

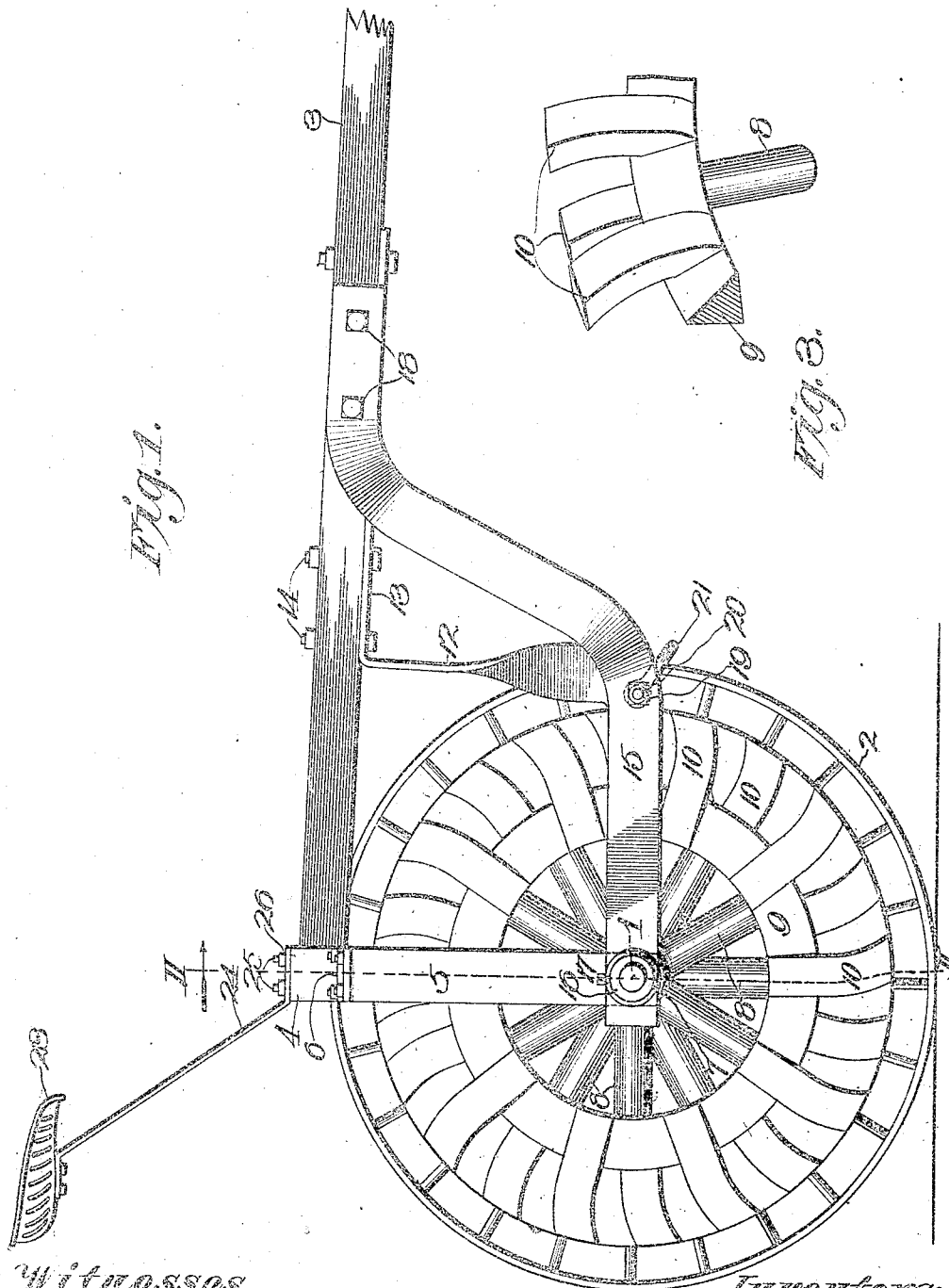
No. 894,346.

PATENTED JULY 28, 1908.

G. ROSS & S. F. DEAL.
ROLLING TAMPER.

APPLICATION FILED JAN. 31, 1908.

2 SHEETS—SHEET 1.



Witnesses
Frank R. Gore
H. Rodgers.

Inventors:
Geo. Ross and S. F. Deal
By George P. Hooper Atty.

No. 894,346.

PATENTED JULY 28, 1908.

G. ROSS & S. F. DEAL.
ROLLING TAMPER.

APPLICATION FILED JAN. 31, 1908.

2 SHEETS—SHEET 2.

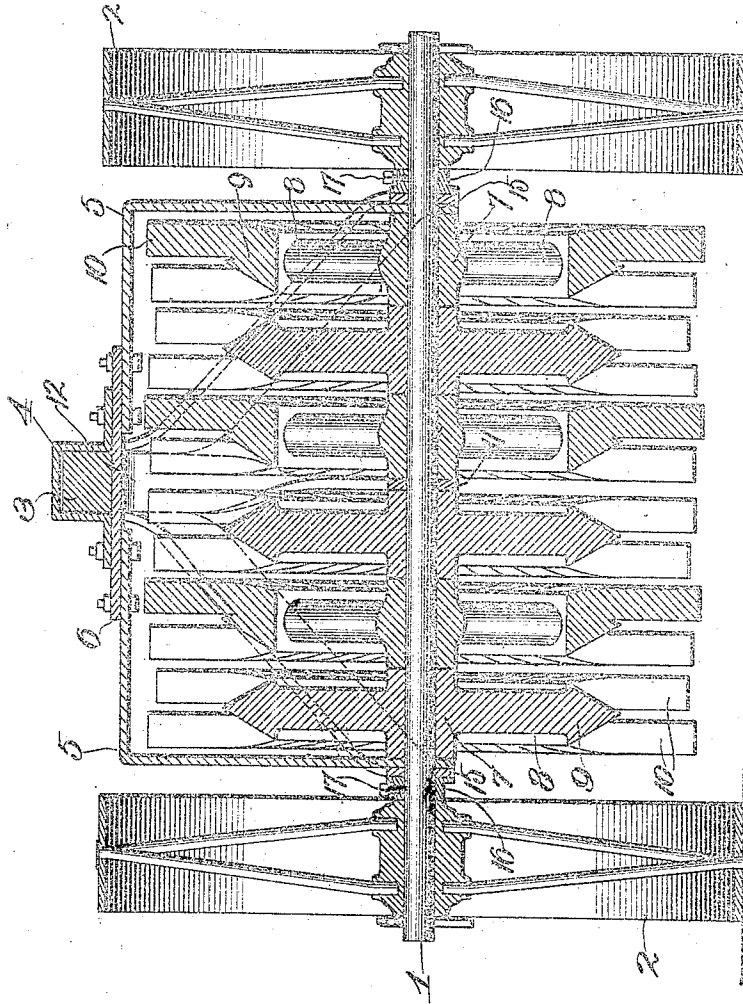


Fig. 2.

Witnesses
Frank P. Glan
H. B. Rodgers.

Inventors:
Geo. Ross and S. F. Deal
By George J. Torpe

UNITED STATES PATENT OFFICE.

GEORGE ROSS AND STEPHEN F. DEAL, OF KANSAS CITY, MISSOURI.

ROLLING TAMPER.

No. 894,346.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed January 31, 1908. Serial No. 413,708.

To all whom it may concern:

Be it known that we, GEORGE ROSS and STEPHEN F. DEAL, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Rolling Tamper, of which the following is a specification.

This invention relates to rolling tamperers of skeleton type whereby the earth or other substance may be tamped from the bottom upward in order to pack the same more effectually than is possible with the ordinary tamping roller, and our object is to produce a machine of this character, constructed in sections, each section turning or rolling separately upon a common axle or shaft, which is self-cleaning and of simple, strong, durable and cheap construction.

To this end the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1, is a side view, with the inner transporting wheel omitted, of a rolling tamper embodying our invention, as arranged to be moved or transported inoperatively from one point to another. Fig. 2, is a vertical section on line II—II of Fig. 1. Fig. 3, is a detail perspective view of a portion of one of the tamping wheels or members.

In the said drawing, 1 indicates an axle and 2 a pair of carrying wheels for convenience in transporting the machine from one point to another and adapted to be removed when the actual tamping operation is being performed.

3 indicates a tongue secured by an inverted-U shaped bracket 4 to the center of an arch, said arch preferably consisting of two inverted angle bars 5, pivoted at their lower ends on axle 1 and connected at their upper ends by a bridge plate 6, this sectional arch being provided in order to permit of the proper assemblage of underlying parts hereinafter described.

Journalled separately and each turning loosely upon the axle are the tamping members, each member consisting of a peripherally toothed wheel comprising a hub 7, spokes 8, rim 9, of triangular form in cross-section and long teeth 10 projecting outward from the oblique faces of the rim, the teeth of

one face being disposed alternately with respect to the teeth of the other when the wheel or member is viewed from the side.

The peripherally toothed wheels or members are arranged or assembled side by side within the arch and where the machine is of considerable width a draft bar 11 is pivotally secured at its rear end to the axle between the innermost pair of wheels or members, said draft bar being formed at its front end by preference with an upwardly projecting arm 12 terminating in a forwardly projecting portion 13 bolted as at 14 to the tongue.

A pair of draft bars 15 are pivoted at their rear ends on the axle at the outer sides of the arch and are held upon the axle by collars 16 secured in place by set screws 17. The draft bars 15 from a point in about the same vertical plane as the front end of the draft bar 11, converge upward and forward and are bolted as at 18 to opposite sides of the tongue.

19 is a tie rod extending through draft bars 11 and 15 and engaged at its ends by nuts 20, and pivoted on the tie rod 19, at opposite sides of the draft bar 11, is a clevis 21 to which the draft animals are hitched or other motive power is coupled, it being understood that, if a team is not used, the tongue may terminate at the front end of the draft bars. It will also be noted that the clevis is so pivoted that the pull tends to lift and thus avoid the imposition of the weight of the tongue upon the necks of the team if employed.

In practice after the wheels 2 are removed, the machine is drawn along the road or street and tamps the loose earth or other substance uniformly from the bottom upward, that is the teeth of the tamping wheels or members being spaced apart tamp in spots and on each subsequent passage press untamped portions down upon that previously tamped, repeated passages of the machine thus gradually superposing and compressing together what may be termed tamped sections or layers of the earth or other substance, so that eventually it is packed hard from the bottom upward as distinguished from the action of a plain or unbroken surfaced roller, which compresses from the top downward so that as the depth increases the density of the packed earth or other substance diminishes downwardly.

The tamping wheels or members are journalled on the axle for the purpose of facilitat-

ing the turning of the machine and also to permit the same to be turned on the crown or other part of the road without tearing it up, which is the invariable consequence of a short turn made by a wide-toothed or other roller, as with such a toothed roller all of the teeth move together in the same direction and as its teeth at the outer side of the turn must turn or travel the longest distance there is a dragging action which tears up the surface of the road, and likewise in turning with a wide smooth roller the same effect is had because the outer end has a greater distance to travel than the inner end. With the tamping roller having independently rotatable members this difficulty is not encountered, as the outermost wheels or members on the turn may turn more rapidly than the innermost to compensate for the increased distance they travel, so that in actual operation the machine tamps as it turns. It will also be noticed that when the machine is turned with one of the wheels or members forming the main support of the same, the turn can be made with such roller or member as a pivot, the rollers or members at one side of the pivot turning in one direction or forward and those at the opposite side in the opposite direction or backward, on the axle, so that even in making a turn as short as contemplated in the above described action the machine will tamp rather than tear up the surface of the road. It will thus be seen that by making the wheel or members narrow and independently rotatable, the machine can be of any desired width as a whole and yet be capable of turning easily upon earth or other substance of any character and without injury to the same if already tamped.

The necessity of having the arch of sectional construction to permit the parts to be properly assembled applies of course, to the removal of said parts, as with a solid arch over the wheels or members and upon the axle it would be necessary to remove the latter before the members could be withdrawn from their operative relation with respect to the arch or the latter moved from its position over the wheels or members. By having the arch sectional one side can be slipped off the axle to permit one or all of the wheels or members to be removed in the same manner.

For convenience in tamping close up to the vertical face of a curbing or wall of greater height than the axle, the collar 16 can be loosened and the axle slid until the end at the side corresponding to the curb or wall is flush with the corresponding collar.

A wheel or roller composed of a plurality of members has a further decided advantage over solid or toothed rollers in that, because of the independent rotatable action of the sections, the loose earth or substance upon which they operate cannot stick and accu-

mulate upon their peripheries and eventually embed the teeth to such an extent that they could not properly perform their tamping function, which fact is also true of a solid roller. Furthermore by having rims 9 of triangular form any earth or its equivalent picked up by the teeth and forced inward thereon is acted upon by said rim as a wedge, this wedge action tending to split or separate such earth and effect its dislodgment from the wheel or member.

From the above description it will be apparent that we have produced a rolling tamper possessing the features of advantage enumerated as desirable and we wish it to be understood that we do not desire to be restricted to the exact details of construction shown and described as obvious modifications will suggest themselves to one skilled in the art.

Having thus described the invention what we claim as new and desire to secure by Letters-Patent, is:—

1. In a rolling tamper, an axle, suitable draft attachments connected thereto, and a plurality of toothed wheels journaled upon said axle and each consisting of a hub portion, a rim connected thereto, and a plurality of teeth surrounding and projecting outward from said rim and having their outer ends forming substantially flat tamping faces disposed approximately concentrically of their axis and adapted to perform a tamping as distinguished from a cutting action.
2. In a rolling tamper, an axle, suitable draft attachments connected thereto, and a plurality of toothed wheels journaled upon said axle and each consisting of a hub portion, a rim concentrically surrounding the same and of outwardly tapering or wedge-like form, and a plurality of teeth projecting outwardly from each tapering face of the rim and having their outer ends forming substantially flat tamping faces or surfaces.

3. A rolling tamper, comprising an axle, an arch pivoted thereto, a tongue secured to and projecting forwardly from the arch, a pair of draft bars pivoted at their rear ends to the axle and extending forwardly therefrom and secured at their front ends to the tongue, a plurality of toothed wheels journaled upon the axle and within the arch, a draft bar pivoted on the axle between the innermost wheels or members and secured at its front end to the tongue a tie-rod extending through said draft bars forward of the wheels or members, nuts engaging the ends of said tie rod, and a clevis bearing a pivotal relation to and projecting forward from the tie rod about midway its length.

4. In a rolling tamper, an axle, suitable draft attachments connected thereto, a plurality of toothed wheels journaled upon said axle and each consisting of a hub

portion, a rim concentrically surrounding the same and of outwardly tapering or wedge-like form, and a plurality of teeth projecting outwardly from each tapering face of the rim and having their outer ends forming substantially flat tamping faces or surfaces, and a seat-supporting arch mounted on the axle and bridging and inclosing the upper portions of said wheels.

5 10 5. A rolling tamper, comprising an axle, an arch pivoted thereto and comprising a pair of angle plates, and a bridging plate connecting the angle plates, a tongue secured to the bridging plate, a pair of draft bars pivoted to the axle at their rear ends and secured to the tongue at their front ends, a plurality of peripherally toothed wheels or members journaled on said axle within the arch, and carrying wheels journaled upon the axle outward of the arch and draft bars and of greater diameter than the peripherally toothed wheels or members.

6. A rolling tamper, comprising an axle, an arch pivoted thereto and comprising a pair of angle plates, and a bridging plate connecting the angle plates, a tongue secured to the bridging plate, a pair of draft bars pivoted to the axle at their rear ends and secured to the tongue at their front ends, a plurality of peripherally toothed wheels or members journaled on said axle within the arch, a draft bar pivoted at its rear end to the axle in the vertical plane of the longitudinal center of the tongue and secured at its front end to the latter, and a transverse tie-rod connecting the draft bars together forward of the toothed wheels or members.

In testimony whereof we affix our signatures, in the presence of two witnesses.

GEORGE ROSS.
STEPHEN F. DEAL.

Witnesses:

H. C. RODGERS,
G. Y. THORPE.