No. 746,453. PATENTED DEC. 8, 1903.

R. S. BUCH.

LAND ROLLER.

APPLICATION FILED OCT. 16, 1903.

NO MODEL.

Fig. 1.

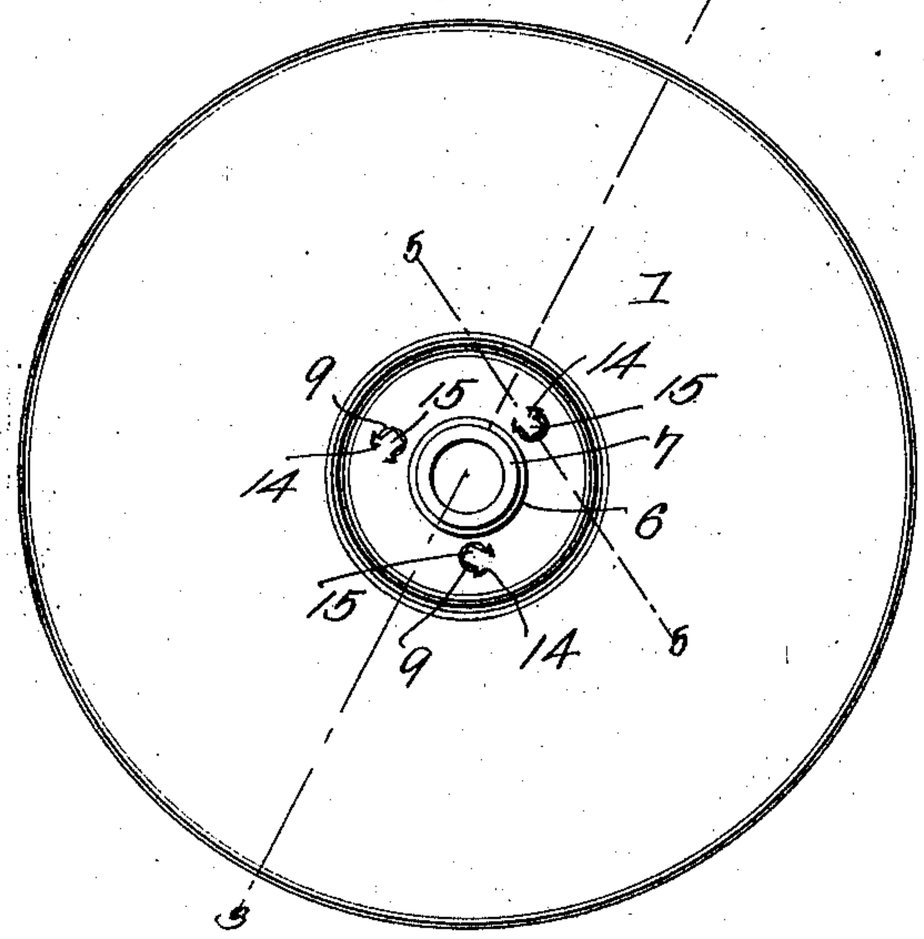


Fig. 2.

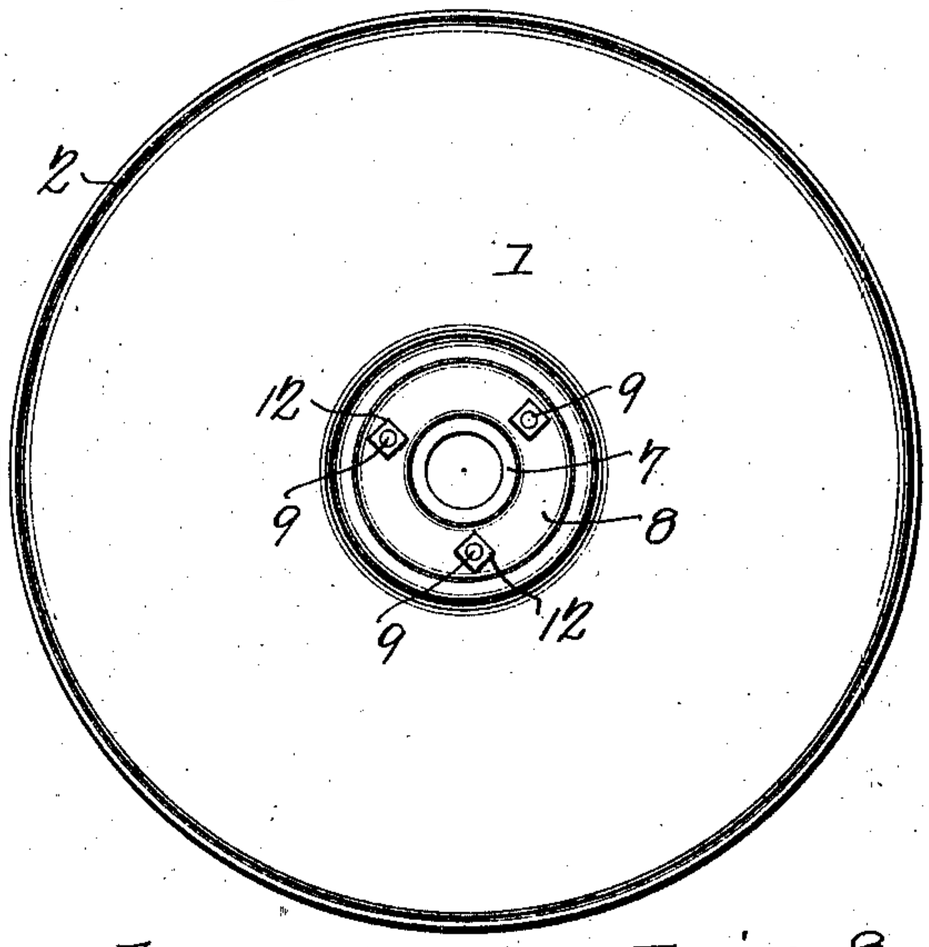


Fig. 3.

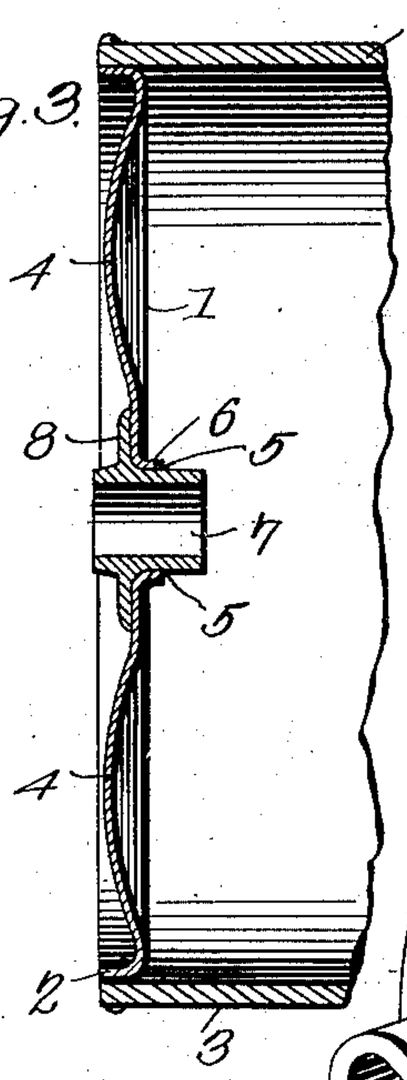


Fig. 4.

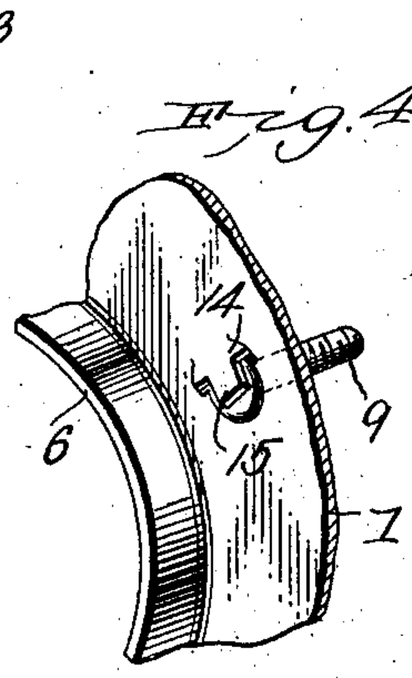


Fig. 7.

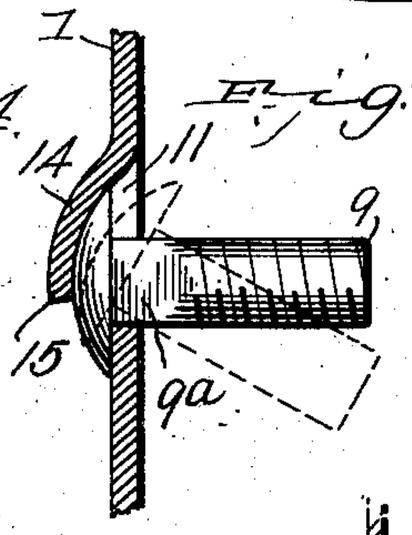


Fig. 8.

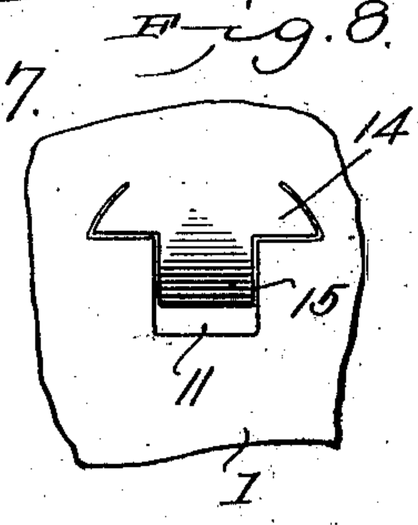


Fig. 5.

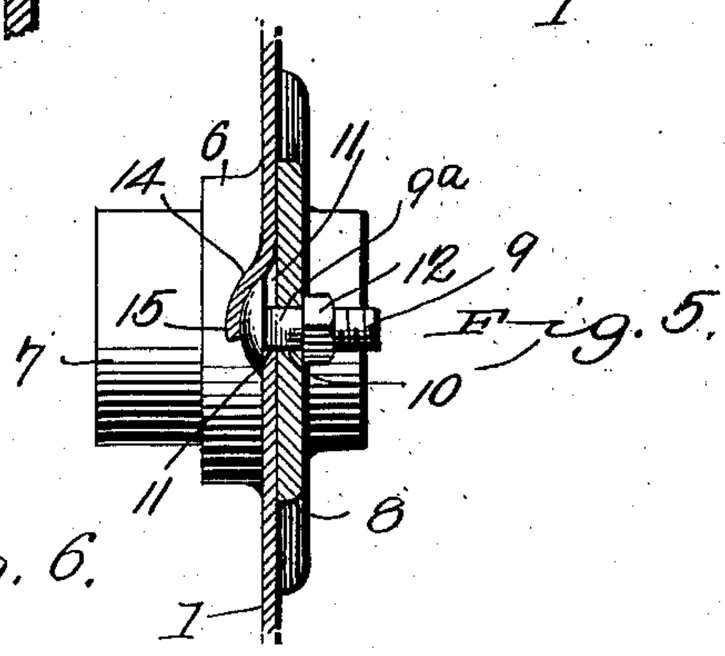
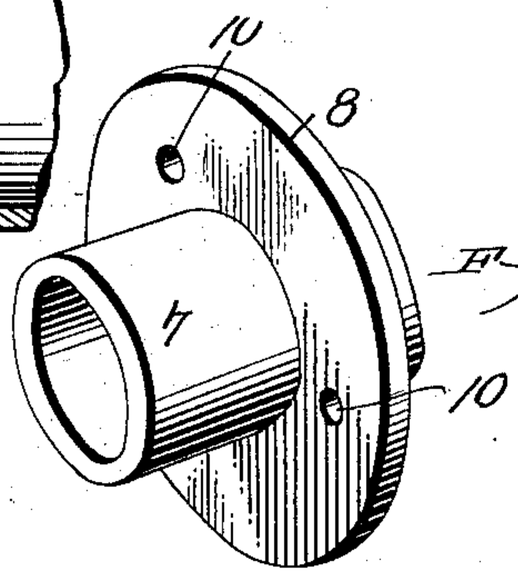


Fig. 6.



Witnesses
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Attorneys

No. 746,453. Patented December 8, 1903.

UNITED STATES PATENT OFFICE.

ROYER S. BUCH, OF ELIZABETHTOWN, PENNSYLVANIA.

LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 746,453, dated December 8, 1903.

Application filed October 16, 1903. Serial No. 177,314. (No model.)

To all whom it may concern:

Be it known that I, ROYER S. BUCH, a citizen of the United States, residing at Elizabethtown, in the county of Lancaster and State of Pennsylvania, have invented a new and useful Land-Roller, of which the following is a specification.

This invention relates to land-rollers and analogous devices; and it may be described as an improvement on the device for which Letters Patent of the United States No. 713,598 were granted to myself on the 18th day of November, 1902.

The invention patented to me, as above referred to, consisted in a steel head for land-rollers, said head being flanged to fit the cylindrical body of the roller and provided with a bearing-plate having a detachable bushing forming a hub revoluble upon the shaft or axle carrying the roller. By my present invention I aim to simplify the construction and provide a device which, while equally efficient, may be produced at a small expense.

My present invention further consists in an improved method of applying the flanged bearing-plate to a head and so securing the bolts that they shall be free from any tendency to rattling and to the wear resulting therefrom and shall be held securely in position when the flange bearing-plate is removed without danger of dropping into the drum or cylinder to which the head is attached, where their presence would be undesirable and from which they could not be recovered except by removing one of the heads.

With these and other ends in view my invention consists in the improved construction, arrangement, and combination of parts tending toward the production of an article of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency, as will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of a roller-head constructed in accordance with my present invention, showing the inner side of the same. Fig. 2 is a side view taken from the opposite side of the same. Fig. 3 is a vertical sectional view taken on the line 3 3 in Fig. 1 and showing a portion of the drum or cylinder to which the head is attached. Fig. 4 is a detail perspective view, on a larger scale, showing means for securing the bolts. Fig. 5 is an enlarged sectional detail view taken on the line 5 5 in Fig. 1. Fig. 6 is a perspective detail view of the central flanged sleeve or casting detached. Fig. 7 is a detail sectional view, on a larger scale, of the head or disk, showing the struck-up tongue and the bolt held in position thereby. Fig. 8 is a detail plan view showing a portion of the disk and one of the struck-up tongues.

Corresponding parts in the several figures are indicated by similar numerals of reference.

1 designates the stamped steel disk which constitutes the body of the device and which is provided at its rim or edge with an outwardly-extending flange 2 to engage the end of the cylindrical drum of the roller or cylindrical body with which it is to be connected and one end of which has been indicated at 3 in Fig. 3 of the drawings, the connection being effected by means of bolts, rivets, or in any other suitable manner. The disk 1 may be formed with an annular swell 4 for the purpose of increasing the strength thereof, and it has a central opening 5, which is provided with an inwardly-extending flange or collar 6, which is stamped up from the body of the sheet in the opposite direction to the flange 2.

7 designates a sleeve having an integral annular flange 8. This sleeve, which constitutes the hub or bearing, is preferably cast and is adapted to fit closely within the flange or collar 6 of the disk 1, the flange 8 fitting snugly against the outer side of said disk with which it is connected by means of bolts 9, passing through perforations 10 in said flange and through openings 11 in the disk. These openings will be presently more fully described. Nuts 12 are tightened upon the outer ends of the bolts.

In lieu of simply perforating the disk 1 for the passage of the bolts 9 said disk is pro-

vided at the proper places with struck-up tongues of the shape most clearly indicated in Fig. 4 of the drawings, by reference to which it will be seen that said tongues at their point of connection with the disk are curved or approximately semicircular in shape and provided at their straight sides with approximately rectangular projections, the semicircular portions of the tongues being designated 14 and the rectangular portions of said tongues being designated 15. The openings from which the said tongues are struck up will thus comprise an approximately semicircular and an approximately rectangular portion, the latter being of sufficient width to accommodate the square portion 9^a of the stem of the bolt 9 that is to be employed in connection therewith, but too narrow to admit of the passage of the bolt-head, which is supported upon the body of the disk, overlapping the edges of the rectangular portion of the opening. The rectangular portions of these several openings are formed carefully in alinement with the perforations in the casting that is to be connected therewith, so as to admit of the convenient insertion of the connecting-bolts. The latter of course are inserted while the tongues comprising the members 14 and 15 are in a raised position. After the bolts have been inserted the tongues are bent downward by hammering until the rectangular portions 15 of said tongues engage the heads of the bolts, which are thereby firmly secured in position. The ends or wings of the semicircular members 14 of the tongues are also bent or hammered downwardly, thereby causing them to bear against the bolt-heads and greatly assist them in preventing the dislocation of the latter. It is obvious that, the bolt-openings having been properly alined in the course of manufacture, the bolts may be mounted in position in the disk 1 prior to the application of the casting, which latter is simply slipped upon the protruding bolt ends and secured by tightening the nuts thereon. It will thus be seen that if necessity should arise for the removal of the casting comprising the flanged sleeve 8 for the purpose of renewing the same or for any other reason such removal may be readily effected by simply detaching the nuts 12, when the flanged sleeve may be readily slipped out and again replaced or a new one substituted, if necessary. It will be observed that by this method of construction the bolts will be held in position with a degree of security which is practically absolute. Not only will the rectangular recesses in which the squared portions of the bolts are seated positively prevent said bolts from turning, but the struck-up tongues 14 and 15 will positively prevent the bolts from dropping into the interior of the drum. The bolts are preferably applied to the heads prior to securing the latter in the ends of the drum, and initially the bearing-sleeves are likewise secured in position prior to the connection of the heads with the drum. Should it be desired to renew one of the bearings, it is only necessary to remove the nuts, after which the flanged sleeve constituting the bearing may be readily removed and a new one substituted, the bolts being retained in their respective positions by the means herein described.

I have in the foregoing described a simple and preferred form of my invention; but I desire it to be understood that I do not limit myself to structural details herein set forth, but reserve the right to any changes, alterations, and modifications which may be resorted to within the scope of my invention and without departing from the spirit or sacrificing the utility of the same.

Having thus described my invention, I claim—

1. A head for land-rollers comprising a stamped steel disk having at its edge an outwardly-extending annular flange for attachment to the frame of the land-roller and provided with a central opening having an inwardly-extending annular flange for the reception of a sleeve constituting a hub.

2. A head for land-rollers, comprising a stamped steel disk having a central opening provided with an inwardly-extending annular flange, in combination with a flanged sleeve detachably connected with the body of the disk, said sleeve being seated in the annular inwardly-extending flange.

3. A head for land-rollers comprising a stamped steel disk having a central perforation and provided with a plurality of struck-up tongues comprising approximately semicircular members and approximately rectangular members extending from the straight edges of the latter, in combination with bolts seated in the rectangular openings of the disk formed by the striking up of said tongues and secured by bending the latter down upon the heads of said bolts.

4. A disk provided with struck-up tongues comprising approximately semicircular members and approximately rectangular members extending from the straight edges of said semicircular members, in combination with bolts seated in the perforations thus formed, retained by bending said tongues down against the heads of said bolts, and a member having perforations alining with said bolts, mounted upon the latter and secured by nuts.

5. A head for land-rollers comprising a stamped steel disk having a central annularly-flanged opening, a flanged sleeve extending through said opening, the flange of said sleeve being provided with bolt-holes, the said disk being provided with struck-up tongues comprising approximately semicircular attached members and approximately rectangular members extending from the straight edges of said semicircular members,

and bolts seated in the openings formed by the striking up of said rectangular members of the tongues, the heads of said bolts overlapping the edges of said openings and the latter alining with the openings in the flange of the sleeve through which the bolts are extended and secured by means of nuts.

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

ROYER S. BUCH.

Witnesses:
WM. H. BARNES,
H. B. HAMILTON.