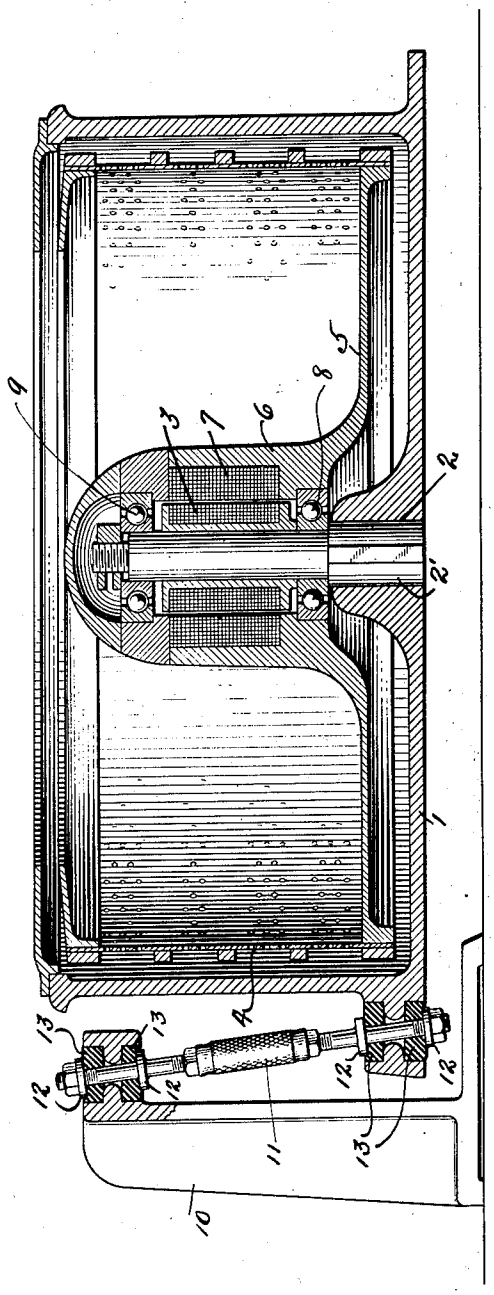
Dec. 8, 1925. 1,564,770

H. G. EYNON

EXTRACTOR

Filed April 30, 1923



INVENTOR
Harold G. Eynon.
BY
Riddle & Marquess.
ATTORNEYS.

Patented Dec. 8, 1925. 1,564,770

UNITED STATES PATENT OFFICE.

HAROLD G. EYNON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO FLETCHER WORKS, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

EXTRACTOR.

Application filed April 30, 1923. Serial No. 635,483.

To all whom it may concern:

Be it known that I, HAROLD G. EYNON, a citizen of the United States, and a resident of the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Extractors, of which the following is a specification.

My invention is directed broadly to an improvement in extractors and specifically to extractors of the open top type, one object being an improved construction for supporting and driving the extractor, while another object is an improved form of connection between the balancing support and the tub of the extractor.

Extractors as now constructed are mainly of two general types,—to wit, electrically driven and steam driven. Certain defects inherent in these extractors have been eliminated by the present construction. With the electrically under driven extractor, the tub thereof rests on the floor over a pit, the electric motor for driving the extractor being suspended in this pit. The motor pit is objectionable, however, trouble being experienced in properly draining the same. I eliminate this pit in my improved construction entirely, and in my improved form of construction I also eliminate oil soilage, all of the lubricated parts being enclosed.

It is common practice in the extractor art to provide a balancing stand usually consisting of three brackets bolted to the floor and equally spaced about the periphery of the tub of the extractor and connected thereto by swivel bolts the ends of which are provided with special bearings. In my improved construction the swivel bolts are attached to the brackets and to the tub in a special manner which I believe is a distinct improvement over the old way.

In the operation of electrically driven extractors economy of power consumption is a desideratum and for this reason, therefore, I propose to construct all of the rotating parts of my improved extractor of material which, while possessing the requisite tensile strength, is lighter than cast iron, bronze, copper, etc., the metals which have been formerly employed in this art. By making this substitution I find that I am enabled to effect a reduction in the weight of the revolving parts of at least one-third, which in actual practice means a reduction in bearing strains of about two-thirds and materially decreases the tendency of the unit as a whole to "dance".

In the accompanying drawings I have illustrated an embodiment of my invention in sectional elevation.

Referring to the drawings in detail, 1 designates the tub of my extractor, the center of the bottom of which is formed with a bearing 2 to receive and support a vertically extending stationary extractor supporting shaft 2'. On this shaft and secured thereto I mount an armature 3 of an electric motor. The basket 4 of the extractor is provided with a bottom 5 so shaped as to provide a vertically extending housing 6 which surrounds the shaft 2' and the motor armature 3 and has secured to it the rotatable field magnets 7 of the driving motor. This provides a construction wherein the field magnets 7 rotate to drive the extractor while the motor armature remains stationary. The extractor basket is supported through the housing 6 just referred to on bearings 8 and 9 at the bottom and top respectively of the shaft 2, these bearings being enclosed by the housing 6, thereby eliminating danger of oil soilage. The basket and the housing 6 are constructed of an aluminum alloy, for example, or some metal lighter than cast iron, bronze, copper, etc., to not only materially reduce the weight of the rotating parts of the extractor, but to effect an appreciable saving in the power consumed in the operation of the machine.

The balancing stand comprises a series of brackets 10, preferably three, equally spaced about the tub 1, the top of these brackets being connected to the lower part of the tub by swivel bolts 11. Each bolt passes through the top of the brackets 10, and is provided with a pair of discs 12, one below the top of the bracket and the other above. Between these discs and seated in the bracket is a pair of resilient blocks or pads 13 which may be made of rubber, for example, or other suitable yieldable material. The lower end of each of the bolts 11 is secured to the tub by a connection similar to the one just described. I have found that this construction very materially reduces the vibrations set up by the extractor when in operation.

It will be seen from the foregoing that

by my improved construction I eliminate the pit which is required in under-driven extractors as now constructed, which is a very material advantage in that drainage problems are eliminated.

It will be seen also that my extractor is under-supported, being carried on the shaft 2, and, inasmuch as the driving mechanism,—i. e., the electric motor employed for driving the extractor and the housing therefor,—is within the extractor itself, an economy in the space required for installing and operating the machine is effected. It will be apparent also that by enclosing the bearings for the basket, danger of oil soilage is effectively eliminated.

By making the rotating parts of my machine of aluminum alloy or other relatively light material, the weight of the rotating parts is materially reduced to effect not only a saving in weight, but an appreciable saving in current consumption for operation.

I claim:

1. An electrically driven extractor comprising in combination, a tub, a balancing stand for supporting the tub, a shaft extending vertically of the tub and lying wholly within the confines thereof, a basket within said tub provided with a central housing, said housing co-operating with said shaft to support the basket, and an electric motor for driving the basket lying within said housing.

2. An electrically driven extractor comprising in combination, a tub, a bearing hub at the centre of the tub extending upwardly from the bottom thereof, a shaft supported on said hub, bearings on said shaft, a basket within said tub, a housing formed centrally of and lying wholly within said basket and receiving said shaft whereby said basket is under-supported on said bearings by said shaft, and a motor for driving the extractor basket lying within said housing.

3. An electrically driven extractor comprising in combination, a tub, a balancing stand for supporting said tub, a connection between said tub and stand comprising a rod one end of which passes through said tub and the opposite end through the stand, a pair of discs in spaced relation at each end of the rod so that a portion of the balancing stand lies between one pair of discs while a portion of the tub lies between the other pair of discs, and resilient pads at one end of the rod between the discs at that end and the balancing stand, similar pads at the other end of the rod, a shaft extending vertically of the tub and lying wholly within the confines of the tub, a basket within said tub provided with a central housing, and an electric motor for driving the basket lying within said housing.

This specification signed this 23rd day of April, 1923.

HAROLD G. EYNON.