E. E. PORTER.

PULVERIZING ROLLER.

APPLICATION FILED SEPT. 24, 1908.

922,505. Patented May 25, 1909.

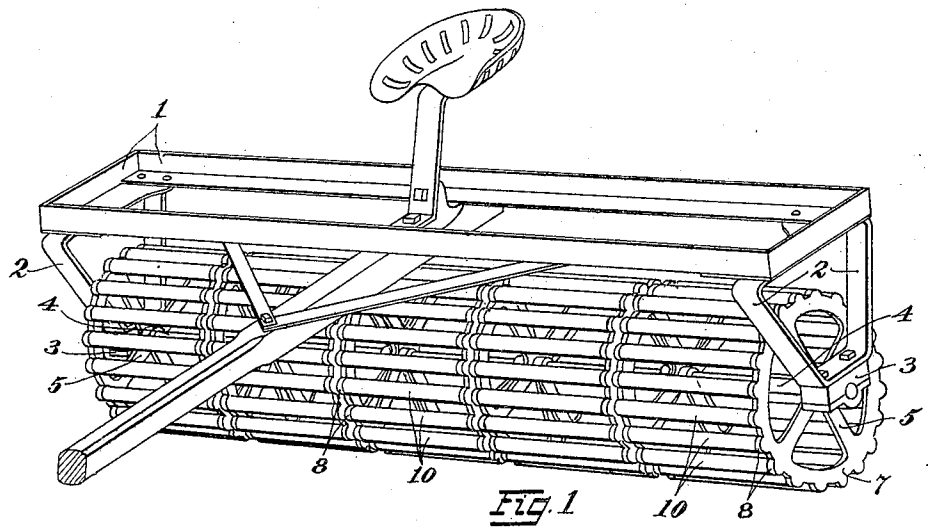


Fig. 1

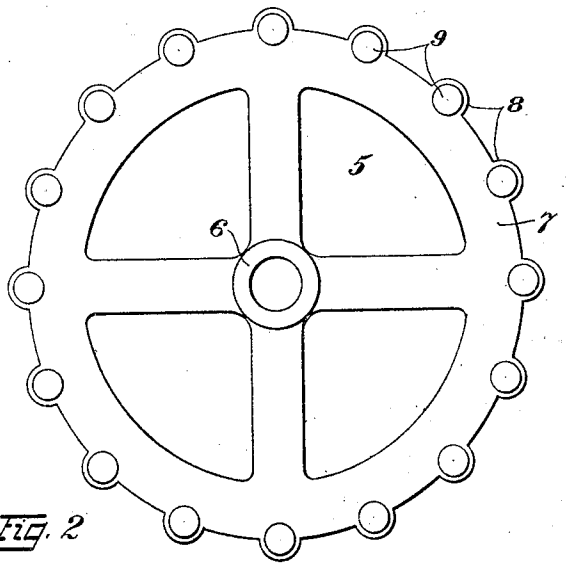


Fig. 2

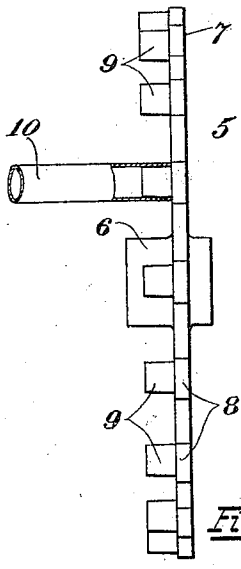


Fig. 3

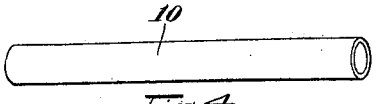


Fig. 4

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UNITED STATES PATENT OFFICE.

EDWIN E. PORTER, OF WOOSTER, OHIO, ASSIGNOR TO THE WOOSTER MACHINE COMPANY, OF WOOSTER, OHIO, A CORPORATION OF OHIO.

PULVERIZING-ROLLER.

No. 922,505. Specification of Letters Patent. Patented May 25, 1909.

Application filed September 24, 1908. Serial No. 454,513.

To all whom it may concern:

Be it known that I, EDWIN E. PORTER, a citizen of the United States, residing at Wooster, in the county of Wayne and State of Ohio, have invented certain new and useful Improvements in Pulverizing-Rollers, of which the following is a specification.

My invention relates to improvements in pulverizing rollers, and more particularly to that class or type in which the pulverizing roller comprises a plurality of roll-sections independently mounted upon an axle shaft and provided with a plurality of peripheral pulverizing cross bars suitably spaced apart and adapted to more thoroughly crush or disintegrate hard clods or lumps of baked soil than is possible with the ordinary land-roller having a smooth periphery.

The primary object of the invention is to provide a generally improved roller of this class which will be exceedingly simple in construction, cheap of manufacture, and efficient in use.

A more specific object of the invention, embraced in the objects above mentioned, is to improve the construction of the several roll-sections, and more particularly, by independently mounting the pulverizing cross bars in such a manner that the parts may be readily assembled and disassembled in the case of breakage and repair.

Another object is to improve the general construction of the several roll-sections by improving the specific construction and disposition of the several pulverizing cross bars relative to the spider-heads, whereby said roll-sections are adapted to more thoroughly pulverize or disintegrate the soil.

With the above mentioned ends in view the invention consists in the novel construction, arrangement, and combination of parts, hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

Referring to the accompanying drawings, forming a part of this specification, Figure 1, is a perspective view of a pulverizing roller constructed in accordance with this invention. Fig. 2, a detail plan view of the inner side of one of the improved spider-heads of a roll-section. Fig. 3, an edge view of the same, showing the manner of mounting and securing the improved pulverizing pipe-bars or cross-bars. Fig. 4, a perspective view of one of the improved pulverizing pipe bars or cross bars.

Similar numerals of reference designate like parts throughout all the figures of the drawings.

The frame 1, of the improved roller is, preferably, formed of steel, as indicated in Fig. 1, of the drawings, and is provided at its ends with a pair of depending hanger brackets 2, carrying bearing blocks 3.

The pulverizing roller is carried by and interposed between the hanger brackets 2, by means of an axle shaft 4, having its ends mounted in the bearing blocks 3.

The pulverizing-roller comprises a plurality of roll sections suitably spaced apart and independently mounted on the axle shaft 4. Each roll-section comprises a pair of spider-heads 5, each comprising an elongated spacing hub 6, and a rim or felly portion 7, said felly portion being provided with a series of semi-cylindrical shaped peripheral projections 8, suitably spaced apart, and a series of tapered stud-pins 9, arranged on the inner sides of the felly portions 7, and concentric with the semi-cylindrical peripheral projections 8. The pulverizing cross bars 10, are, preferably, formed of tubing or piping forming what may be termed "pulverizing pipe-bars" interposed between and secured to the rim or felly portions 7, of the spider-heads 5, by having their open ends take over the tapered stud pins 9, said cross bars being adapted to abut against the semi-cylindrical peripheral projections 8, preferably, formed flush therewith, as indicated most clearly in Fig. 1, of the drawings.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of my invention will be readily understood.

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

1. In a pulverizing-roller, a pulverizing roll-section comprising a pair of spider-heads each provided with rim portion having a series of semi-cylindrical projections and a series of stud-pins arranged on the inner side of said rim portion, and a series of pulverizing pipe-bars having their ends taking over said stud-pins and abutting against said semi-cylindrical projections.

2. In a pulverizing-roller a pulverizing

roll-section comprising a pair of spider-heads each provided with elongated spacing hubs and a series of semi-cylindrical felly projections carrying a series of concentric tapered stud-pins on the inner sides thereof, and a series of pulverizing pipe-bars having their ends taking over said stud-pins and extending flush with said felly projections.

3. A pulverizing-roller, comprising a frame provided with hanger brackets having bearing-blocks, an axle-shaft mounted in said bearing-blocks, and a plurality of roll-sections independently-mounted on said axle-shaft, each of said roll-sections comprising spider-heads provided with a series of semi-cylindrical-shaped peripheral projections having concentric stud-pins on the inner sides of said spider-heads, and a series of pulverizing bars having open ends taking over said stud-pins and flush with said peripheral projections.

4. A pulverizing-roller, comprising a frame provided at its ends with depending hanger brackets, a transverse axle-shaft carried by and interposed between said hanger brackets, and a pulverizing-roller consisting of a plurality of roll-sections independently-mounted on said axle-shaft; each of said roll-sections comprising spider-heads having their rim portions provided with a series of semi-cylindrical-shaped peripheral projections carrying a series of concentric stud-pins, and a series of pulverizing pipe-bars having their ends taking over said stud-pins.

5. A pulverizing-roller, comprising a frame provided with hanger brackets carrying bearing-blocks, an axle-shaft having its ends mounted in said bearing-blocks, and a plurality of roll-sections independently mounted on said axle-shaft and spaced apart by means of elongated, spacing hubs, said roll-sections each comprising spider-heads carried by said spacing hubs and provided with rims having a series of semi-cylindrical projections, said rims being also provided on their inner sides with a series of tapered stud-pins arranged opposite said projections but of less diameter than the diameter of said projections, and a series of spaced pulverizing-pipe-bars having their ends taking over said stud-pins and arranged flush with said projections.

In testimony whereof I have affixed my signature, in presence of two witnesses.

EDWIN E. PORTER.

Witnesses:
O. C. BILLMAN,
GEO. H. BILLMAN.