J. MOHS.

DISINTEGRATOR.

APPLICATION FILED AUG. 16, 1909.

985,919. Patented Mar. 7, 1911.

Fig. 1

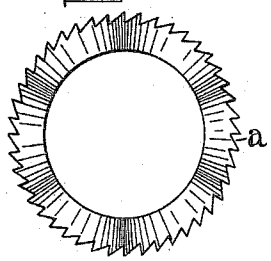


Fig. 2

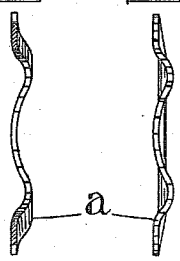


Fig. 3

Fig. 5

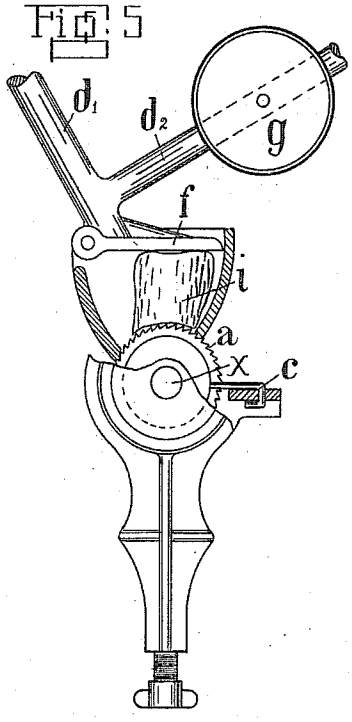


Fig. 4

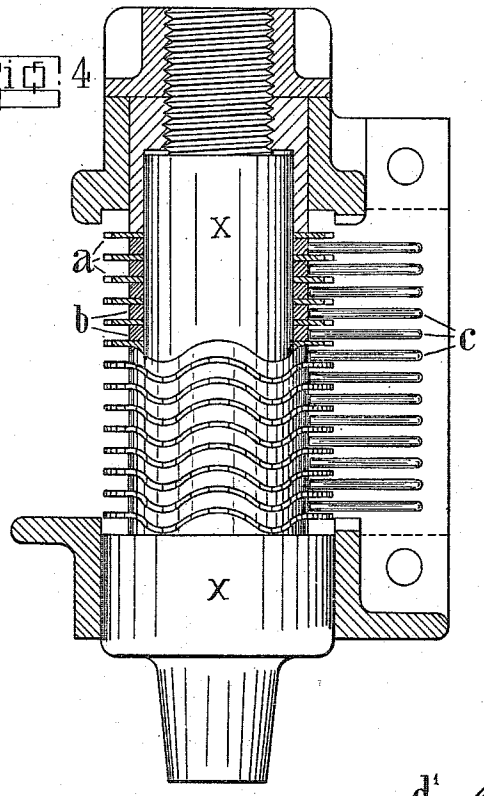


Fig. 6

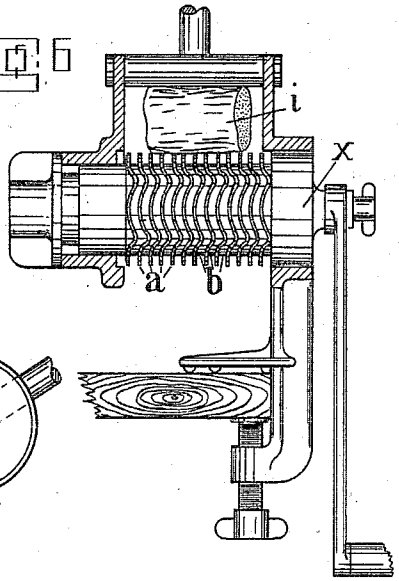
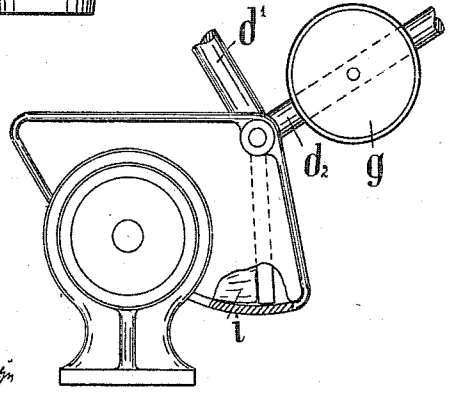


Fig. 7



Witnesses

Willy Sagner.

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UNITED STATES PATENT OFFICE.

JULIUS MOHS, OF DESSAU, GERMANY.

DISINTEGRATOR.

985,919. Specification of Letters Patent. Patented Mar. 7, 1911.

Application filed August 16, 1909. Serial No. 513,143.

To all whom it may concern:

Be it known that I, JULIUS MOHS, a subject of the German Emperor, and residing at Dessau, Empire of Germany, have invented certain new and useful Improvements in Disintegrators, of which the following is a specification.

My invention relates to disintegrators comprising corrugated circular saw-blades arranged on a revoluble axle for sawing wood, bones, coal or similar hard materials. It is important, however, when disintegrating bones, wood, coal and other similar hard materials, that the saw-blades be bent wave-shaped in such manner that the waves or corrugations of each saw-blade enter into the range of the corrugations of the adjacent saw-blades, or at least that there is no distance between the regular, annular space containing one blade and the like space containing the adjacent blade. In order to make the cutting action of the teeth of the blades as inoperative as possible on movable cleaning fingers engaging in the spaces between the saw-blades, the individual corrugated, circular saw-blades are arranged so that every part of a blade is located in a plane substantially at right angles to the axis of the roller, *i. e.* they are not "drunk". In this manner a corrugated, annular space of rectangular section is formed between each two contiguous blades.

In the accompanying drawing Figures 1, 2 and 3 show one corrugated, circular saw-blade in front elevation, vertical section and end elevation, respectively. Fig. 4 shows a cutter comprising several corrugated, circular saw-blades in elevation, partly in section. Figs. 5, 6 and 7 show by way of example a cutter, comprising corrugated circular saw-blades, in two different disintegrating machines for bone, wood, coal and similar hard materials.

Referring to the drawing, the circular saw-blades *a* are corrugated radially and arranged for disintegrating bones, wood, coal and other similar materials on a revoluble shaft *x* preferably in such manner that the corrugations of each saw-blade pass into the range of the adjacent saw-blades, but, in any event, so that the regular, annular space containing one blade is continuous with the like space containing an adjacent blade.

Owing to the corrugated form of the saw-blades *a* and the gaps of rectangular section between them finer saw-dust is produced than by plane saw-blades, since the teeth not only cut or saw when rotating but also shave and grind the material laterally. Cleaning fingers *c* engage in the wave-shaped, annular grooves of rectangular section between the saw-blades formed by the toothed surfaces, every radial part of which is at right angles to the axle. These fingers are mounted movably in known manner and they constantly liberate the grooves from the powdery material.

The materials *i* may be under the action of a lever d^1, d^2 and a weight *g* carried thereby by means of an arm *f* and be pressed automatically toward the axle or roller *x* of the cutter, as clearly shown.

It may be remarked that owing to the radial corrugated form of the circular saw-blades *a* the setting of the teeth is done away with and the saw-blades can also be used individually on an axle for sawing wood, coal and other hard materials.

An important advantage due to the above described improved arrangement of the corrugated saw-blades is that the materials are not only sawed, but simultaneously ground. Individual grooves are not made in the material which is being pulverized, but the entire material is ground to powder. Further, owing to the rectangular section of the grooves between two adjacent blades, the movable cleaning fingers, which are absolutely necessary in such machines, can be used and are not cut by the saw-blades, which is not the case when every part of each blade is not at right angles to the axis of the roller on which it is mounted.

I claim:—

1. In a disintegrator, the combination, with a frame, an axle revoluble therein, and a plurality of radially corrugated, circular saw-blades fixed on said axle, the corrugations of one blade being in the range of the corrugations of blades next adjacent thereto, of a weighted lever fulcrumed on said

frame for pressing material toward the center of said axle.

2. In a disintegrator, the combination, with an axle, of a plurality of radially-corrugated, circular saw-blades fixed thereon, each portion of every saw-blade being substantially at right angles to the axis of said axle, and the corrugations of one blade being in the range of the corrugations of a blade next adjacent thereto, for the purpose specified.

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

JULIUS MOHS.

Witnesses:
HENRY HASPER,
WOLDEMAR HAUPT.