

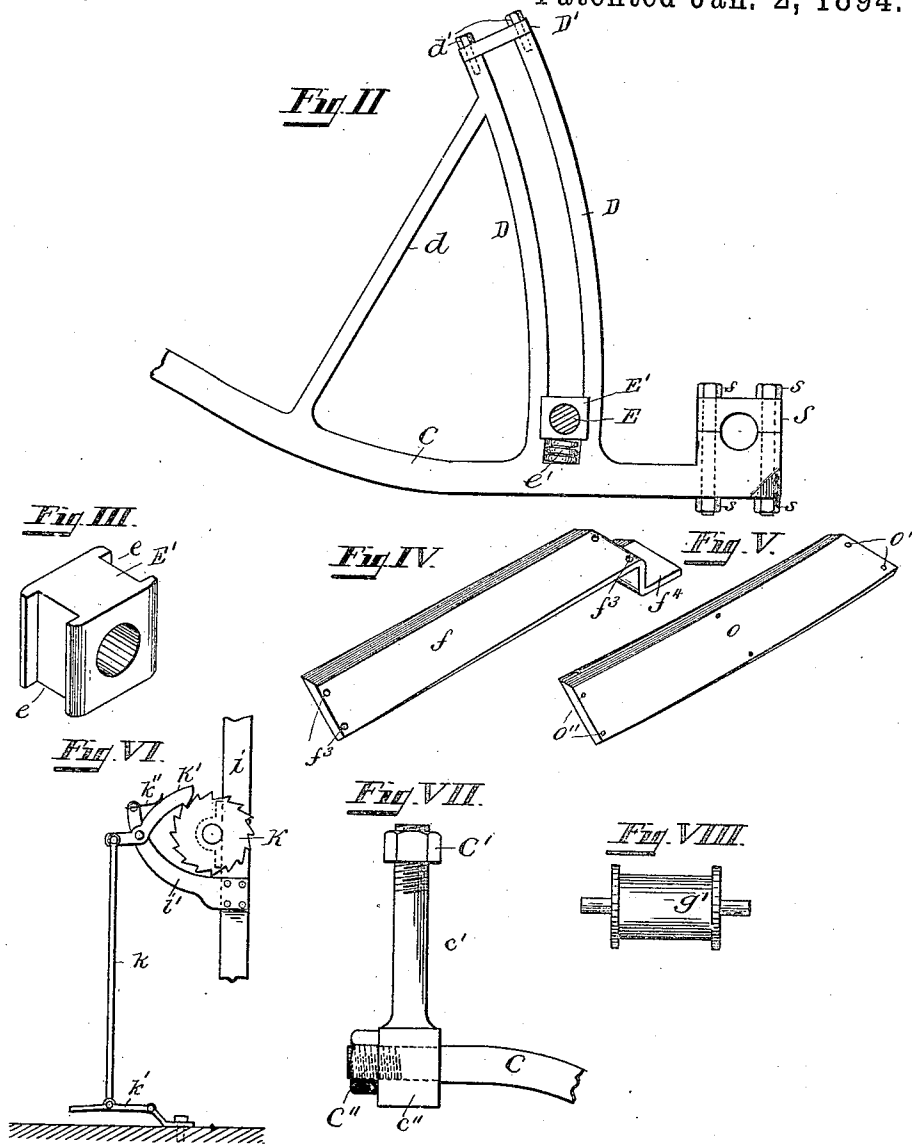
(No Model.)

2 Sheets—Sheet 2.

F. J. CASE.
RAILROAD WEED MOWER.

No. 511,752.

Patented Jan. 2, 1894.



Witnesses.

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UNITED STATES PATENT OFFICE.

FRANK J. CASE, OF ARRINGTON, ASSIGNOR OF ONE-THIRD TO GEORGE T. CHALLIS, OF ATCHISON, KANSAS.

RAILROAD WEED-MOWER.

SPECIFICATION forming part of Letters Patent No. 511,752, dated January 2, 1894.

Application filed June 17, 1892. Serial No. 437,021. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. CASE, a citizen of the United States, residing at Arrington, in the county of Atchison, State of Kansas, have
5 invented certain new and useful Improvements in Railroad Weed-Mowers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

10 My invention relates to weed mowers for railroads, in which revolving knives or mowers operate in conjunction with the rolling gear of a flat bottomed car; and the object of my invention is to produce a mowing machine to clean the track between the rails, and
15 the track on either side of the rails. This object I attain by the mechanism illustrated in the accompanying drawings, in which—

20 Figure I. is a perspective view of my invention secured to the car, the floor of which is partly broken away. Fig. II. is a detail view of one of the bearings and guide frames. Fig. III. is a detail view in perspective of one of the guide blocks. Fig. IV. is a detail view
25 in perspective of one of the knives for the front cutter. Fig. V. is a detail view in perspective of one of the knives for the central cutter. Fig. VI. is a detail view of the ratchet and dog, which hold the winding drum in position. Fig. VII. is a detail view of the bearing
30 connection of the frame to the car; and Fig. VIII. is a detail view of the roller, over which the lifting cable operates.

35 Referring to the drawings by letter, A, represents a flat car, mounted on wheels B, which run on rails *b, b*.

C, C, are suitable metallic frames. These frames C, C, are V-shaped, the angle end being pivoted under the car by means of bolt
40 *c'*, and nut *C'*. (See Fig. VII.) The arms C, extend forward outwardly and bear on each end bearings S, and S', to carry the axles to which are secured the small track wheels R. Just in rear of these bearings are curved
45 slotted arms D, extending upwardly from said arms C, C, and properly braced by the braces *d*. Between these braces *d*, is secured a cross brace *g*, from which extends upwardly a U-shaped frame bearing a pulley *g'*.

50 *c''*, is a bearing through which the frame C, extends, to be secured by nut *C''*. The

object of this form of bearing is to permit the mowers or cutters F, F, and O, to retain a horizontal position, and relieve them from the strain caused by the rocking of the car, 55 and to allow same to round curves without straining the bearings. The opposite ends of these frames are mounted under the axles of the wheels R, by means of boxings S, S', as seen in Figs. I. and II. 60

D, are vertically inclined guide bearing-frames, in which the guide blocks E', which carry the axles E, of front cutters F, F, and rear cutter O, are secured. The tops of said guides D, are provided with caps D', which
65 are secured by bolts *d'*, *d'*, as clearly illustrated in Fig. II. The guide blocks E', are provided with a spring *e'*, which forms a flexible bearing for the axles of the cutters. Said guides D, are braced to frames C, by
70 means of braces *d*.

F, represents the front cutters, which are constructed substantially as shown in Fig. I, and consist of a series of blades or knives *f*,
75 secured in a suitable manner to disks *f'*, and *f''*. Said blades *f*, are so constructed that the ends *f⁴*, next to the rails are bent as seen in Figs. I. and IV., so as to cut the weeds on a level with the tops of the rails, and as near
80 thereto as possible, and at the same time avoid coming into contact with the fish-plates on said rails.

The rear cutter O, is constructed similarly to cutters F, except that the knives *o*, are not bent at the end, but are secured at their centers to a smaller disk or collar *o'*, thus giving
85 a concave contour to said cutter, which conforms to the convexity of the road-bed between the rails.

f³, and *o''*, are holes in knives *f*, *o*, through
90 which pass bolts for securing same on the disks.

G is a vertical U-shaped frame secured on the cross brace *g*, which is strengthened by braces *c*, *c*, and in said frames is secured the
95 idle roller *g'*, over which travels the cable H. Said cable H, is secured to a loop *h'*, in the lifting bar *h*, whose ends are sleeved on the axle E, and said cable passes upward to the roller *g'*, thence backward to the drum I, where
100 it is secured. The drum I, is mounted on a shaft, which is properly secured to a frame *z*,

as seen in Fig. I, and is operated by a hand wheel J, having handles *j*, thus providing a means for raising and lowering the cutters F, at will.

5 Secured on shaft of drum I, is a ratchet wheel K, provided with a dog K', which is assisted by a spring *k''*. Said dog K', is fulcrumed on a bearing *i'*, which is rigidly secured to the post *i*, by suitable screws or
10 bolts; and is operated by a foot-lever *k'*, which is connected to dog K', by a rod *k*,—thus providing a means for releasing the drum with the foot,—leaving the hands free to operate said drum, when lowering the cutters.

15 Secured on axle B', is a pulley L, and on this pulley operates a belt *l*, which transmits the power from the main pulley to the cutters F, by operating over a corresponding pulley L'. The cutters operate in a reverse
20 motion to the wheels B. Therefore the belt is crossed between pulleys L, L', and between pulleys M, N. The pulleys M, are secured to axle B'', outside the wheels, as seen in Fig. I., and the boxings S', are secured outside
25 the wheels, the object of this being to construct the cutter O, of sufficient length to cut as close to the rails *b, b*, as possible.

N, represents the pulleys which are secured on cutter shaft *n'*, and are geared to pulleys
30 M, by means of crossed belt *n*. Cutter O, is provided with a lifting bar *h*, to which is secured a rod P, which in turn is hinged to, and operated by a lever *p*, said lever *p*, being fulcrumed to an upright bearing-post *q*, to
35 which the ratchet bar Q, is rigidly secured.

Near the handle of lever *p*, is fulcrumed an angular lever *p''*, hinged to a rod *p'*, which operates in the ratchet bar Q, for the purpose
40 of holding the cutter O, in position when raised from the track. The boxings S, S', are constructed substantially as shown in Fig. II., and are held in position by means of bolts and nuts *s*.

I do not wish to confine myself, however, to
45 any specific method of gearing, as there are several well known methods of belt gearing which may be used advantageously.

This invention is intended to be attached
50 to flat bottomed cars, and coupled to the rear end of an ordinary freight train, so as to cut the grass and weeds from the track while said train is proceeding along its regular route at the ordinary rate of speed; thereby obviating the expense of an extra engine, and the danger
55 of cutting on a track where other trains are to pass.

I do not wish to confine myself strictly to the construction shown, as it may be found more practicable to use different braces, and to change the shape of the frame, which may
60 be done without departing in any manner from the principle of my invention.

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

1. A weed mower for railroads, consisting of the revolving cutters F, F, and O; F, F, secured on the axle E, and O, on the axle *n'*; V-shaped frames pivoted under the car and having the extending arms C, C, having the
70 boxes S, S', bearing the track wheels R; and curved slotted standards D, bearing the axles E, and *n'*, substantially as shown and described and for the purposes set forth.

2. A weed mower for railroads, consisting of the revolving cutters F, F, and O; F, F, secured on the axle E, and O, on the axle *n'*; V-shaped frames pivoted under the car and having the extending arms C, C, having the
80 boxes S, S', bearing the track wheels R; curved slotted standards D, bearing the axles E, and *n'*; and said mowers provided with proper mechanism for raising and lowering the same, substantially as shown and described and for the purposes set forth.
85

3. A weed mower for railroads, consisting of the revolving cutters F, F, and O; F, F, secured on the axle E, and O, on the axle *n'*; V-shaped frames pivoted laterally and horizontally under the car by means of the bolt
90 and nut *c' C'*, and bearing *c''*, and nut *C''*, and having extending arms C, C, having the boxes S, S', in which are borne the axles of the track wheels R; curved slotted standards D, extending upward from said arms bearing axles E,
95 and *n'*; loops *h, h'*, whose ends are sleeved on axles E, and *n'*; U-shaped frame G, secured to said arms C, C, and bearing in its upper end an idler *g'*; drum J, journaled in a frame on the platform of said car and provided with proper
100 mechanism for operating the same; and cable H, having one end secured to the drum I, thence passing over the idler *g'*, with its other end secured to the loop *h'*, substantially as shown and described and for the purposes set
105 forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK J. CASE.

Witnesses:

GEO. T. CHALLIS,
E. H. TODD.