R. DE LARGE.

VANNER CONCENTRATING BELT.

APPLICATION FILED OCT. 8, 1912.

1,082,309. Patented Dec. 23, 1913.

Fig. 1.

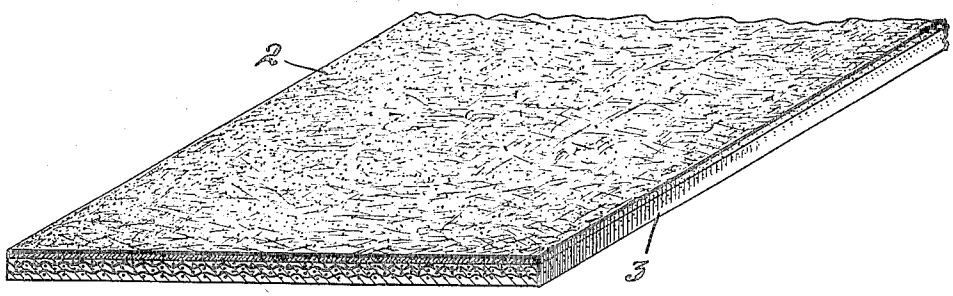
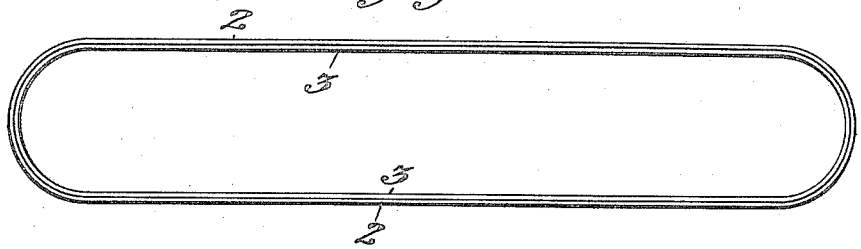


Fig. 2.



WITNESSES:

R. L. Berry,

Charles Pickles

INVENTOR

Robert De Large

BY G. H. Strong.

ATTORNEY

UNITED STATES PATENT OFFICE.

ROBERT DE LARGE, OF RAY, ARIZONA.

VANNER CONCENTRATING-BELT.

1,082,309. Specification of Letters Patent. Patented Dec. 23, 1913.

Application filed October 8, 1912. Serial No. 724,639.

To all whom it may concern:

Be it known that I, ROBERT DE LARGE, a citizen of the United States, residing at Ray, in the county of Pinal and State of Arizona, have invented new and useful Improvements in Vanner Concentrating-Belts, of which the following is a specification.

My invention relates to an improvement in apparatus for concentrating ores, and is particularly designed for concentrating and separating the heavy valuable particles of pulverized material from the light sand and slimes.

It consists in the employment of an endless, traveling concentrating belt, having a supplemental surface of wool felt, or cloth, firmly attached to the rubber body of the belt.

It also comprises details of construction which will be more fully explained by reference to the accompanying drawing, in which—

Figure 1 is a detail sectional view of the belt in perspective. Fig. 2 is a side elevation of the belt.

For the purpose of saving the valuable concentrates with ores, the ore is finely pulverized, and separation of the material takes place in various ways. A belt has been employed with a surface of bristles and surface of carpet having cut pile and also rubber or other fabric. These various fabrics are found insufficient for the purpose of saving a sufficient quantity of the concentrates and a very considerable portion has been lost.

In my invention I employ a surface of felt 2, which is sufficiently close, so that the water will not percolate through it; the surface being substantially as smooth as that of a billiard table. This felt surface 2 is mounted on a rubber back 3.

In operation, the mixed material is delivered upon the belt which has a sufficient incline, so that the material mixed with a sufficient quantity of water will tend to flow down toward the lower end of the belt while the belt is continuously traveling upwardly. The flow is sufficient to separate out the lighter slimes and sand, which are eventually discharged at the lower end, while the finer and heavier concentrates will be held by the fine surface of the felt which prevents the heavier particles from escaping by holding them in place until dense enough. As the belt moves onward and upward toward the head of the machine, these concentrates are finally washed off by the usual box into which the belt dips as it passes around the underside of the upper roller.

The separation of the material is made principally behind or on the down side of the feed where the water is less agitated by the gentle shake of the machine, thus permitting the fine concentrate to lodge and settle in the surface of the felt and then to be carried onward and upward; the fine felt holding it in place.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

A concentrator belt comprising an inner surface of rubber belting, and an outer surface of fine smooth felt composed of fine, matted, curled fibers, said felt being of a density sufficient to prevent percolation of water through the same.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ROBERT DE LARGE.

Witnesses:
J. H. SAYRE,
CHAS. W. GORHAM.