(Model.)

E. C. SHERWIN.

LAND ROLLER.

No. 247,698. Patented Sept. 27, 1881.

Fig. 1.

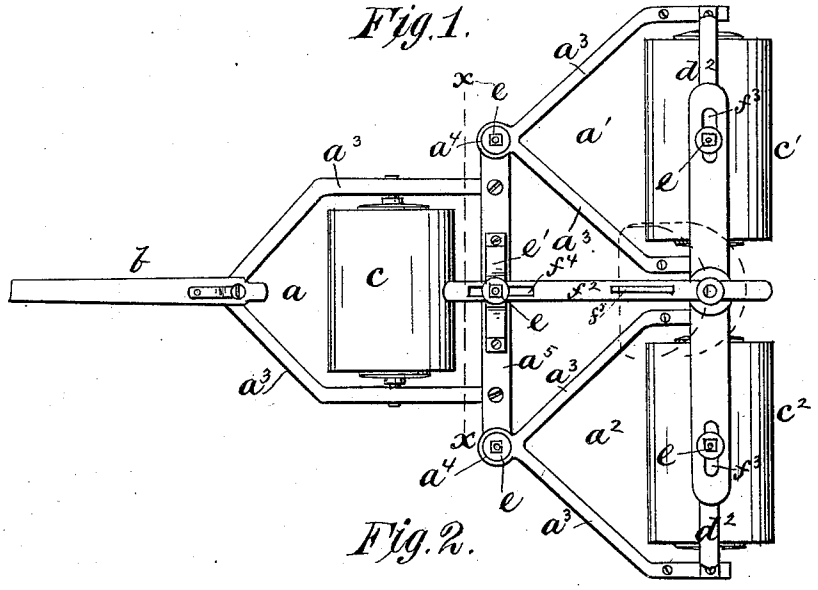


Fig. 2.

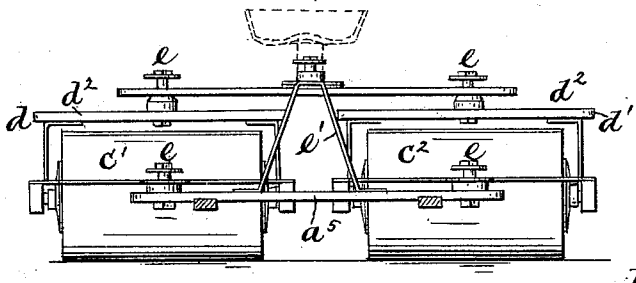


Fig. 3.

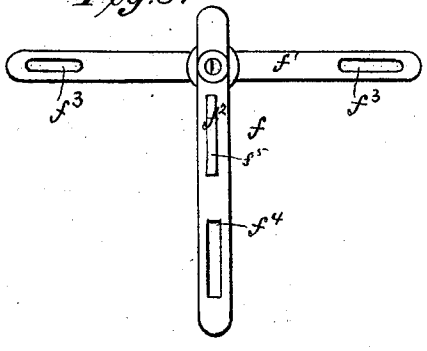


Fig. 4.

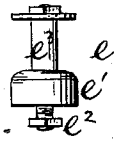
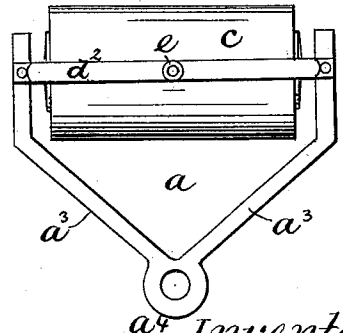


Fig. 5.



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By R.S. & A.P. Lacey Attys.

N. PETERS. Photo-Lithographer. Washington. D. C.

UNITED STATES PATENT OFFICE.

EDWIN C. SHERWIN, OF BRANDON, WISCONSIN.

LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 247,698, dated September 27, 1881.

Application filed August 20, 1881. (Model.)

To all whom it may concern:

Be it known that I, EDWIN C. SHERWIN, a citizen of the United States, residing at Brandon, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Land-Rollers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention has for its object to provide a means for connecting the series of rollers which compose a sectional field-roller, so that the several rollers will have a simultaneous action, and so that the weight of the driver will be equally distributed on the several rollers.

It consists in two coupling-bars pivoted together and to the frames which support the rollers in such manner as to have a free turning movement, and at the same time make stiff braces between the said frames.

In the drawings, Figure 1 is a plan, and Fig. 2 is a vertical section on line *x x*, Fig. 1, of a field-roller constructed according to my invention. Fig. 3 shows the compound coupler. Fig. 4 is one of the coupling-pins, and Fig. 5 shows one of the rollers in its frame.

a a' a² are the frames in which the rollers are supported. Each frame is composed of two bars, a^3 a^3, which are united together at their front ends, and provided with eyes a^4 or other suitable means, by which they are attached to the coupling-pins. The side bars, a^3 a^3, are extended outward from each other and have their rear ends bent so as to be parallel, and are provided with bearings for the spindles of the rollers. The side bars of the front frame, *a*, are extended so that their ends will be in rear of the roller, and to these extensions I fix a cross-bar, a^5. To the forward end of the frame *a*, I fasten the tongue *b*.

c is the pilot or forward roller, journaled in the draft or front frame, *a;* and *c' c²* are the rear rollers, journaled in the frames *a' a²*.

d d' are vertical frames fixed to the roller-frames *a' a²*. The uprights of these vertical frames are made fast to the roller-frame immediately over the bearings of the rollers, and their top bars extend horizontally over the rollers *c' c²*.

e is the coupling-pin, made with an enlargement or head, *e'*, from which projects downward a screw-shank, e^2, by which it is secured to the frames. From the head *e'* the pin e^3 extends upward, and has provided on its upper end a screw-pin.

The pin e^3 is made long enough to permit a vertical play of the eye a^4 or other coupling when placed thereon. I place coupling-pins on the ends of the cross-bar a^5 and at the middle of the top bars, d^2, of the vertical frames *d d'*. I also place a coupling-pin on the top of the standard *e'*, fixed at the middle of the cross-bar a^5. The top of the standard *e'* is arranged so as to be nearly in or slightly above the same horizontal plane in which the top bars, d^2, are placed.

f is my compound coupler, which is composed of the cross-bar *f'* and the longitudinal bar f^2. The rear end of the bar f^2 is pivoted at the middle of the cross-bar *f'*, so that it turns freely. In the ends of the bar *f'* there are formed slots f^3 f^3, and in the forward end of bar f^2 the slot f^4 is formed. These bars and their slots are so arranged that the slots f^3 can be placed over the coupling-pins on the top bars, d^2, and the slot f^4 over the coupling-pin on the standard *e'*.

f^5 is a longitudinal slot in the bar f^2, by which the seat may be secured and adjusted forward or backward.

The eyes a^4 in the rear frames, *a' a²*, are made large enough so that they will permit sufficient vertical turning of the rear ends of said frame, to adapt the roller to any ordinary undulations in the surface of the ground.

In the drawings I have omitted the driver's seat; but its position is clearly indicated in dotted lines in Figs. 1 and 2. The seat is fixed on the longitudinal bar f^2. The seat is so attached to the bar f^2 that it can be moved forward or back whenever it may be desired to have the weight of the driver transferred more onto the front roller or onto the rear rollers.

It will be seen that the cross-bar *f'* will hold the rear roller-frames always apart, and at the same time permit them to have free lateral play, and cause them to move simultaneously and in parallel lines when the device is being turned around.

The slots in the ends of cross-bar *f'* permit

the rear roller-frames to be drawn one in advance of the other, a position they necessarily take when the device is being turned about.

The longitudinal bar f^2, having its forward end held on the standard on the cross-bar on the frame a, gives steadiness in the action of the several frames, and also serves as a means for changing the position and weight of the driver. The coupling-pins e permit the necessary vertical and undulating movement given to the several rollers by inequalities in the surface of the ground. It will be seen, further, that each of the rear rollers may receive a rocking movement—that is, the ends may be raised and lowered alternately—by reason of the eye-connection on the coupling-pins on the ends of the cross-bar a^5.

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

1. The combination, with the frames a' and a^2, provided with the vertical frames d d', extending from side to side over the rollers c' c^2, and pivoted and swinging freely laterally on pins on the draft or forward frame, of the cross-bar f, provided with slots f^3 f^3 in ends, and held loosely on pins fixed at the middle of the top bars of the frames d d', substantially as set forth.

2. The combination, with the draft-frame a, having journaled therein the pilot-roller c, and having the cross-bar a^5 in rear of its roller, and the frames a' a^2, pivoted on pins on the ends of the cross-bar a^5, and swinging freely laterally, and provided with the vertical frames d d', of the standard e', fixed at the middle of the cross-bar a^5, the coupling-bar f, having its ends slotted and held loosely on pins at the middle of the vertical frames d d', and the seat-supporting bar f^2, having its forward end slotted and held loosely on a pin on the top of the standard e', substantially as set forth.

In testimony whereof I affix my signature, in presence of two witnesses, on this 8th day of August, 1881.

EDWIN C. SHERWIN.

Witnesses:
MARTIN SHORT,
IDA JENKINSON.