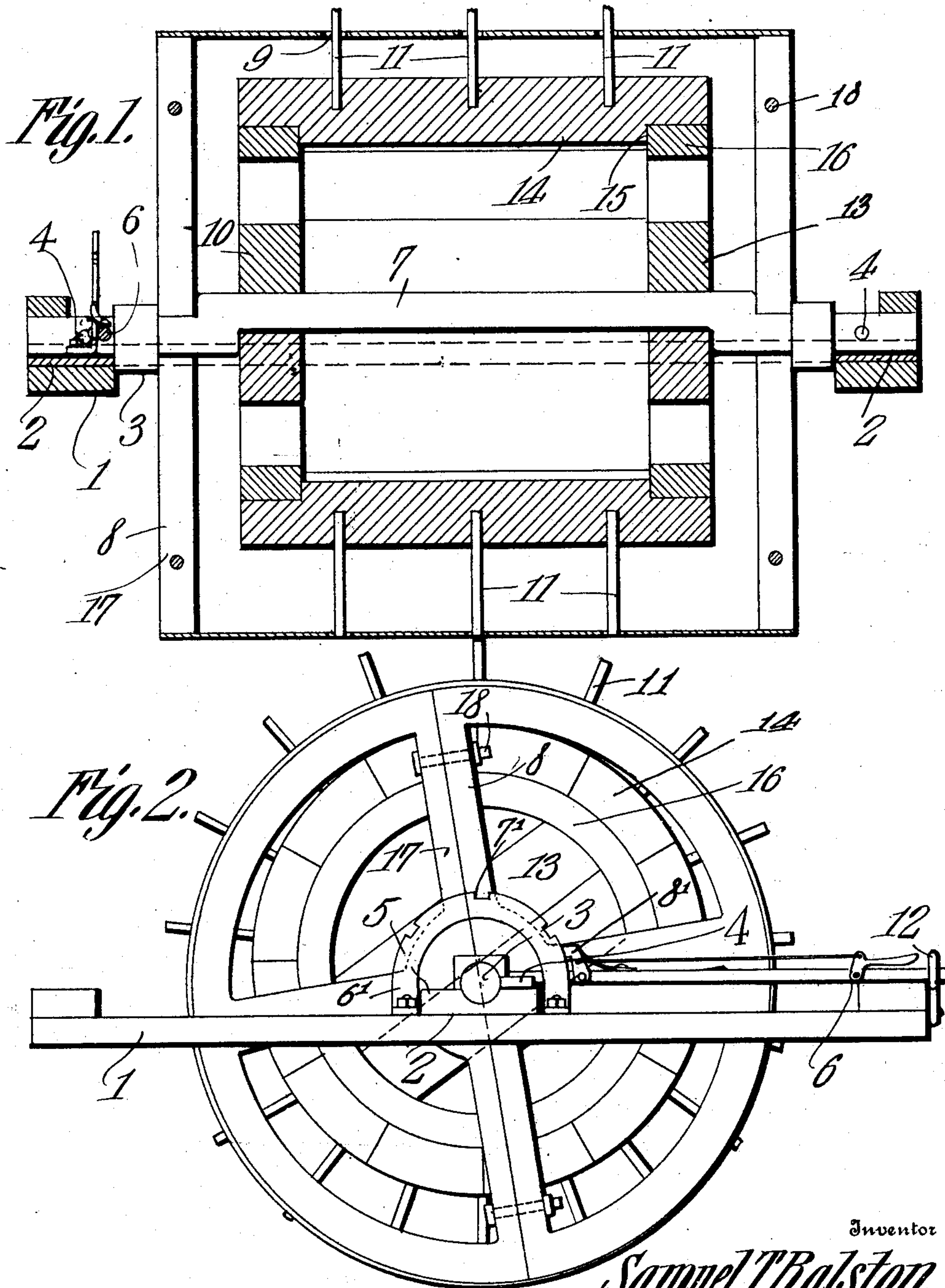


S. T. RALSTON.
LAND ROLLER.
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906,930.

Patented Dec. 15, 1908.



Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL T. RALSTON, OF ALLIANCE, OHIO, ASSIGNOR OF ONE-HALF TO SILAS E. DARR, OF ALLIANCE, OHIO.

LAND-ROLLER.

No. 906,930.

Specification of Letters Patent.

Patented Dec. 15, 1908.

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To all whom it may concern:

Be it known that I, SAMUEL T. RALSTON, a citizen of the United States, residing at Alliance, in the county of Stark and State of Ohio, have invented a new and useful Land-Roller, of which the following is a specification.

This invention has relation to land rollers and it consists in the novel construction and arrangements of its parts as hereinafter shown and described.

The object of the invention is to provide a roller which may be readily converted from an implement of the character stated having a smooth land-engaging surface into one having a land-engaging surface provided with projecting pins.

The roller consists primarily of a frame upon which is mounted an axle which may describe a partial rotation. The said axle is provided with an intermediate crank portion. A drum, or roller proper is journaled for rotation concentrically with the end portions of the said axle, and a supplemental drum is journaled for rotation upon the intermediate crank portion of the said axle. Pins or teeth are mounted upon the periphery of the said supplemental drum, and are adapted to be projected through openings provided in the periphery of the primary drum or roller proper. A lever is connected with the said axle and is adapted to be swung whereby the axle may be turned or partially rotated in its bearings, and the said axle is provided with stops which are adapted to engage shoulders mounted upon the frame whereby the rotary movement of the said axle is limited.

In the accompanying drawing Figure 1 is a transverse sectional view of the land roller, and Fig. 2 is a side elevation of the same with parts removed.

The roller consists of the rectangular frame 1, having at its opposite sides the bearings 2. The end portions of the axle 3 are journaled in the bearings 2, and the said end portions of the said axle are provided with the stops 4, which are adapted to engage the shoulders 5, provided at the inner sides of the bearings 2. The lever 6, is attached at one end to one of the end portions of the axle 3. The axle 3 is provided with the intermediate crank portion 7. The roller proper, or primary drum 8, is journaled for rotation upon the end portion of the axle 3, and the crank

portion 7, of the said axle is located in the interior of the said primary drum 8. The periphery of the drum 8, is provided with openings 9. The secondary drum 10, is journaled for rotation upon the intermediate crank portion 7, of the axle 3, and is provided upon its periphery with the pins or spikes 11, which are adapted to be projected through the openings 9 in the periphery of the drum 8.

By reason of the fact that the drum 8 is journaled upon the end portions of the axle 3, and the drum 10 is journaled upon the crank portion 7, of the said axle 3, it will be seen that the said drums are eccentrically arranged with relation to each other, and it will further be seen that by swinging the lever 6, and turning the axle 3, that the drum 10 may be swung from the upper portion of the drum 8, into the lower portion thereof. When this is done the teeth 11, which are carried by the periphery of the drum 10, will project through the openings 9, at the lower side of the drum 8, and consequently as the implement is drawn over the ground with the drums in the relative positions as stated, the teeth 11 will enter the soil and mulch the same. When however the lever 6 is swung so that the crank portion 7, of the axle-tree is moved into the upper part of the drum 8, the drum 10 will be elevated within the drum 8, and the teeth 11 will be withdrawn within the openings 9, in the lower portion of the drum 8, thus the lower portion of the said drum 8 will be left smooth and the implement may then be used as a land roller.

The catch 12, is pivotally mounted at one end of the frame 1, and is adapted to engage the free end of the lever 6, when the said lever is swung toward the catch, and thus the axle 3 will be retained against turning while the said catch is in engagement with the said lever, and as the implement is being drawn over the ground.

The draft animals are attached to that side of the frame 1 which is opposite to the side carrying the catch 12, and therefore when the lever 11 is swung to the forward end of the frame 1, no catch is necessary, as the rotation of the drum 8 will be such as to hold the free end of the lever 6 in close proximity to the frame 1. The stops 4, are adapted to engage the shoulders 5, provided upon the sides of the frame 1, and thus the rotary movement of the axle 3 is limited in either direction.

The heads of the drum 10 are made in sections, which are adapted to be secured together about the intermediate portion 7 of the axle 3, and the periphery of the said drum 10 is made up of a series of slats or strips 14, which are provided at their end portions with the shoulders 15, which are adapted to bear against the inner side of the rings 16, which lie in the same plane as the head section 13.

10 The heads of the drum 8 are made in halves 17, which are bolted together as at 18, and which are adapted to receive between them the end portions, of the said axle 3.

The segment 6' is mounted upon the frame 1 and is provided with the notches 7' which are adapted to receive the pawl mechanism 8' carried by the lever 6 whereby the said lever may be held in several positions and the extent to which the teeth 11 will project through the openings 9 may be regulated.

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

1. A roller comprising a frame, an axle 25 journaled in the frame and having an intermediate crank portion, a roller concentrically journaled upon the end portion of the axle, a stop carried by the end portion of the axle, shoulders mounted upon the frame in 30 the path of movement of the said stop, means

for turning the axle with relation to the frame, a secondary drum journaled for rotation upon the intermediate crank portion of the axle and being provided upon its periphery with teeth which are adapted to 35 be projected through the openings in the periphery of the primary drum.

2. A roller comprising a frame, a catch attached to the frame, an axle journaled in the frame and having an intermediate crank portion, a stop carried by the axle, shoulders 40 mounted upon the frame in the path of movement of the said stop, a lever fixed to the axle and adapted to be engaged by the catch, a primary drum journaled for rotation upon 45 the end portions of the axle and being provided at its periphery with openings, a secondary drum journaled for rotation upon the intermediate crank portion of the axle and being provided at its periphery with teeth 50 which are adapted to be projected through the openings in the periphery of the primary drum.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature 55 in the presence of two witnesses.

SAMUEL T. RALSTON.

Witnesses:

S. E. BELTZ,
M. A. ZAISER.