamated roof-shaped plate between the blower and the plate B over which the blast operates longitudinally of said plate, substantially as described.

3. In combination, the blower having a nozzle directed substantially horizontally and the revolving amalgamated plate B in the form of a wheel presenting its outer convex surface to the blast, substantially as described.

JOHN MARSHALL.

Witnesses:
HORACE G. PERRY,
JNO. M. GREGORY.