

(No Model.)

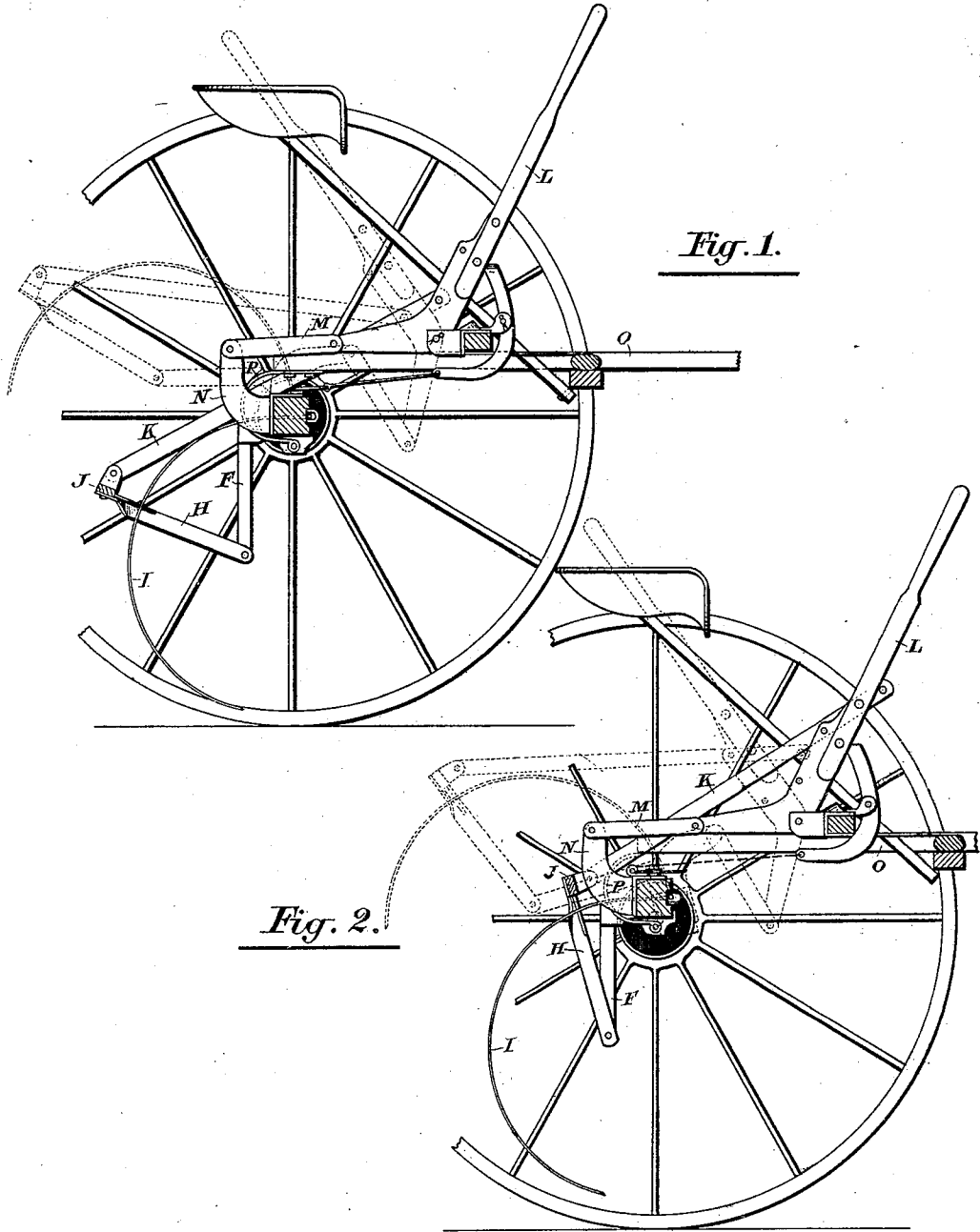
2 Sheets—Sheet 1.

J. LARSEN & T. GALLOWAY.

Self Dumping Horse Rake.

No. 242,545.

Patented June 7, 1881.



Witnesses.

Lewis Tomlinson

Chas. W. Baldwin

Inventor.

John Larsen, T. Galloway
By Aidout Lindbo
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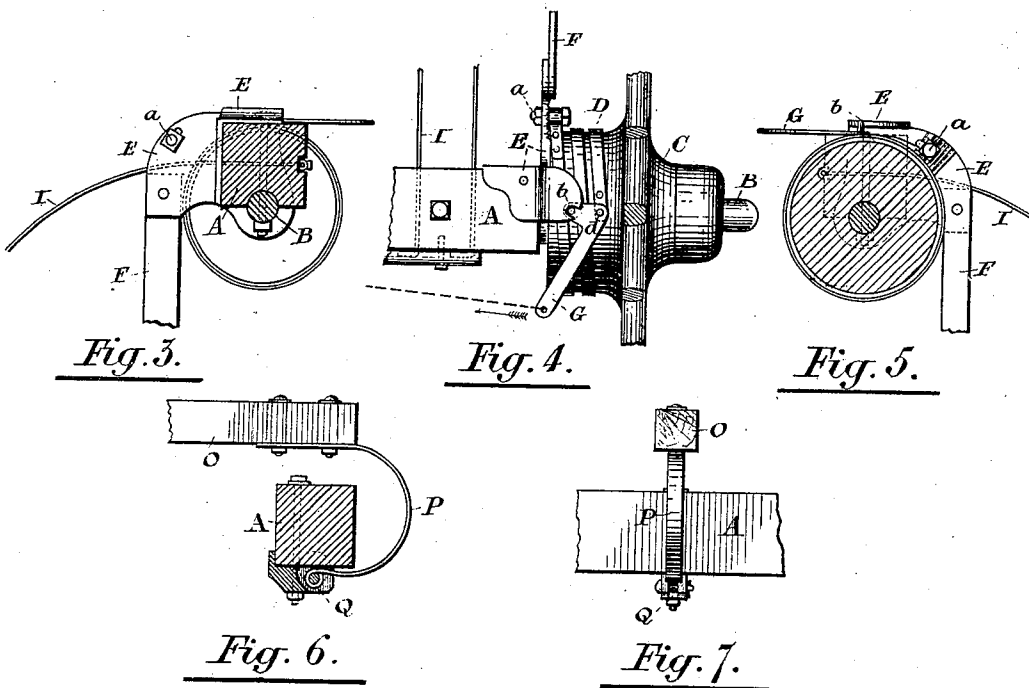
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2 Sheets—Sheet 2.

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Self Dumping Horse Rake.

No. 242,545.

Patented June 7, 1881.



Witnesses.

Leuro Tomlinson.
Chas W. Baldwin

Inventor.

John Larsen, T. Galloway
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UNITED STATES PATENT OFFICE.

JOHN LARSEN AND THOMAS GALLOWAY, OF OSHAWA, ONTARIO, CANADA.

SELF-DUMPING HORSE-RAKE.

SPECIFICATION forming part of Letters Patent No. 242,545, dated June 7, 1881.

Application filed October 30, 1880. (No model.)

To all whom it may concern:

Be it known that we, JOHN LARSEN and THOMAS GALLOWAY, both of the town of Oshawa, in the county of Ontario, in the Province of Ontario, Canada, mechanics, have invented a new and useful Self-Dumping Horse-Rake, of which the following is a specification.

Our invention relates to improvements in self-dumping horse-rakes; and it consists in the peculiar arrangement and construction of the parts, as hereinafter more fully set forth.

Figure 1 is a sectional elevation of the machine, showing the cleaner-bar thrown back to stiffen the teeth, for the purpose hereinafter explained. Fig. 2 is a similar view, showing the cleaner when held in the position of the ordinary steadying-bar. Fig. 3 is a detail showing the bracket at the end of the axle. Fig. 4 is a detail showing the position of the friction-band in connection with the hub and axle. Fig. 5 is a detail showing the rack on the bracket for adjusting the friction-band. Figs. 6 and 7 are details showing the connection of shafts to the axle.

In the drawings, like letters indicate corresponding parts in each figure, and in referring to the material employed in the construction of the machine we do not wish to limit ourselves to the particular material mentioned, as both the material and general appearance of the parts can be altered without affecting the invention.

A is a square wooden axle, provided with steel spindles B, upon which the hubs C of the wheels are mounted. The hub C is formed substantially as shown in Fig. 4, having an internal projection to receive the friction-strap D, as hereinafter more particularly explained.

E is a cast-iron bracket, made, as shown, to fit over the end of the wooden axle A. An arm, F, is attached to this bracket, as shown, and projects below the axle, as represented in Figs. 1 and 2. The friction-strap D is provided with a clip at each end, one of which has an eye through which a bolt, *a*, passes, which bolt secures it to the bracket E, as shown. It will be noticed that at the point of connection between the clip and bracket a notched rack is cut in the bracket E, and a corresponding one on the clip. A slot is made in the bracket, through which the bolt *a* passes, which per-

mits the adjustment of the clip upon the bracket, as hereinafter explained. From this point the friction-band D extends twice or more times around the hub C spirally, and is attached by its other end to the lever G. This lever is provided with a small pin, *b*, which fits into a notch cut in the bracket E, as shown. A hole through the lever G receives a pin, *d*, on the clip at the end of the strap D, as represented. It will be seen from this connection that by pulling upon the lever G in the direction indicated by arrow in Fig. 4, the strap D will be tightened upon the hub C, thereby causing the axle A to revolve, dumping the teeth, as desired.

In order to keep the lever G in the most convenient position, as shown in the drawings, the adjustment by the bolt *a* is provided, it being simply necessary to loosen this bolt and alter the clip upon the bracket E, as indicated by the notches before mentioned.

At the end of the arm F we pivot a bar, H, the point of connection between H and F being about the center of the rake-teeth I. At the opposite end of the bar H we bolt or otherwise attach a steadying-bar, J, which, as hereinafter explained, fills the office of cleaner-bar also. A push-bar, K, connects J to the hand-lever L, being connected thereto by a pin which can easily be moved and replaced when necessary. When the rake is used for ordinary purposes this pin passes through the second hole in the bar K and the top hole in the lever L. This connection brings the bar J in the position usually occupied by the steadying-bar. (See Fig. 2.) When the rake-teeth are dumped this steadying-bar acts as a cleaner, as represented by dotted lines in Fig. 2, and, as will be noticed, is kept clear of the teeth by the bar H, which moves simultaneously with the teeth, being connected to the axle A by the arm F, as described. In Fig. 1 the steadying-bar, it will be noticed, is thrown down to stiffen the teeth I and enable the machine to be used for pulling pease or similar work. When the teeth are dumped the steadying-bar acts again as a cleaner, the hinging-point of the bar H which protects it being the same as in the other figure—that is to say, about the center of the teeth I. When the steadying-bar is to be thrown down the pin connecting it to the lever L is passed through the hole in the extremity

of the push-bar K, and through the lower hole in the lever L. It will, of course, be seen that more holes can be made in the bar K and in the lever L, but the general principle of the connection will be the same as we have described.

The lever L is connected to the axle A by the link M and bracket N. The connection between the lever L and the link M forms a toggle-joint, which, when straight, as represented in the drawings, constitutes a lock to hold down the teeth and likewise the steadying-bar, which is connected to the lever, as before described, by the bar K. The lock is broken when the lever L is pulled back, or when the friction-dump is applied, which action also turns the bar J into a cleaner-bar, operating it, as will be understood from the drawings.

On reference to Figs. 6 and 7 the method of connecting the shafts O to the axle A will be understood. It will be seen that a curved bracket, P, supports the shafts above the axle A, and that the hinge Q connecting it thereto is below the axle, its center, we may state, being on a line with the center of the spindles B, and hence that of the wheels of the machine. By connecting the shafts in this manner a much more direct draft is secured.

The foregoing constitutes a general description of our improvements, it being unnecessary to describe the entire machine or to explain further its operation, as self-dumping horse-rakes are well understood, and any mechanic familiar with their construction could build our improved machine without further assistance than that furnished by the drawings and description herein given.

What we claim as our invention is—

1. A combined steadying and cleaner bar pivoted upon an arm extending below the shaft, for the purpose set forth.
2. An arm, F, fastened to the shaft A and

extending below it, as shown, in combination with the bar H, pivoted to the arm F at a point near the center of the teeth I, and supporting the bar J, substantially as and for the purpose specified.

3. The bar J, supported from a point near the center of the teeth I, in combination with the push-bar K, connected to the lever L, substantially as and for the purpose specified.

4. The bar J, supported from a point near the center of the teeth I, and connected to the lever L by the bar K, in combination with the link M, bracket N, and axle A, arranged substantially as and for the purpose specified.

5. The bar J, supported from a point near the center of the teeth I, and provided with a push-bar, K, having holes in its opposite ends to receive a fastening-pin, as described, in combination with the lever L, having corresponding holes pierced in it, substantially as and for the purpose specified.

6. A friction-strap, D, passing around the hub C, and connected at one end to the lever G, as described, in combination with a bolt, a, passing through a clip on the other end of the strap D, and a slot or elongated hole in the bracket E, substantially as and for the purpose specified.

7. A spiral friction-band, D, attached at one end to a bracket on the axle A, and passing two or more times around the hub C, in combination with the lever G, pivoted to the axle, and pivotally connected to the other end of the spiral band, and constructed and arranged to hold and draw the strap spirally around the hub, substantially as and for the purpose specified.

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Witnesses:

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