

(No Model.)

W. MOLLER.  
AMALGAMATOR.

No. 305,949. Fig. 1.

Patented Sept. 30, 1884.

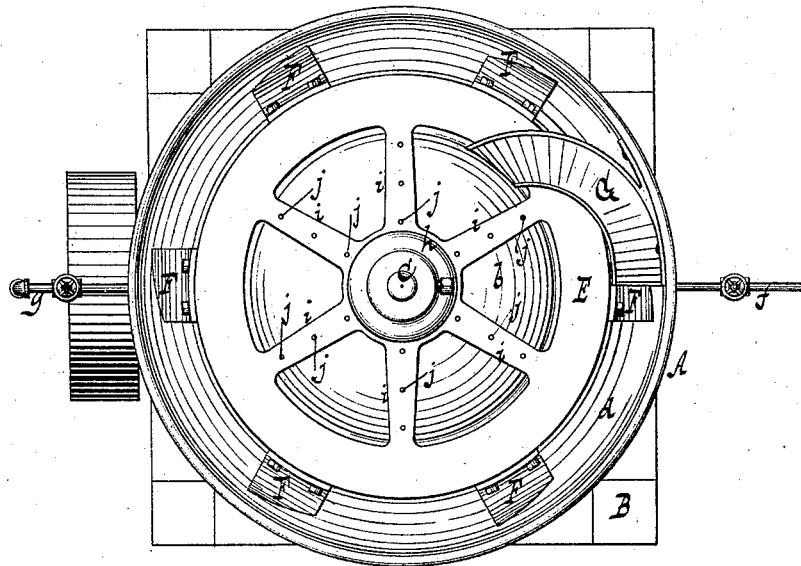
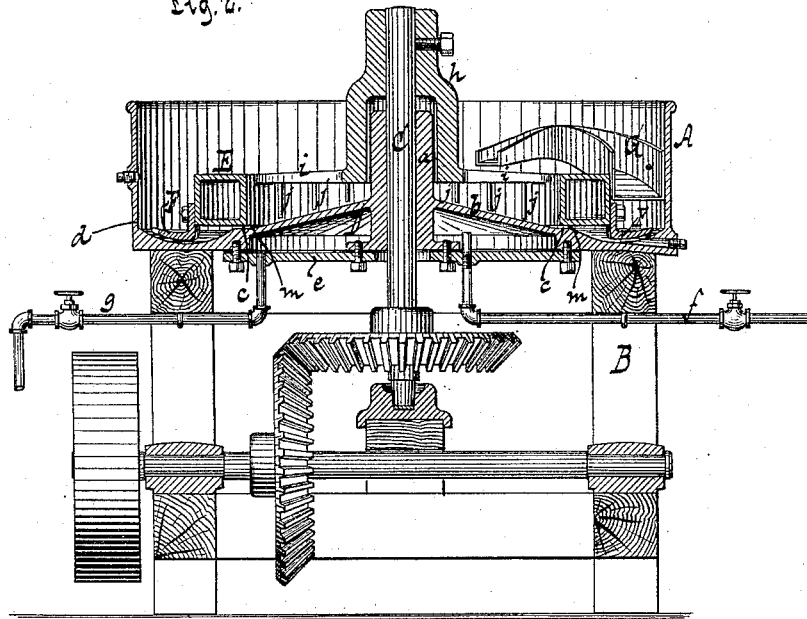


Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM MOLLER, OF YONKERS, NEW YORK.

## AMALGAMATOR.

SPECIFICATION forming part of Letters Patent No. 305,949, dated September 30, 1884.

Application filed January 24, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM MOLLER, a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented new and useful Improvements in Amalgamators, of which the following is a specification.

This invention relates to an improvement in that class of amalgamators which I have described in Letters Patent No. 272,742, granted to me February 20, 1883.

The novel features which constitute my present improvement are pointed out in the following specification, and illustrated in the accompanying drawings, in which—

Figure 1 represents a plan or top view. Fig. 2 is a vertical central section.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the amalgamating-pan, which is supported by the frame B, and on the bottom of which is formed a hub, *a*, through which extends the shaft C. The inner portion of said bottom forms a cone, *b*, from the outer edge of which extends a horizontal circular ledge, *c*, and on the outside of this ledge is formed the gutter *d*.

To the bottom of the pan is firmly secured a plate, *e*, so as to form a chamber, D, beneath the cone *b*. With this chamber are combined a steam-supply pipe, *f*, and an escape-pipe, *g*.

On the upper end of the shaft C is firmly secured the hub *h* of a ring, E, said hub being provided with a series of arms, *i*, (see Fig. 1,) to which the ring is firmly connected. Said ring is, by preference, made hollow, and to its outer surface are firmly secured a series of shoes, F, which work in the gutter *d*.

On the arms *i* are secured agitators *j*, which extend down close to the surface of the cone *b*, and between the lower surface of the ring E and of the circular ledge *c* is a narrow channel, *m*, which forms the communication between the space inside of the ring and the gutter.

To the side wall of the pan is firmly se-

cured a chute, G, which extends inward over the ring E.

After a suitable quantity of mercury has been placed into the gutter *d* the finely-powdered ore is thrown into the space inclosed by the ring E, and by imparting to the shaft C a revolving motion the powdered ore, being exposed to the action of the agitators *j*, is gradually forced through the channel *m* into the gutter *d*, where it is exposed to the action of the shoes F, so that it is brought in intimate contact with the mercury contained in the gutter. By these means a pulp is formed which gradually rises in the gutter *d* until it is forced over the chute G back into the space inclosed by the ring E, whence it is again forced out into the gutter. In this manner the operation is continued until the metallic particles contained in the ore have combined with the mercury. By exposing the pulp to heat, while it is at the same time stirred up by the agitators and by the shoes, the combination of the metallic particles with the mercury is materially facilitated.

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

1. The combination of the pan A, the cone forming the inner portion of the bottom of said pan; the gutter formed outside of said cone, the spider or radial arms having agitators extending down close to the surface of said cone, and the ring carried by said arms having a series of shoes projecting into the gutter, and the chute for delivering the pulp from said gutter upon the cone-shaped portion of the bottom of the pan, substantially as described.

2. The combination of the pan A, the cone forming the inner portion of the bottom of said pan, the circular ledge formed on the outer edge of the cone, the gutter formed outside of said ledge, the ring which carries a series of shoes projecting into the gutter, the channel *m*, formed between the ring and the circular ledge, and the spider or radial arms carried by said ring having agitators extending down close to the surface of the cone and the chute, substantially as described.

3. The combination of the pan having a  
cone forming the inner portion of the bot-  
tom of said pan, the plate *e*, fitted beneath  
said cone and forming a heating-chamber,  
5 and pipes for admitting a heating medium  
into the latter, and the gutter formed outside  
of said cone, with pulp-agitating devices op-  
erating upon the gutter and cone, substan-  
tially as described.

In testimony whereof I have hereunto set my 10  
hand and seal in the presence of two subscrib-  
ing witnesses.

WILLIAM MOLLER. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.