

(No Model.)

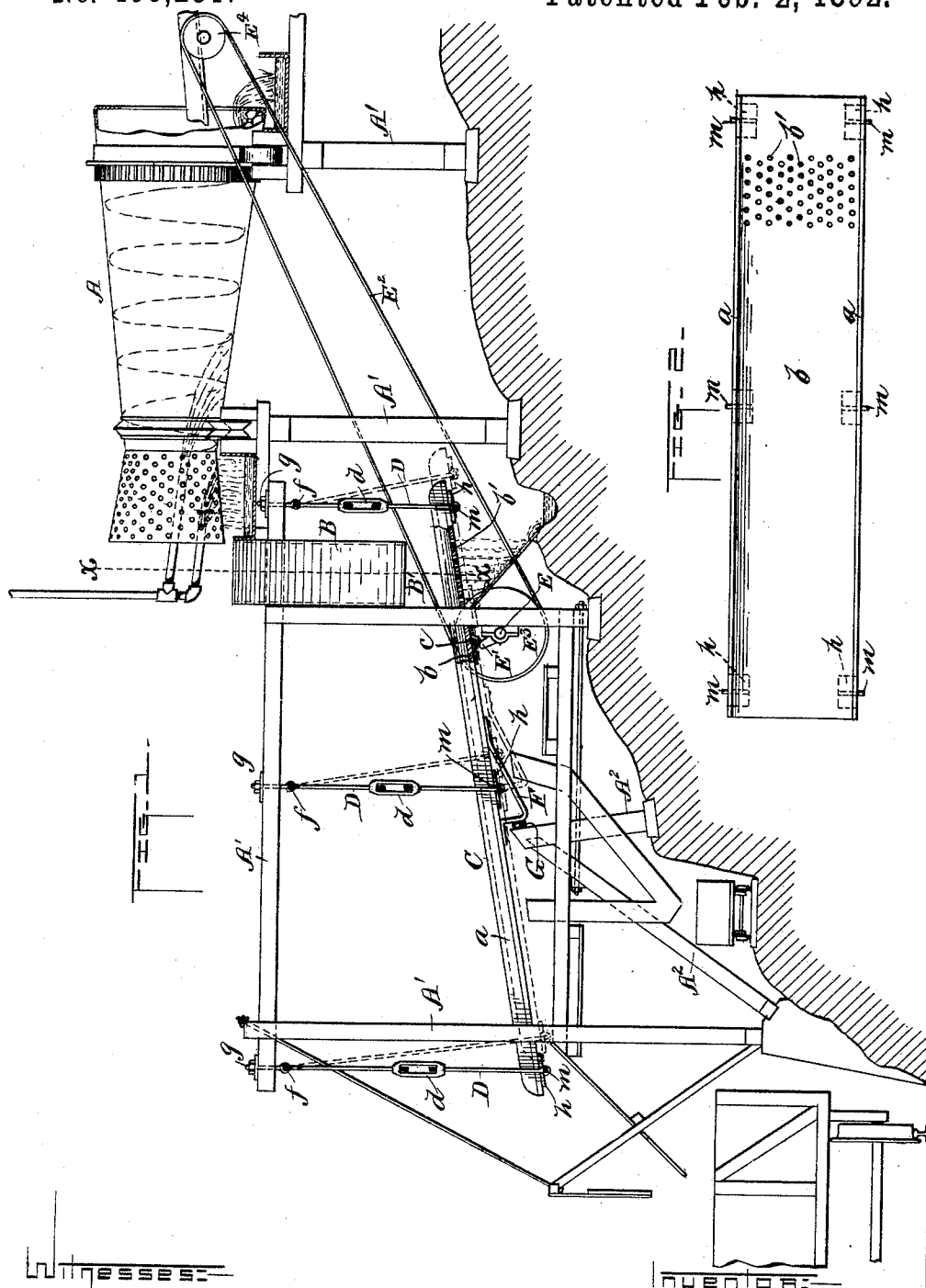
2 Sheets—Sheet 1.

H. G. MERRY.

PICKING TABLE FOR ORE WASHERS.

No. 468,251.

Patented Feb. 2, 1892.



Witness:
G. E. Fenwick

Henry G. Merry
by his Attorney
Marion Fenwick and Lawrence

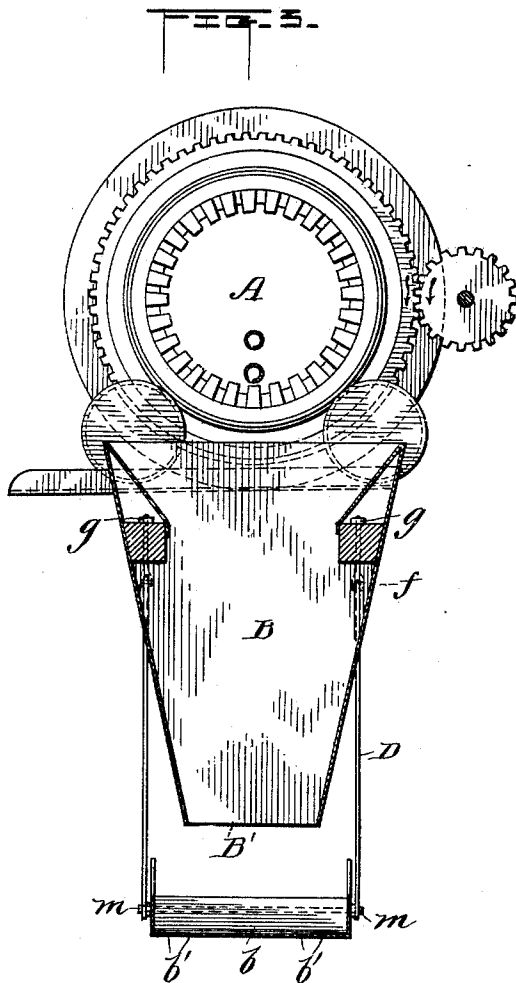
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WITNESSES:

Everance.
E. J. Fenwick

INVENTOR:

Henry G. Merry
by his Attorneys
Mason, Fenwick & Lawrence.

UNITED STATES PATENT OFFICE.

HENRY G. MERRY, OF LOW MOOR, ASSIGNOR OF ONE-HALF TO GEORGE B. GAINES, OF RICHMOND, VIRGINIA.

PICKING-TABLE FOR ORE-WASHERS.

SPECIFICATION forming part of Letters Patent No. 468,251, dated February 2, 1892.

Application filed April 29, 1891. Serial No. 390,917. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. MERRY, a citizen of the United States, residing at Low Moor, in the county of Alleghany and State of Virginia, have invented certain new and useful Improvements in Swinging Picking-Tables for Ore-Washers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the annexed drawings, forming part of the same.

My invention relates to ore-washing machines; and it consists in a longitudinally-swinging picking-table, upon which the large chunks of washed ore fall and on which foreign substances and clods of dirt are picked from such ore and by which the ore is conveyed and discharged into cars or wagons, and means for suspending and operating the same, said table being applied in suitable relation to the ordinary cones or other washing mechanism and conducting-chutes of such machines, as will be hereinafter described and specifically claimed.

Figure 1 is a broken side elevation and partial section of an ore-washer with my improvement applied thereto. Fig. 2 is a detail top of the picking-table.

In the drawings, A indicates one of the ordinary cones used in ore-washers, the same being constructed and mounted upon a frame A' and operated in the ordinary manner.

The construction of the washing mechanism and mode of operating the same not being novel further than in my picking-table combined therewith, no special description of the same requires to be given here.

B is a laterally-converging or double-inclined chute applied below the small ends of the cones, into and through which the ore is delivered upon the picking-table C. This chute may have either solid or perforated inclined sides or bottom portions, and between the lower ends of these bottom portions a passage B' is provided the full width of the table for the discharge of the ore, said passage running transversely across the upper end of the table and the ore passes out through this

passage B' upon the table, while water and dissolved debris may discharge through the bottom portions of the chute if perforated, as well as through the end passage. The picking-table comprises two shallow or low strong side timbers or metal bars *a* and a strong metal bottom plate *b*, which is perforated near its upper end, as indicated at *b'*, so as to allow for the escape of water, which leaks or incidentally passes down with the washed chunks of ore from the washing cone or mechanism and also any fine debris. It is set on an inclination downward from its rear to its front end, being suspended by screw-rods D, provided with turn-buckles *d*, said rods being connected at their upper ends by pivots *f* to eyebolts *g* and by their lower ends to plates *h*, attached to the under side of the table, said plates being provided with pivots or pivot-rods, as shown in the drawings. The pivot or pivot-rods *m* project beyond the table on each edge. Suspending-rods D, similar to those represented, are connected to the table on each side. The table thus suspended is free to swing on the pivots *f* of the eyebolts *g*, and in such swinging movement the suspending-rods are free to articulate on the pivots or rods *m*, and thus no cramping or straining action is experienced. By means of the turn-buckles *d* the inclination of the table can be increased or decreased accordingly as it is desired to have the ore run faster or slower from the table.

A revolving shaft E, carrying a cam E' and operated by a belt E² on pulleys E³ E⁴, is provided below the rear solid portion of the table, and attached to the under side of the table is a lug *c* for the cam E' to strike against during the revolution of said shaft.

Near the middle of the table, on its under side, a limitation bumper-stop lug F is provided, the same being also attached to the table. This lug operates in conjunction with a yielding buffer G, made preferably of rubber. This buffer is attached to a strong angular framing portion A² and serves for arresting the table on its return movement after it has been swung backward by the cam-shaft. By means of the cam E' of shaft E and the lug *c*, buffer G, and the lug F a very

perfect back and forward limited swinging movement of the picking-table C is secured, while undue jarring of the machinery is prevented by the yielding action of the buffer or bumper.

By means of the within-described invention the ore after being discharged upon the table has a gradual downward movement imparted to it by means of the swinging and jarring action of said table, and the attendants on each side of the table can conveniently and effectually pick out such solid débris, as mud and stones and the like, as are not washed from the ore, and draw the same away and discharge them over the shallow or low side bars at the sides of the table, while the water and dissolved débris which incidentally come down from the washing cone or mechanism can flow off through the perforations *b'*, and the clean chunks or large pieces of iron are caused to pass off at the forward end of the table by their gravity and the inclination and motion of the table.

The dotted lines in the drawings illustrate the table in the position it occupies after the cam-shaft has thrown it backward by coming in contact with the lug *c*, and the full black lines illustrate its position after it has made its return movement and struck the buffer or bumper.

It will be understood that the cam E suddenly releases the table, giving it a quick, sudden, and jerky movement, and that the buffer limits the extent of the movement on the return of the table, and that by reason of this jerky or sudden movement in a longitudinal direction the lighter material—such as clay or sand-rock—is always thrown to the top of the ore and toward the rear or upper perforated end of the table, and that the pickers are thus enabled to readily and conveniently pick out the same, while the water and dissolved débris which incidentally come down with the washed chunks of ore are freely escaping through the perforations *b'*. The table is preferably made of boiler-plate, and may be of any desired width and length; but the bars *a* at the edges must be very low or shallow, in order that, while they serve for detaining the large chunks or pieces from falling off the table sidewise, shall not offer too great an obstruction to the mud and débris as it is raked sidewise off the table.

My invention differs from appliances for amalgamating or catching gold and silver in chambers containing quicksilver, it only be-

ing designed for cleaning large chunks or pieces of ore on their passage over the table to the dump heap or wagons which convey it to the furnaces or other places of deposit.

What I claim as my invention is—

1. In an ore-washing machine, in combination, a suitable frame, washing means, a conducting-chute, an inclined longitudinally-swinging table having low or shallow side bars, perforations near its upper or rear end, arranged to receive the washed material from the machine, means for vibrating it in the line of the delivery of such material, vibrating suspending-rods on each side of the table and pivotally attached thereto and to the frame, and means for vibrating said table simultaneously with the operation of the washing means, substantially as described.

2. In an ore-washing machine, in combination, a suitable frame, a conducting-chute, washing means, an inclined longitudinally-swinging table having low or shallow side bars arranged to receive the washed material from the machine, means for vibrating it in the line of the delivery of such material, vibrating suspending-rods on each side of the table and pivotally attached thereto and to the frame, cam-shaft with lug for swinging the table, a yielding buffer and lug for arresting the back movement of the table, and gearing for conjointly operating the mechanism of the table and the washing means simultaneously, substantially as described.

3. In an ore-washing machine, in combination, a suitable frame, a conducting-chute with converging sides, washing means, an inclined longitudinally-swinging table having low or shallow side bars and perforated at its upper or rear end, arranged to receive the washed material from the machine, means for vibrating it in the line of the delivery of such material, vibrating or suspending rods on each side of the table and pivotally attached thereto and to the frame and provided with adjusting turn-buckles, cam-shaft with lug for swinging said table, means for arresting the return movement and for jarring the table, and means for conjointly and simultaneously operating the mechanism of the table and washing apparatus, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

HENRY G. MERRY.

Witnesses:

S. F. RIXEY,
S. G. CARGILL.