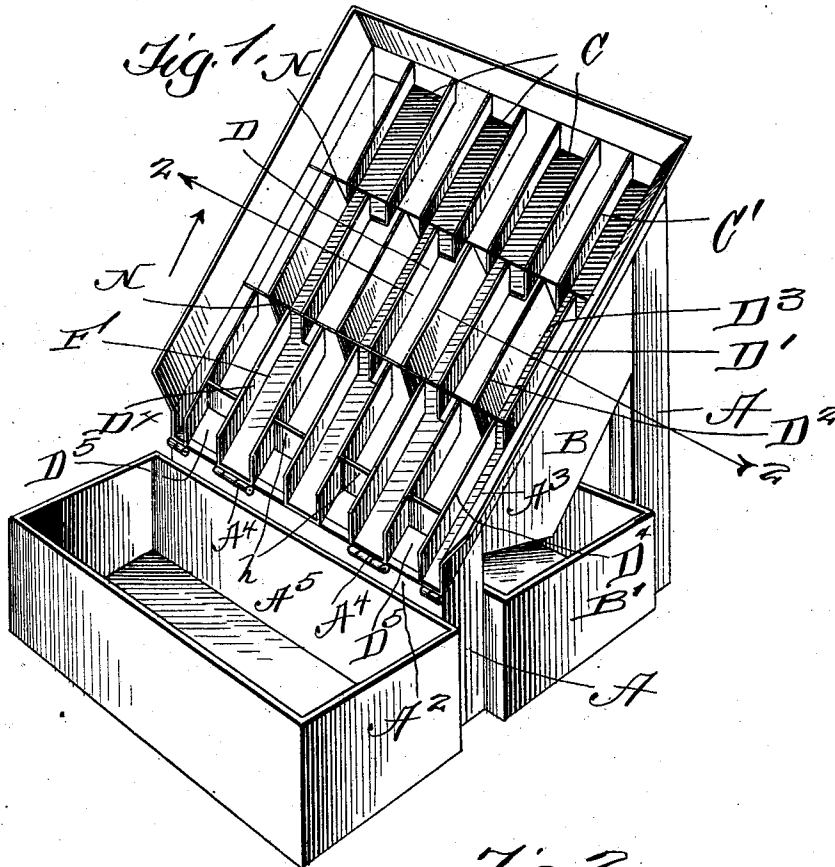
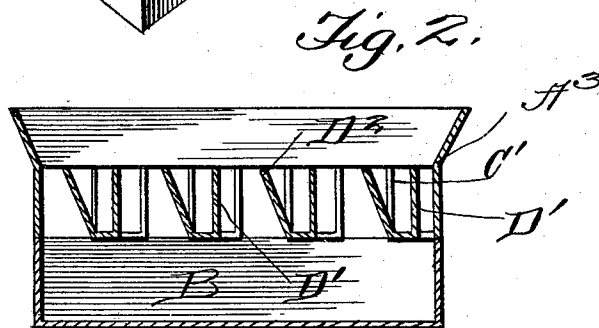


No. 841,928.

PATENTED JAN. 22, 1907.

E. W. BUSKETT.
MULTIPLE RIFFLE SAMPLER.
APPLICATION FILED JULY 20, 1906.



Witnesses

R. A. Powell.
a. L. Hough.

Inventor
Evans W. Buxkett,
By Franklin N. Hough

Attorney

UNITED STATES PATENT OFFICE.

EVANS W. BUSKETT, OF COFFEYVILLE, KANSAS.

MULTIPLE RIFFLE-SAMPLER.

No. 841,928.

Specification of Letters Patent.

Patented Jan. 22, 1907.

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To all whom it may concern:

Be it known that I, EVANS W. BUSKETT, a citizen of the United States, residing at Coffeyville, in the county of Montgomery and State of Kansas, have invented certain new and useful Improvements in Multiple Riffle-Samplers; 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 accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in riffle-samplers; and the object of the invention is to produce an apparatus of this character for securing samples of ore for assaying or other purposes; and it comprises, essentially, an inclined rack having three or more series of riffles so arranged that a quantity of ore may be subdivided into equal parts of various predetermined quantities. For instance, a quantity of ore being deposited in one series of riffles would be subdivided so as to secure one-eighth of the quantity in a sampling-pan. In another series of riffles one-fourth of the sample may be saved. In a third series one-half of the sample may be conducted into the sample-receptacle, &c.

The invention comprises various details of construction, combinations, and arrangement of parts, all as will be more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of my improved riffle-sampler. Fig. 2 is a section taken upon the line 2 2 of Fig. 1.

Reference now being had to the details of the drawings by letter, A designates the legs of the apparatus supporting the frame A², to which the riffle-frame A³ is hinged, as at A⁴, to hold the same securely in place. The forward legs are shorter than the rear, in order that the sampler may have an inclination of substantially forty-five degrees, whereby the ore which is deposited in the same may be readily gravitated down the inclinations and into the sample-receiving receptacle.

B designates a hopper which is mounted

underneath the rack which forms the top of the apparatus and into which the discarded ore is adapted to fall through the openings in the bottom of the riffles.

In the drawings I have illustrated three series of riffles, (designated, respectively, by the letters C, D, and F.) The three series of riffles are surrounded on their sides and top by a flange, and C' designates the vertical partition forming the series of riffles adapted to receive the ore which is to be subdivided, so that one-eighth of the quantity may be deposited in the sample-containing receptacle or pan A².

D' designates vertically-disposed partitions alternately arranged in the inclined partitions D², the lower ends of the said partitions D² being continuous with the partitions C', which partitions D' are in alignment with the longitudinal middle portion of one of the troughs or riffles of the series C. The space at the right of each partition D' has an opening D² adjacent thereto, whereby as the ore which is deposited in the various riffles C is divided into equal parts by the partitions D' one-half of the ore falls through the opening D², while the other half passes over the bottoms D³ intermediate the vertical partitions D' and the inclined partitions D². The ore which passes down upon the bottom of the spaces intermediate the partitions D' and D² is further subdivided into equal quantities by the vertical partitions D⁴ in the lower row of riffles.

It will be noted that the vertical partitions D⁴ are disposed in such manner that they will divide the ore equally, one-half of the ore which is divided by the partitions D⁴ passing down the bottoms D³ into the sampling-pan beneath, while the other halves of the quantities divided by the partitions D⁴ pass through the openings D⁵, which openings alternate with the bottoms D³, and the ore passing through the same is directed by the hopper into the receptacle B'. In a similar manner when the ore is poured into the series of riffles D one-half passes through the openings intermediate the inclined or vertical partitions, being subdivided by the partitions D⁴. The one-half quantities which fall down the inclined bottoms D³ are subdivided into equal parts by the vertical partition D⁴, thereby saving one-fourth of the sample, while three-fourths escape through the openings intermediate the inclined and vertical partitions and the openings D⁵. By

pouring the ore upon the lower series F of the riffles it will be noted that one-half of the sample is saved, while the other half is discarded and falling through the openings D' is directed by the hopper into the receptacle.

It will be observed that the alternate partitions D² in the series of riffles D are inclined in order to divide the space equally, and that in the third series of riffles F it is necessary to have one-fourth of the riffles upon the left and three-fourths upon the right end of the series in order to divide the space equally. Said small riffle of one-third the size of the others is used only when cutting the samples upon the third series F and does not effect the operation of the upper series of riffles. It will be noted also that there are partitions *h* positioned between alternate troughs or riffles in the series F, which are provided for the purpose of dividing the discarded ore from the riffle before falling into the sample pan or receptacle A². Suitable wires N extend across the front of the riffle-sampler and are fastened to the upper edges of the vertical and inclined walls of the riffles, thus securely bracing the same.

By the provision of the apparatus shown and described a multiple riffle-sampler is afforded whereby one-half, one-fourth, one-eighth, or any other multiple of the quantity of ore may be separated into sample-pans for assaying or other purposes.

What I claim is—

1. A multiple riffle-sampler, comprising a frame set at an inclination, a series of riffles

at the upper part of the frame alternating with openings, whereby the ore may be divided into equal parts, a second series of riffles beneath the first-mentioned series and adapted to equally subdivide the samples from the first series and a third series of riffles beneath the second series designated to further subdivide the samples from the second series into equal parts, the alternate partitions in said second series being at inclinations and overhanging spaces intermediate the second series of riffles, as set forth.

2. A multiple riffle-sampler, comprising a frame set at an inclination, a series of riffles at the upper part of the frame alternating with openings, whereby the ore may be divided into equal parts, a second series of riffles beneath the first-mentioned series and adapted to equally subdivide the samples from the first series and a third series of riffles beneath the second series designated to further subdivide the samples from the second series into equal parts, the alternate partitions in said second series being at inclinations and overhanging spaces intermediate the second series of riffles, partitions across the spaces between the partitions in the third series of riffles and dividing the openings between the same, as set forth.

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

EVANS W. BUSKETT.

Witnesses:

E. S. GREGG,
WM. F. GORDON.