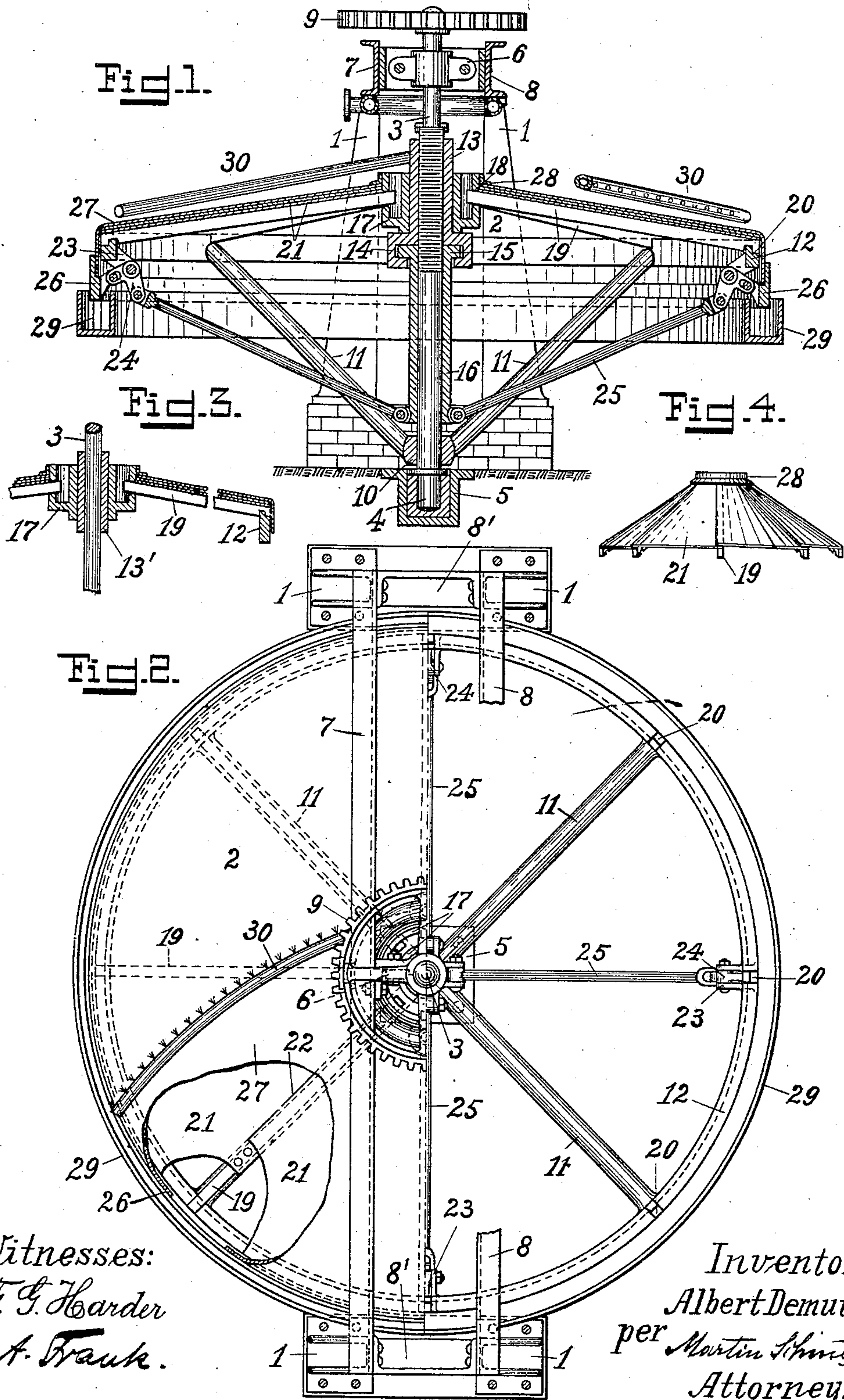


No. 869,883.

PATENTED NOV. 5, 1907.

A. DEMUTH.  
ROUND BUDDLE FOR DRESSING ORES.

APPLICATION FILED JULY 3, 1906.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

ALBERT DEMUTH, OF LAURENBURG-ON-THE-LAHN, GERMANY.

## ROUND BUDDLE FOR DRESSING ORES.

No. 869,883.

Specification of Letters Patent.

Patented Nov. 5, 1907.

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To all whom it may concern:

Be it known that I, ALBERT DEMUTH, engineer, a subject of the King of Prussia, residing at Laurenburg-on-the-Lahn, in the Kingdom of Prussia, Empire of Germany, have invented certain new and useful Improvements in Round Buddles for Dressing Ores; 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.

My present invention relates to a round-buddle for dressing ores, in which the slant or pitch of the table may be varied at pleasure, and in which the table is built up of sector like plates or lath-work surmounted by an elastic cover, which by automatically acting means is always kept free of folds. In round-buddles of this kind the individual sectorlike plates were hitherto simply placed side by side and hinged at or near their center-lines to the frame of the table and then covered by a continuous piece of linoleum or the like. This arrangement possessed, however, this drawback that when a change in the conicity of the table took place a formation of folds on the surface of the table was unavoidable, which folds not only rendered the separation of the dead rock from the metalliferous slick extremely difficult, but also caused losses of ore, as a part of the slime or metalliferous slick was washed away with the dead rock. To avoid these drawbacks the continuity of the surface of the table is in the present invention even preserved during an adjustment of the pitch or slant of the table by letting the lateral free edge of one of the sectorlike plates overlap the fixed edge of an adjacent plate, and by stretching taut or slackening the continuous cover during the time such adjustments of the pitch of the table-cone are executed.

In the accompanying drawings: Figure 1 is a vertical sectional view of the round-buddle. Fig. 2 is a plan view of the table with a part of the table, the water-pipes, and the channel-beams removed. Fig. 3 is a vertical sectional view of a modification of the means for securing the individual sectorlike table plates. Fig. 4 is a detail elevation of the table on a smaller scale showing the sectorlike table-plates.

Between the columns 1 arranged at opposite sides of the rotary table 2 the vertical driving shaft 3 is arranged, whose step or pivot 4 runs in the step-bearing 5, whereas its upper end is held by a yoke-bearing 6 secured to the channel-beams 7 and 8 supported by said columns and connected with each other by means of the distance-pieces 8', see Fig. 2. Above the channel-beams the driving-wheel 9 is secured to the shaft 3. To the lower end of the shaft 3 is keyed the hub 10 provided with upwardly and outwardly extending rigid arms 11, which carry on their free ends the outer table-ring 12.

As shown in Fig. 1, the shaft 3 is partially threaded for the reception of the sleeved nut 13, which holds within its flange 14 the flange 15 of the sleeve 16 slidably arranged upon the shaft 3. Upon the flange 14 of the nut 13 the double walled inner table-ring 17 is arranged and provided with vertical guide-slots 18 in its outer wall for the reception of the inner ends of the radial arms 19, whose outer ends are hook-shaped and rest in shouldered recesses 20 of the outer table-ring 12. By means of this arrangement these radial arms are in a position to adapt themselves without constraint to the differences in height between the outer and the inner table-ring obtainable by the manipulation of the sleeved nut 13 of Fig. 1, or the sliding collar 13' of Fig. 3. To each radial arm one of the sectorlike plates 21 is secured with one of its lateral edges, whereas its free edge overlaps the fixed edge of the adjacent plate 21, as plainly indicated in Fig. 4. The outer table-ring 12 is provided with lugs 23 which project inward and downward and are arranged in pairs. Between each pair of lugs a bell-crank 24 is fulcrumed, of which one arm is movably connected with the sleeve 16 by means of the rod 25, and the other arm movably attached to the ring 26, to which the outer edge of the table-cover 27 is secured, which consists of a continuous piece of linoleum, rubber-cloth or the like. The inner edge of the table-cover 27 is attached to the outer wall of the inner table-ring 17 through the instrumentality of the ring 28. Fig. 2 shows in a plan view on the one hand the variable connection between the sleeve 16 and the outer table-ring 12 by means of the rods 25 and the bell-cranks 24, and on the other hand the overlapping of the sectorlike plates and the arrangement of the table-cover and its connection with the ring 26, which partly enters the gutter 29 destined for the reception of metalliferous slick. Besides this Fig. 2 shows how the pulp-feeding means are arranged to convey through the supply-pipes 30 the necessary water to the pulp spread out upon the table. By means of this arrangement it is not only made possible to obtain any desired slant or pitch of the table's surface, but also to keep the cover 27 under all circumstances perfectly smooth, as by screwing the nut 13 upward the bell-cranks 24 will raise the ring 26 in accordance with this adjustment of said nut, i. e. draw the outer edge of the table-cover down when the nut 13 or the collar 13' are lowered, and slacken the cover when the inner ends of the arms 19 are raised. The motion of the ring 26 may be limited by the annular gutter 29 or, if desired, by any suitable stopping devices.

In operation the material to be treated is spread out upon the table and then the water for separating the dead rock from the metallic particles is admitted in the usual manner through the supply-pipes 30, whereupon the separation of the components of the metalliferous slick and their subsequent and gradual transfer into the



annular gutter 29 take place. This separation is, however, greatly enhanced and the loss of valuable ores avoided by the present invention, because the surface of the table can be exactly adjusted to suit the nature of the material under treatment, and because the table presents under all circumstances a perfectly smooth surface upon which the metalliferous slicks can easily settle and separate themselves from the dead rock, for which reason this round-buddle is also particularly well adapted for the concentration of poor ores and wastes.

I claim:—

1. A round-buddle for dressing ores having a table consisting of arms slantwise adjustable in a vertical plane, sectorlike plates each attached with one lateral edge to one of said arms and resting with its free lateral edge on the fixed lateral edge of another sectorlike plate, and a flexible cover arranged on the face of said sectorlike plates; and pulp-feeding means arranged above said table.
2. A round-buddle for dressing ores having a table consisting of arms stationarily supported at one end and vertically movable at the other end, sectorlike plates each attached with one lateral edge to one of said arms and overlapping with its other lateral edge the fixed lateral edge of an adjacent sectorlike plate, and a continuous cover slidably arranged on the face of said sectorlike plates; and pulp-feeding means arranged above said table.
3. A round-buddle for dressing ores having a table consisting of arms hinged at one end to a stationary support and slidably held in a vertically adjustable support at the other end, sectorlike plates each attached with one lateral edge to one of said arms and overlapping with its free lateral edge the fixed lateral edge of an adjacent sectorlike plate, and a cover slidably arranged upon said sectorlike plates; means for preventing said cover from forming folds; and pulp-feeding means arranged above said table.
4. In a round-buddle the combination of a vertical driv-

ing shaft, an outer table-ring rigidly connected with said shaft, table-adjusting means carried by said driving shaft, an inner table-ring carried by said adjusting means, arms hinged to the outer table-ring and slidably connected with said inner table-ring, sectorlike plates each secured with one lateral edge to one of said arms and overlapping with its free lateral edge the fixed lateral edge of an adjacent sectorlike plate, a continuous cover arranged on top of said plates and fixed to the inner table-ring, a ring attached to the outer edge of said cover to keep the latter free of folds, and pulp-feeding means arranged above said table.

5. In a round-buddle of the kind described the combination of a vertical driving shaft, a sleeve slidably arranged upon said shaft, an outer table-ring rigidly connected with said shaft, table-adjusting means carried by said driving shaft and revolvably connected with said sleeve, an inner table-ring carried by said adjusting means, arms hinged with one end to said outer table-ring and slidably connected with said inner table-ring, sectorlike plates each secured with one lateral edge to one of said arms and overlapping with its free lateral edge the fixed lateral edge of an adjacent sectorlike plate, a continuous cover arranged on said plates and fixed to said inner table-ring, a ring attached to the outer edge of said cover, bell-cranks held between lugs of said outer table-ring and connected by means of one of their arms with the ring attached to the outer edge of said cover, rods connecting the other arms of said bell-cranks with said sliding sleeve to tighten or slacken said cover in accordance with the movement of said table-adjusting means, and pulp-feeding means arranged above said table.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT DEMUTH.

Witnesses:

JEAN GRUND,  
CARL GRUND.