W. A. HUELSDONK.

DISTRIBUTER FOR CONCENTRATORS.

APPLICATION FILED JAN. 23, 1913.

1,104,299. Patented July 21, 1914.

Fig. 1.

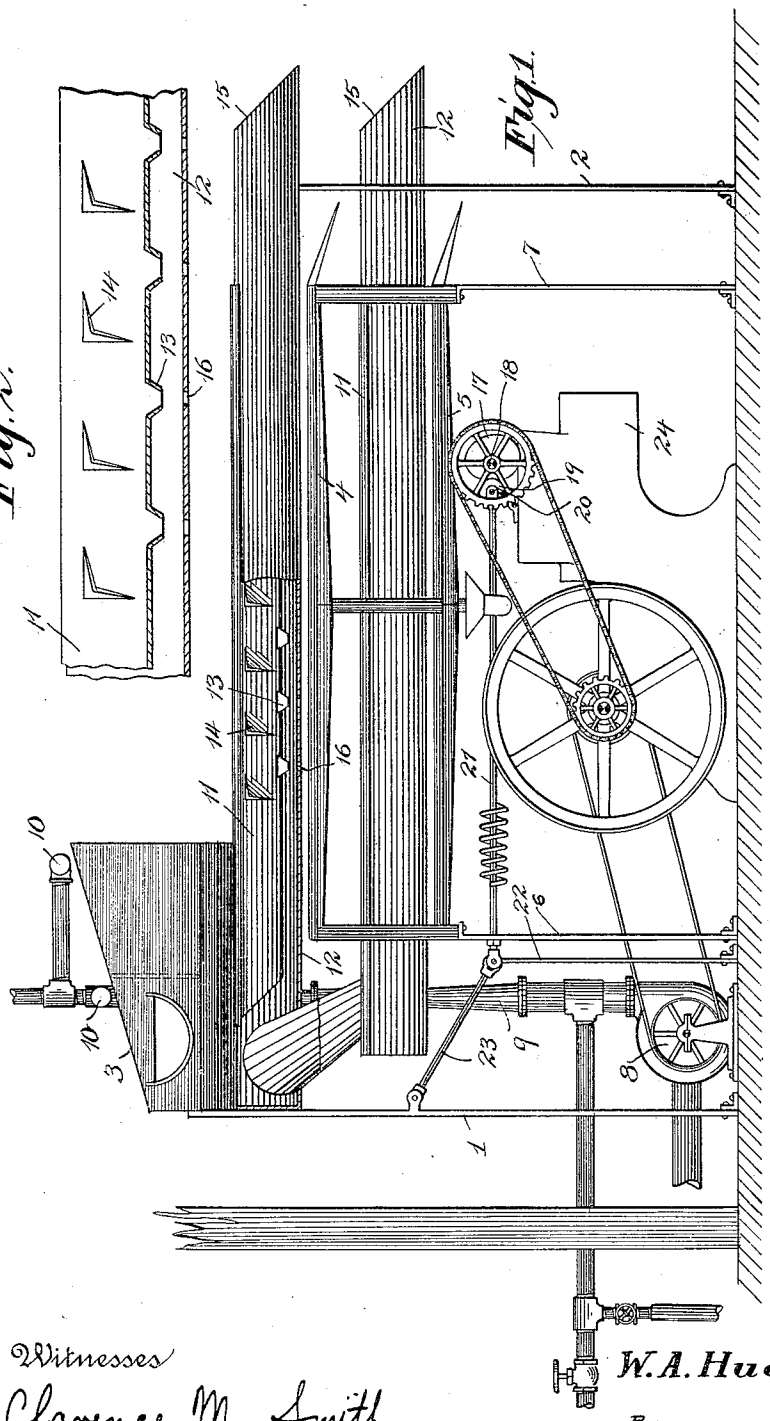


Fig. 2.

Fig. 3.

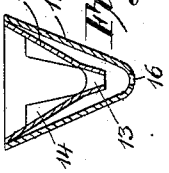
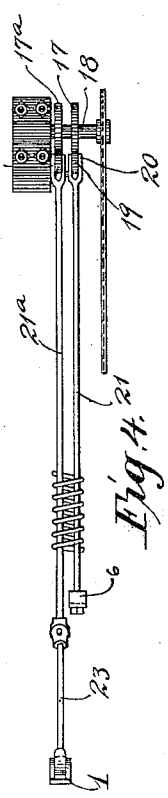


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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DISTRIBUTER FOR CONCENTRATORS.

1,104,299. Specification of Letters Patent. Patented July 21, 1914.

Application filed January 23, 1913. Serial No. 743,783.

To all whom it may concern:

Be it known that I, WILLIAM A. HUELSDONK, a citizen of the United States, residing at Le Grand, in the county of Merced and State of California, have invented certain new and useful Improvements in Distributers for Concentrators; and I do declare the following to be a clear, full, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in concentrators for the separation of precious metals from gravel and sand or other material and particularly to a distributer for such concentrators whereby when the fine sand or gravel or slime containing the precious metals is separated from the coarser material it will be thoroughly separated and distributed upon the concentrating table in a rapid, thorough and efficient manner and at a minimum expense and much more advantageously and successfully than the same can be done by the use of sluice boxes, panning machines or similar devices.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects, I accomplish by means of such structure and relative arrangement of the parts as will fully appear by a perusal of the following specification and claims.

On the drawings, similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a side elevation of one form of concentrator showing my improved distributer thereon. Fig. 2 is a longitudinal section through a portion of the distributer. Fig. 3 is a vertical section through the distributer. Fig. 4 is a top plan view of a portion of a vibrating mechanism.

Referring now more particularly to the characters of reference on the drawings, I will first briefly outline the structure of the concentrator shown in the accompanying drawings and in this respect, the numerals 1 and 2 designate a pair of vibrant bars spaced apart and adapted to support my improved distributer hereinafter described and also the preliminary screening structure 3 which is of any desired type and which suitably discharges upon the distributer. In the structure here shown there are two distributers arranged one above the other, the upper distributer and screen being as before stated supported on the vibrant bars 1 and 2 and the lower distributer and the two concentrating tables 4 and 5 being supported on another pair of spaced vibrant bars 6 and 7. While of course two distributers are here shown, one may be used singly or more than one may be connected in series, if desired.

Water is suitably supplied to the distributer by any desired means, but in the form here shown the water is first lifted by a pump 8 through a pipe 9 to sprays 10 which spray upon the material as it passes through the screening means 3 and then the water and the fine material passes upon the distributer or distributers, each of which distributers is constructed as follows, namely: I provide an inner trough 11 and an outer trough 12. The inner trough has outlet spouts 13 discharging into the trough 12. Also the said trough 11 has outlets 14 in its sides, which outlets are formed by cutting lips in the sides of said trough 11, which lips are capable of being bent so as to adjust the size of said outlet. These outlets 14 are provided for the following purpose, namely: It is a well known fact that it is necessary to keep a certain amount of water upon the sand and fine gravel to effect perfect concentration and to this end when the material passing through the screen mechanism and into the distributing trough 11 and then through the distributing trough 12 increases in volume and in passing through the outlet spouts 13 diminishes the supply of water going through said spouts 13, the water will back and rise in the distributing trough 11 and flow more rapidly through the outlets 14 which are adjustable as above stated so as to furnish automatically the required amount of water for the solid material passing over the concentrating table.

The lower end of the trough structure just described is open as at 15 and discharges upon a tailing chute of any desired structure for the purpose of carrying off the larger rocks and gravel which might be carried down the trough structure by the vibration thereof.

The bottom of the trough 12 is provided with slots 16 adapted to discharge upon the concentrating tables 4 and 5. The said trough structure comprising the distributer is vibrated during the entire action by means of any suitable mechanism, but in the drawings here shown, this is accomplished by means of the following structure, namely: A pair of ordinary eccentric cams 17 and 17^a are mounted on a shaft 18 and engage rollers 19 and 19^a mounted in a crank 20, there being a link 21 connecting the roller 19 with the vibrant bar 6 and a link 21^a connecting the roller 19^a with a vibrant bar 22 which is in turn connected by a link 23 with a vibrant bar 1. The shaft 18 may be suitably rotated by any geared connection with a motor 24 and with the rotation of said shaft 18 the cams 17 and 17^a will continuously give, through the structure named, a vibrating motion to the members 1 and 6, which in turn will vibrate the distributers inasmuch as the same are mounted thereon and on the vibrant bars 2 and 7. This vibration keeps the material passing through the distributers in continuous movement causing the precious metals to be continuously worked toward the bottom of the material so that when the same reaches the concentrating tables, it will be in first class condition for the catching and holding of the precious metals by such concentrating tables.

In this application I claim merely the structure of the distributer and the other elements are merely set forth to describe the connection of the distributer with the balance of the concentrating apparatus and of course in practice any other concentrating apparatus which is found adaptable can be used with my improved distributer.

From the foregoing description it will readily be seen that I have produced such a device as substantially fulfils the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice, such deviations from such detail may be resorted to as do not form a departure frou the spirit of the invention.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent, is:

1. A distributing member for a concentrating apparatus, the same comprising a longitudinal trough adapted to receive material, another trough disposed immediately below said first named trough and receiving said first named trough between its sides, said first named trough being provided along its lower edge with a plurality of openings communicating with said second named trough, said first named trough being also provided with a plurality of openings in each of its sides above said first named openings, said openings in the said sides of said first named trough communicating with said second named trough, said second named trough being provided with a plurality of openings along its lower edge, as described.

2. A distributing member for a concentrating apparatus, the same comprising a trough adapted to receive material, said trough being provided with a plurality of openings along its lower edge, said trough being also provided with a plurality of openings in each side above said first named openings, said last named openings each having a projecting lip on one edge, said lip being adapted to be bent to adjust the size of said opening, a receiving trough disposed below said first named trough, all the openings in said first named trough communicating with said second named trough, said second named trough being provided with a plurality of openings in its lower edge, as described.

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

WILLIAM A. HUELSDONK.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."