No. 888,471. PATENTED MAY 26, 1908.

C. L. CONSTANT.

ORE SAMPLER.

APPLICATION FILED JAN. 15, 1908.

Fig. 1

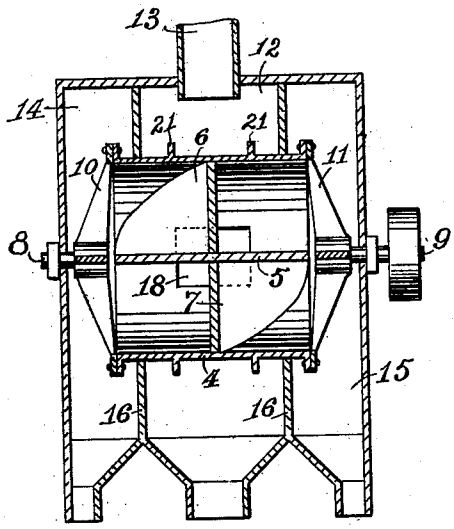


Fig. 2

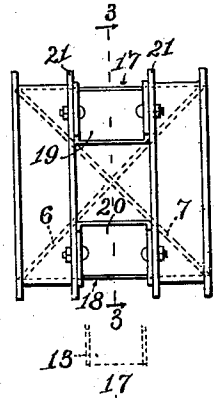
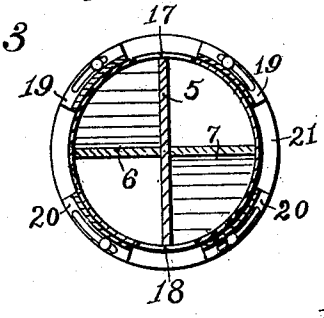


Fig. 3



Witnesses

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ORE-SAMPLER.

No. 888,471. Specification of Letters Patent. Patented May 26, 1908.

Application filed January 15, 1908. Serial No. 410,943.

To all whom it may concern:

Be it known that I, CHARLES L. CONSTANT, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Ore-Samplers, of which the following is a specification.

This invention relates to devices for sampling ores and has for its object a more thorough and uniform sampling than has been possible with the devices heretofore employed.

The invention, therefore, consists in the construction and combination of parts constituting the ore sampler or toller, substantially as hereinafter described and claimed.

One form in which this invention may be embodied is illustrated in the accompanying drawings, which form a part of this specification and which shows in Figure 1, a vertical medial section of the improved sampler; in Fig. 2, a side elevation of the body portion or drum of the sampler and in Fig. 3, a vertical transverse section of said drum taken in the plane indicated by the line 3—3, in Fig. 2.

The principal element of the invention is to be found in the drum 4 open at its ends and divided longitudinally through the center by the partition 5 and having at either side of said partition the oblique, reversely arranged partitions 6 and 7. This drum is intended to be rotated about its horizontal axis and means for securing such rotation may be of any suitable construction. In the drawings they consist of stud shafts 8 and 9 fixed in spiders 10 and 11, which are secured to flanges about the ends of the drum 4. The bearings, in which said shafts are journaled, may be formed in or located upon the sides of the hopper, in which the drum is located. This hopper preferably consists of the middle chamber 12, into which the ore is admitted through spout 13 and the end chambers 14 and 15, into which samplers are discharged from the drum. These chambers are separated from one another by the vertical partitions 16 in openings in which the drum revolves.

In the sides of the drum, preferably at two opposite points, are openings 17 and 18 for admission into the drum of samples of ore entering the hopper by spout 13. These openings are located at the edges of the central partition 5 so as to be divided equally thereby. In this manner the ore falling upon the drum from the spout 13, will, as said openings pass under the spout, receive equal portions of the ore falling at the instant of the passage of said openings under the spout and the ore falling onto oblique partition 6 will be at one time directed to chamber 14 and at another time to chamber 15, and the ore falling at the same time upon oblique partition 7, will be directed respectively to chambers 15 and 14. In this manner an equitable division of the sample is insured and by the frequent sampling an accurate estimate of the quality of the ore passing may be made.

At times it is desirable to take smaller samples of ore than at others and, for that reason, suitable means for adjusting the size of the openings, 17 and 18 into the drum, may be regulated. One means for doing this is illustrated and consists in the provision of flanged plates 19 at opening 17 and flanged plates 20 at opening 18. Through slots in these plates and through holes in coöperating flanges 21, formed upon the periphery of the drum, pass bolts as shown. The plates thus mounted may be moved to a greater or less extent over the openings 17 and 18 and thereby change the area of the passage therethrough. Also by properly adjusting one of each pair of plates the openings 17 and 18 may be half closed so as to take sample from either one of the lateral chambers 14 and 15 and from that one alone, or by properly closing one of each pair of said plates, one portion of sample may be directed into each of these pockets during one rotation, but when the plates are moved back to disclose the openings at each side of the longitudinal partition and at each edge thereof, then two portions of sample are directed into the sample pockets or chambers at each revolution of the drum.

In the operation of the sampler it is rotated with regularity by any suitable means and by varying the speed of rotation or the area of the peripheral openings in the drum the amount of the samples may be varied. The ore from chute 13 falls upon the drum and passes over the same and from the hopper, except when the openings 17 and 18 come under the chute when they receive the

ore and discharge it through the open ends of the drum into the chambers 14 and 15 whence it is conducted where desired.

The invention claimed is:—

1. In an ore sampler, a revoluble drum having a longitudinally dividing partition and having oblique partitions, one at either side of the longitudinal partition, said drum being provided with means for receiving ore onto and discharging it from the said oblique partitions.

2. In an ore sampler, a revoluble drum having a longitudinally dividing partition and having oblique partitions, one at either side of the longitudinal partition, said drum being provided with regulable apertures at its periphery for admitting ore onto and discharging it from said oblique partitions.

3. An ore sampler, or separator, consisting of a horizontally mounted drum or receptacle revoluble in the path of a stream of ore, said drum being divided diametrically by a longitudinal partition and each side of the drum being divided by an oblique partition into two chambers and each chamber having an ingress opening at the periphery of the drum and an egress opening at the end of the drum.

4. An ore sampler, or toller, consisting of an open-ended, revoluble, horizontally mounted drum having openings in its periphery, a longitudinal diametrical partition dividing the drum and dividing said openings, and oppositely arranged oblique partitions, one at either side of the diametrical partition.

5. An ore sampler, or toller, consisting of an open-ended, revoluble, horizontally mounted drum having openings in its periphery, a longitudinal diametrical partition dividing the drum and dividing said openings, oppositely arranged oblique partitions, one at either side of the diametrical partition, and adjusting slides at either side of said openings, for the purpose set forth.

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Witnesses:
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