

ATTACHMENT FOR WILFLEY TABLES.

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WITNESSES:

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To all whom it may concern:

Be it known that I, WALTER F. SMITH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Wilfley Tables, of which the following is a specification.

The recovery of concentrates by means of Wilfley or similar types of tables is well understood and it is the object of my invention to improve this recovery and additionally separate and separately recover some or all of the different ingredients of the concentrates.

To this and other ends hereinafter set forth the invention comprises the improvements to be presently described and finally claimed.

In the accompanying drawings, Figure 1, is a top or plan view illustrating the concentrates discharge end of a Wilfley table having in application thereto means embodying features of the invention. Fig. 2, is a sectional view, drawn to an enlarged scale, and taken on the line 2—2, of Fig. 1, and Fig. 3, is a sectional view taken on the line 3—3, of Fig. 2.

A Wilfley table is well understood and a full description of it can be found in "Ore Dressing," Vol. II, page 670, by R. H. Richards, published 1906, by *The Engineering and Mining Journal* at New York. There is no need to illustrate this complete device so that in the drawings 1, is the concentrates discharge end of such a table and it, as is well known, is jerked back and forth on a suitable support 2. The concentrates pass over the concentrates discharge end of the table and the gangue rolls over to the tail side. The concentrates assume various positions more or less sharply defined in passing off the concentrates discharge end of the table. 3—9, indicate such positions but these positions are not fixed and change more or less with changes of speed of the table and changes of feed of water or material, so that any one or all of these discharge points may

vary more or less in respect to the Wilfley table.

10, is a riffle arranged at the concentrates discharge end of the table so as to receive those concentrates of the same kind which leave the table at generally the same point of discharge, for example, the point 8. Inasmuch as this point of discharge 8, is variable across the table, I make the riffle movable across the table so that it may be adjusted to the point of discharge thus receiving the same kind of concentrates. For this purpose the riffle 10, is mounted in a cradle or frame 11, slidable on ways 12 and 13, arranged in the walls of the box or receptacle 14.

15, is a rod connected with the cradle and with a lever 16, by means of which the rod, cradle and riffle can be moved crosswise of the table.

17, is a perforated pipe arranged at the upper end of the riffle and supplied with water by means of a flexible connection 18. Of course the number of movable riffles can be increased or diminished but an illustration and description of one is sufficient for an understanding of the invention.

21, is a chute shown to consist of a bottom, a side and an end. It is mounted on and arranged at the inlet end of the riffle 10, and serves to deflect from the riffle material not intended to enter it.

19, is a small box or receptacle into which the contents of the movable riffle is discharged. The kind of concentrates which by reason of their specific gravity reach the movable riffle, are delivered by it into the receptacle 19, where they are kept separate from the other kinds of concentrates. If the concentrates which pass over the movable riffle contain gold, quick silver or mercury is applied to the riffles and serves to separate the gold by amalgamation. Moreover the upper face 20, of the riffle and the under face of the head of the table may, by reason of the jerking motion of the latter be made to rub together, and any particles of gold reaching these rubbing surfaces on their way

from the table to the riffle are cleaned and made easily susceptible to amalgamation by the mercury. These rubbing surfaces may be faced with wood backed with rubber, or
5 other flexible material.

What I claim is:

The combination of a shaking concentrating table with a stationary riffled chute, the discharge end of the former overlapping the
10 upper end of the chute and the two provided

with co-acting rubbing surfaces, the chute being adjustable transversely of the end of the table.

In testimony whereof I have hereunto signed my name.

WALTER F. SMITH.

Witnesses:

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