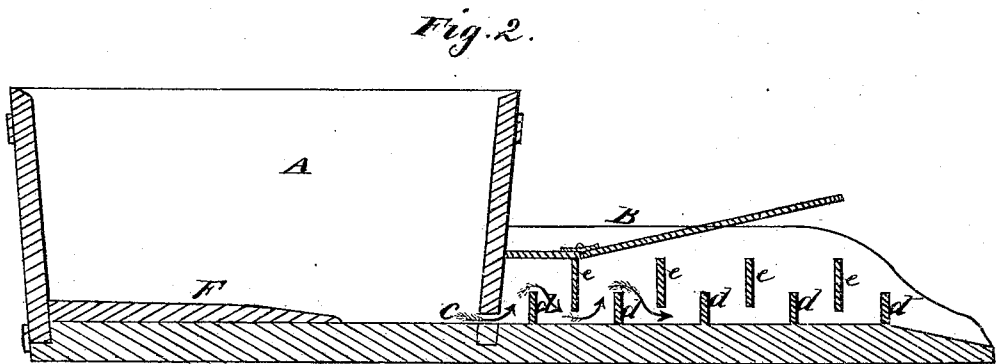
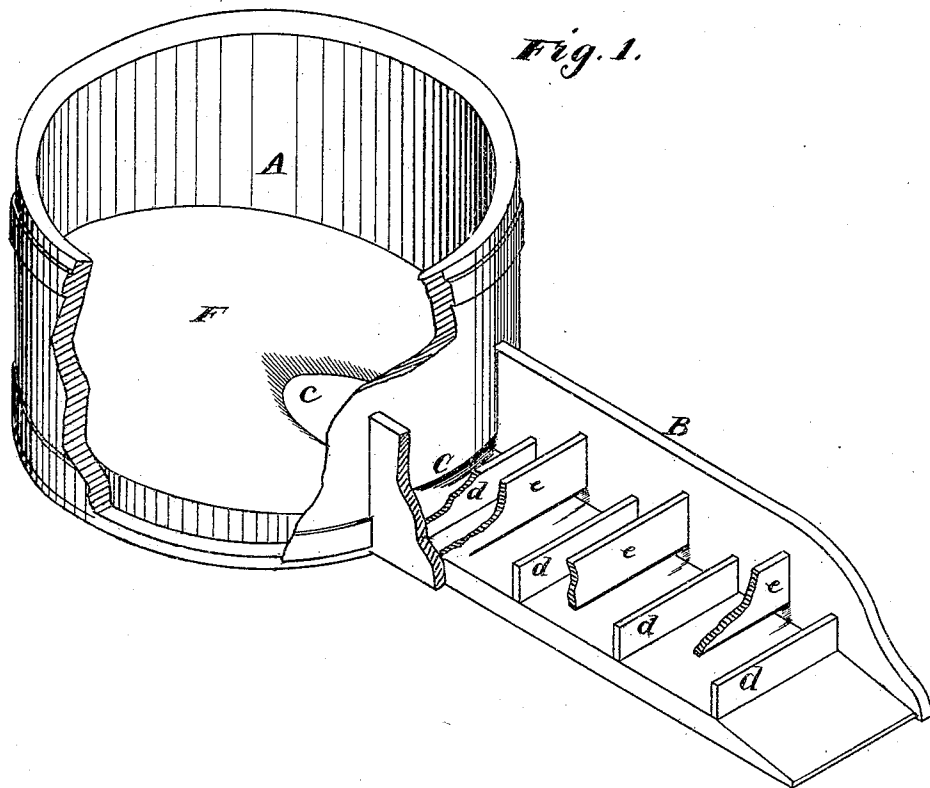


H. H. OAKES.
Quicksilver-Strainer.

No. 159,113.

Patented Jan. 26, 1875.



Witnesses
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UNITED STATES PATENT OFFICE.

HILDEBRAND H. OAKES, OF MINERAL HILL, NEVADA.

IMPROVEMENT IN QUICKSILVER-STRAINERS.

Specification forming part of Letters Patent No. **159,113**, dated January 26, 1875; application filed September 30, 1874.

To all whom it may concern:

Be it known that I, HILDEBRAND H. OAKES, of Mineral Hill, Elko county, State of Nevada, have invented a Quicksilver-Strainer; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My invention relates to a device for racking off quicksilver after it has been strained from amalgam, in order to separate it from the impurities which become mixed with it during the process of amalgamation; and it consists in the combination of devices hereinafter described and explained.

Heretofore the quicksilver when strained from the amalgam-sack was received in a tub, together with dirty water, fine pulp, and greasy matter, and these impurities were usually removed from the surface of the quicksilver by means of a sponge before using the quicksilver for amalgamating the next charge in the pans. This sponging is objectionable, as globules and particles of fine floury quicksilver adheres to the sponge, and to the hands of the operator, so that the process is attended by more or less loss of the quicksilver.

The object of my invention is to do away with all handling of the mercury, and to obtain it clear, bright, and ready for the next charge in the pans immediately on its being strained from the amalgam-sack.

In order to explain my invention so that others will be able to understand its construction and operation, reference is had to the accompanying drawings forming a part of this specification, in which—

Figure 1 is a perspective view of my invention. Fig. 2 is a sectional elevation.

A represents a tub or other vessel, into which the quicksilver to be racked off is received from the amalgam-sack, and which is intended to take the place of the usual tub employed for this purpose. To one side of this tub or vessel I secure a spout, B, which may be of any desired length. The bottom of the spout B should be on a level with the bottom of the vessel, and a small orifice or opening, C, is made through the side of the vessel on a level

with both bottoms. This orifice is made as wide as the spout, and quite narrow. Across the spout B I arrange two or more semi-partitions or riffles, *d c*. The riffles *d* extend only a short distance upward from the bottom of the spout, their lower edges being fitted closely against the bottom, while the partitions *c*, which alternate with the partitions *d*, extend from the top to within a short distance of the bottom of the spout, so as to leave a narrow space between them.

It will thus be seen that the quicksilver which enters the spout through the slot or orifice C will be compelled to pass alternately over the partitions or riffles *d*, and under the partitions *c*, in order to flow through the spout.

As many of these partitions or riffles may be used as desired.

A false bottom, F, the upper surface of which inclines toward the orifice C, is placed in the bottom of the vessel A, so as to carry the quicksilver to the orifice and direct it into the spout. It also serves to take the place of quicksilver, and keep as small a quantity idle in the tub as possible.

The upper side of the spout B may be closed or not, as desired. I prefer to keep it closed, in order to prevent the quicksilver from flowing over the partitions *c* should it rise in the tub faster than it flows out of the spout.

Before using the strainer it is necessary to fill the bottom of the tub with one dipperful of clean quicksilver, sufficient to cover the slot or orifice C. The quicksilver may then be drawn off from the cup of the settler, and allowed to drain itself through the sack, which should be made of light ducking, so as to obviate the necessity of squeezing the sack, as is usually done, and which is always attended with some loss of quicksilver. The straining may be assisted by means of a wooden staff, to press down the amalgam in the sack. As soon as the quicksilver rises to the height of one inch in the center of the tub it will flow over and under the filtering-riffles, and pass out at the end of the spout B into a tub half filled with clean water, which is placed to receive the filtered quicksilver. The quicksilver will flow out of the spout clean, bright, and perfectly free from dirt and greasy matter. In the tub will be found dirty water, together

with a blue soapy mud and fine particles of floured quicksilver.

The filter may be cleaned at the end of a month, the dirty contents emptied into a tub, the water strained off, and the residue dried in the sun. As it dries the globules of mercury will amalgamate to a certain extent, so that it may be strained off. The residue remaining is found by analysis to contain fifty-four (54) per cent. of mercury, which can be restored by retorting.

When the strainer is at work the cover of the spout is kept closed, in order to prevent dirt from falling into the riffles.

The machine is not to be moved, except for the purpose of cleaning it.

The amalgamator should be careful to keep the orifices or passages clear when the machine is at work, and this can be done with a suitable pick.

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

The tub A, provided with the false bottom F and orifice C, in combination with the spout B and alternating riffles or partitions *d e*, substantially as and for the purpose set forth.

HILDEBRAND HENRY OAKES.

Witnesses:

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