I. S. Parke,

Amalgamator.

No. 113791. Patented Apr. 18. 1871.

Fig. 1.

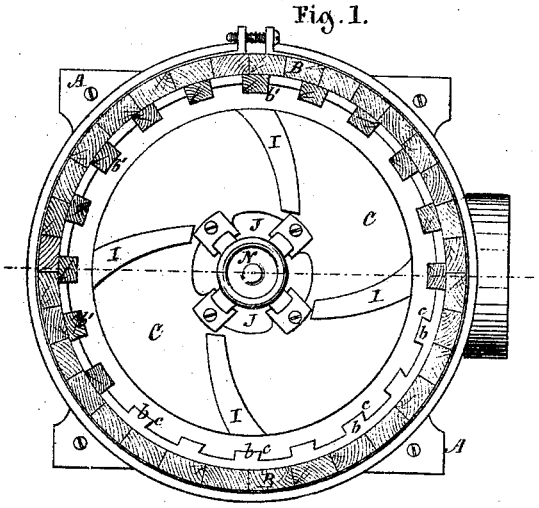


Fig. 3.

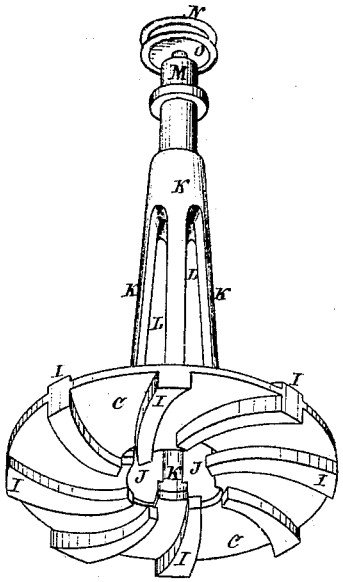
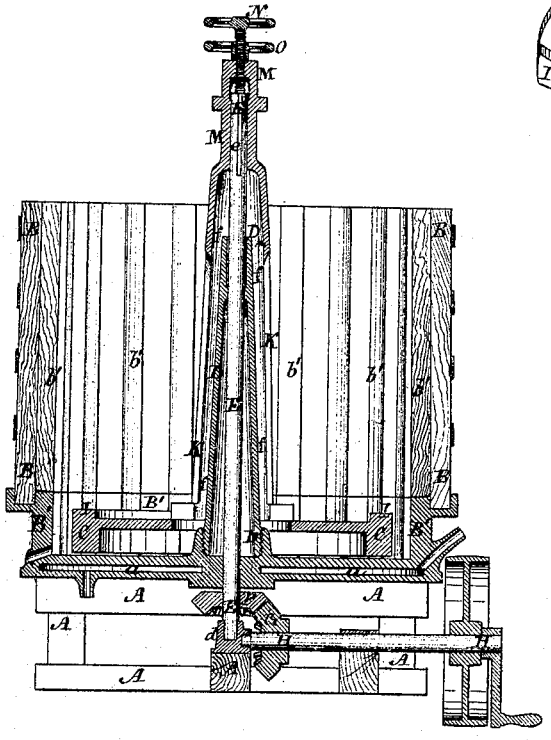


Fig. 2.



Witnesses.

W. E. Henderson

Edmund Masson.

Ira S. Parke.

By atty A. B. Stoughton.

UNITED STATES PATENT OFFICE.

IRA S. PARKE, OF VIRGINIA CITY, NEVADA.

IMPROVEMENT IN AMALGAMATING-PANS FOR GOLD AND SILVER ORES.

Specification forming part of Letters Patent No. **113,791**, dated April 18, 1871.

To all whom it may concern:

Be it known that I, IRA S. PARKE, of Virginia City, in the county of Storey and State of Nevada, have invented certain new and useful Improvements in Amalgamating and Mixing Pans for Gold and Silver Ores; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 represents a top plan of the machine. Fig. 2 represents a vertical section through the same. Fig. 3 represents, in perspective, the revolving mixer or stirrer as removed from the tub or reservoir.

Similar letters of reference, where they occur in the drawing, denote like parts of the apparatus.

My invention relates to an amalgamating or mixing machine for precious ores, in which the currents and eddies are so broken up as to force the material to thoroughly mix and prevent it from simply going around in a body without amalgamating, as it is inclined to do by simple rotation.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawing.

A suitable bed or base, A, is first prepared to receive and hold not only the tub, tank, or cylinder B, but the machinery and the stirrer or mixer C, which revolves it.

The under portion of the tub or cylinder B′ is of metal, and in the bottom thereof there is a steam chamber or space, *a*, into which steam is admitted to warm the material operated upon in the vessel by the stirrer, and from which the water of condensation may be drawn off at any time. On the inside of this metallic part of the tub there is a series of ribs, *b*, extending clear around the inner perimeter of the cylinder, and extending up as high, or about as high, as the metal portion B′ of said vessel, and the edges *c* of said ribs, which oppose the rotary current or motion of the material in the tub, are acute, as seen in the drawing.

The wood portion B of the tub, pan, or receiver may be made of staves, as shown, and upon its inner perimeter are wooded ribs *b′*, being prolongations of the metal ones on the part B′, which wooden ribs, when worn by attrition, may be replaced at any time.

Centrally placed on the metal bottom B′ and on its inside there is a high conical sleeve or boss, D, through which and through the bottom of the tub B′ passes a shaft, E, that extends up to or above the top of the tub or receiver, said sleeve or boss and tub or tank bottom forming bearings for said shaft to turn truly in.

The lower end of the shaft E is stepped in a bearing, *d*, on the frame or base A; and on said shaft, above its step, there is a bevel-gear, F, into which a bevel-gear, G, on the shaft H takes, and by which the shaft E is rotated by any first-moving power applied to the shaft H.

The rotating, mixing, and amalgamating wheel or disk C is constructed as follows: The disk portion C has upon its upper and under sides eccentrically-formed ribs I, and its central portion, J, is open. Connected to the top of the disk portion C there is a long hollow conical sleeve or boss, K, which is slotted, as at L, and which terminates in a cylindrical sleeve, M, which snugly fits the top of the shaft E, and is slotted so as to receive the feathers *e*, diametrically placed on said shaft E, the object being, by means of said slots and feathers, to cause the mixer C to revolve with said shaft, and at the same time be easily removable therefrom and from the tank. The slotted sleeve or boss K, which may be called the "hub" of the disk C, stands off from the conical sleeve D, so as to leave space *f* between them.

A set-screw, *i*, having upon its upper end a hand-wheel, N, by which it may be operated, passes through the top of the portion M of the hub, and its point bears upon the top of the shaft E.

By this means the disk C and its connected parts rest upon or are suspended from said shaft, while they continue to turn with it; and said disk may at any time be adjusted by said set-screw so as to run as close to the bottom of the tub as the charge in the tub may require, and when it is so adjusted it is retained by the jam-nut O, which bears against the top of the hub portion M.

The slots, and openings, and ribs, arranged as above described, prevent any and every por-

tion of the material being operated upon from moving around with the stirrer or mixer without being thoroughly amalgamated, that at the center as well as that at the circumference.

The ribs *b* are represented as made on a solid ring. They may be made in sections or singly, if so preferred, and of any corrugated or projecting form that will break up the rotary motion of the material in the pan or receiver; and these projections may be applied to pans already made by slipping them in in sections or pieces and then fastening them in place.

Claims.

Having thus fully described my invention, what I claim is—

1. An amalgamating and mixing pan, tub, or receiver composed of a metal base and a wooden top, as described, and with combined metal and wooden ribs *b b'*, arranged therein, substantially as and for the purpose described.

2. In combination with the combined metal and wooden and ribbed pan, tub, or other vessel for containing the material to be mixed or amalgamated, the revolving mixing wheel or stirrer C, with its eccentric ribs I, constructed and operating as and for the purpose described and represented.

IRA S. PARKE.

Witnesses:
JOHN POITRAS,
W. H. BURRALL.