No. 798,886. PATENTED SEPT. 5, 1905.

J. F. DORNFELD.

ROTATORY DRUM.

APPLICATION FILED MAR. 9, 1903.

2 SHEETS—SHEET 1.

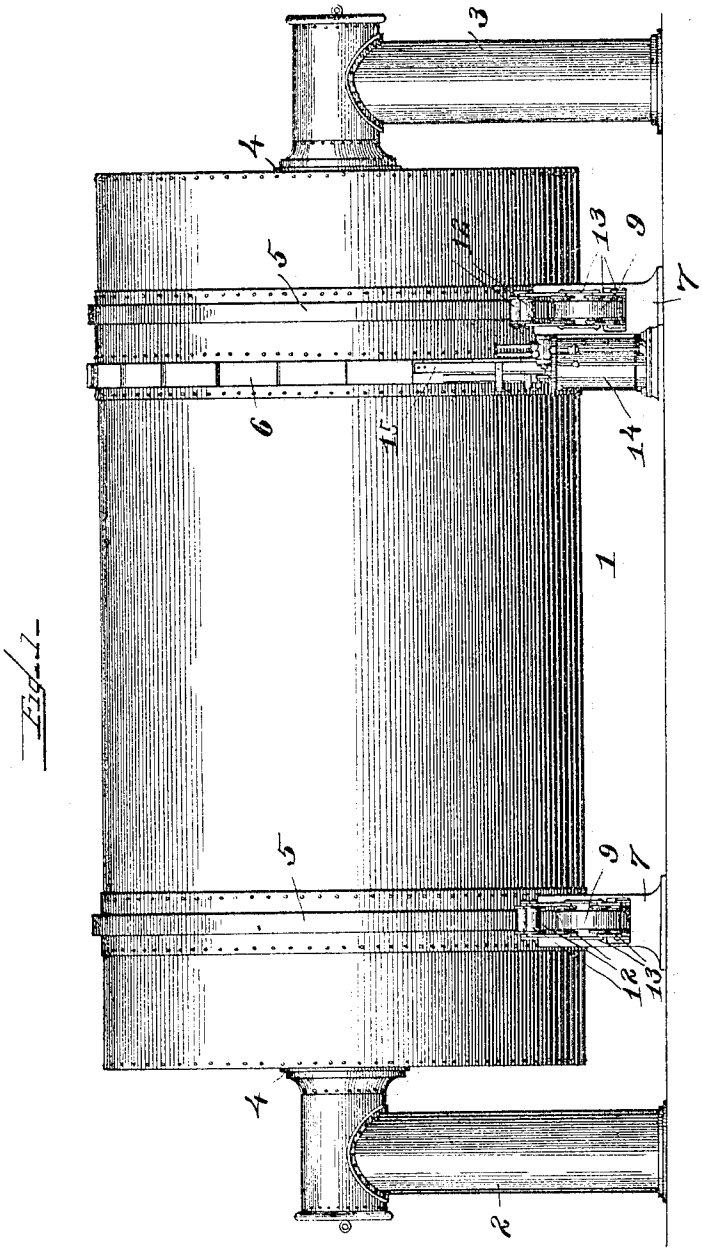



Fig. 1.

Witnesses.

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2 SHEETS—SHEET 2.

Fig. 2.

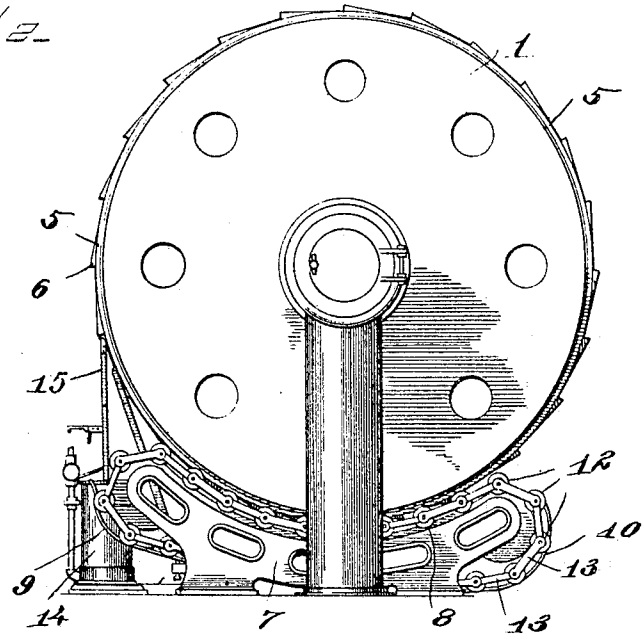



Fig. 3.

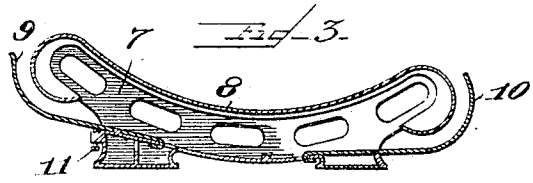
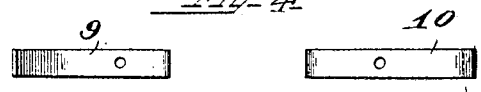



Fig. 4.




Witnesses.

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# UNITED STATES PATENT OFFICE.

JOHN F. DORNFELD, OF CHICAGO, ILLINOIS.

## ROTATORY DRUM.

No. 798,886. Specification of Letters Patent. Patented Sept. 5, 1905.

Application filed March 9, 1903. Serial No. 146,887.

*To all whom it may concern:*

Be it known that I, JOHN F. DORNFELD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rotatory Drums, of which the following is a specification.

This invention relates to rotatory drums of large size used for malting grain and for other purposes, and has for its object the production of an improved support for such drums.

In the accompanying drawings, Figure 1 is a side elevation of a rotatory drum embodying the features of this invention. Fig. 2 is an end elevation of said drum, including the supporting and rotating means. Fig. 3 is a longitudinal central section through one of the saddles for supporting the bearing-rollers, upon which rollers the drum rests and is rotated. Fig. 4 is an under face view of two supporting-arms located at opposite ends of each of said saddles.

In the construction of this drum I provide a cylindrical body portion 1, having air-pipes 2 and 3 connected by means of the usual rotatory joint 4 with the interior of said drum at opposite ends of the drum and on the axial line thereof. Two annular rails 5 are fixed to the periphery of the drum, one near each end thereof, and near one of said rails and likewise secured to the drum are inclined teeth 6, arranged in circular series. The saddle-blocks 7 for supporting the drum upon its foundations are located one near each end of said drum, the upper face of said saddle-blocks being curved to correspond with the periphery of the drum. Upon their upper faces and at their ends each of said saddle-blocks is provided with a rail 8, and underneath said rail each saddle-block is open from end to end to provide for the passage of an endless chain of bearing-rollers, to be hereinafter described. Each saddle-block is also provided with the supporting-arms 9 and 10 for said endless chain, the former of which is adjustable vertically at its free end by means of a set-screw 11, passing through a suitable screw-threaded opening in a portion of the saddle-block in order to regulate the distance between said arm 9 and the rail 8.

The drum 1 is carried upon the saddle-blocks 7 by a series of flanged rollers 12, resting upon the rail 8 on the upper face of each of the saddle-blocks, which flanged rollers receive the rails 5 of the drum upon the uppermost parts of their peripheries. The rollers 12 for each saddle-block are secured together in an endless chain by means of links 13, having the usual pivot-pins extending through suitable openings in the links and the rollers. The driving means for this rotatory drum in this instance consists in a hydraulic cylinder 14, situated by the side of the drum at a point adjacent to the teeth 6, the piston-rod 15 of which hydraulic cylinder is adapted to engage said teeth 6, and thus rotate the drum. Not being a part of this invention the rotating means will not be illustrated or described in detail.

In the operation of this apparatus the substance to be treated—as, for instance, malt—is put into the drum 1 through a suitable opening (not shown) in the walls thereof. The drum rests upon the several rollers 12, lying upon the rails 8, formed on the curved upper sides of the saddles 7, said rollers being held upon said rails by means of the flanges on the rollers. The rails 5 rest upon the rollers and also lie between the flanges thereof. As the drum is rotated the rollers are moved in the saddle-blocks, and the links 13 connecting them in an endless chain they are carried through the central opening of said saddle-blocks. The weight of the lower part of said chain is supported upon the arms 9 and 10, thus preventing a dragging of the chain over the upturned ends of the saddle-blocks. The arm 9 is vertically adjustable at its outer end with relation to the saddle-block to provide a proper space for the free passage of the rollers 12 between said arm and said saddle.

The apparatus herein illustrated and described is susceptible of many modifications in the form and arrangement of its parts without a departure from the spirit and scope of my invention, wherefore I do not limit myself to the particular construction herein set forth.

I claim as my invention—

1. In a rotatory drum apparatus, in combination, a drum proper; a saddle-block for supporting said drum, said saddle-block having a rail extending centrally of its upper surface; and antifriction-rollers for supporting said drum, said rollers traveling on the rail of said saddle-block.

2. In a rotatory drum apparatus, in combination, a drum proper; a saddle-block for supporting said drum, said saddle-block having a rail extending centrally of its upper surface; and flanged antifriction-rollers linked together in an endless chain for supporting said drum

upon said saddle, said rollers running upon said rail and being held thereon by means of their flanges.

3. In a rotatory drum apparatus, in combination, a drum proper; a saddle-block for supporting said drum, which saddle-block has a rail extending centrally of its upper surface, said block being open from end to end beneath said rail; and antifriction-rollers for supporting said drum, said rollers being linked together in an endless chain, the upper portion of the chain running upon the rail of the saddle-block, and the lower portion thereof running through the open lower portion of said saddle-block.

4. In a rotatory drum apparatus, in combination, a drum proper; a rail upon the periphery of said drum; a saddle-block for supporting said drum; and traveling flanged antifriction-rollers linked together in an endless chain for supporting said drum upon said saddle, the rail upon the periphery of said drum resting upon said rollers between the flanges thereof.

5. In a rotatory drum apparatus, in combination, a drum proper; a rail upon the periphery of said drum; a saddle-block for supporting said drum, said block having a central rail extending longitudinally of said block upon its upper surface; and traveling flanged antifriction-rollers linked together in an endless chain for supporting said drum upon said saddle, said rollers running upon the rail of said block and carrying between their flanges the rail upon the periphery of said drum.

6. In a rotatory drum apparatus, in combination, a drum proper; a saddle-block for supporting said drum, which saddle-block has a rail extending centrally of its upper surface, said block being open from end to end beneath said rail; antifriction-rollers for supporting said drum, said rollers being linked together in an endless chain, the upper portion of the chain of rollers running upon the rail of the saddle-block, and the lower portion thereof running through the open lower portion of said saddle-block; and an arm at each end of said saddle-block for supporting the lower portion of said chain of rollers.

7. In a rotatory drum apparatus, in combination, a drum proper; a rail upon the periphery of said drum; a saddle-block for supporting said drum, which saddle-block has a rail extending centrally of its upper surface, said block being open from end to end beneath said rail; flanged antifriction-rollers linked together in an endless chain for carrying between their flanges the rail upon said drum, the upper portion of the chain of rollers running upon the rail of the saddle-block, and the lower portion thereof running through the open lower portion of said saddle-block; and an arm at each end of said saddle-block for supporting the lower portion of said chain of rollers.

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Witnesses:
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