

No. 647,345.

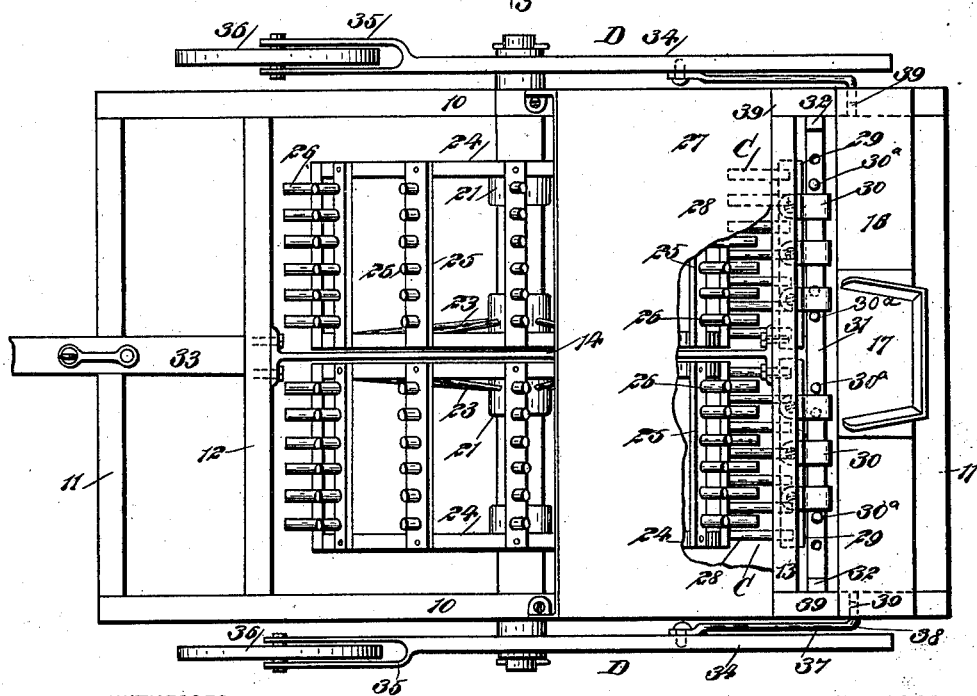
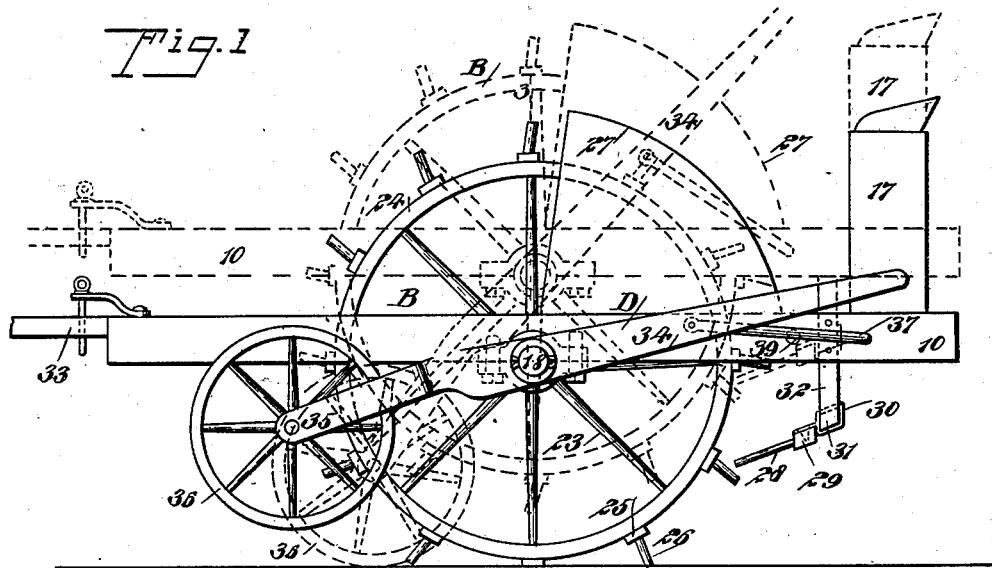
Patented Apr. 10, 1900.

C. WEHRENBURG.
HARROW.

(Application filed Aug. 2, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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Fig. 2

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Fig. 3

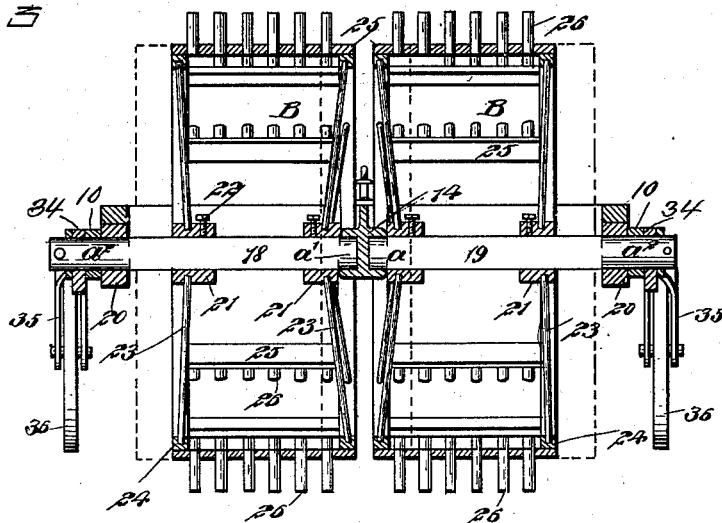


Fig. 4

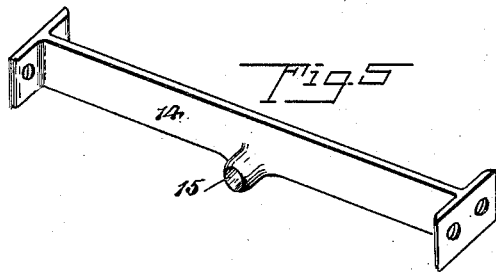
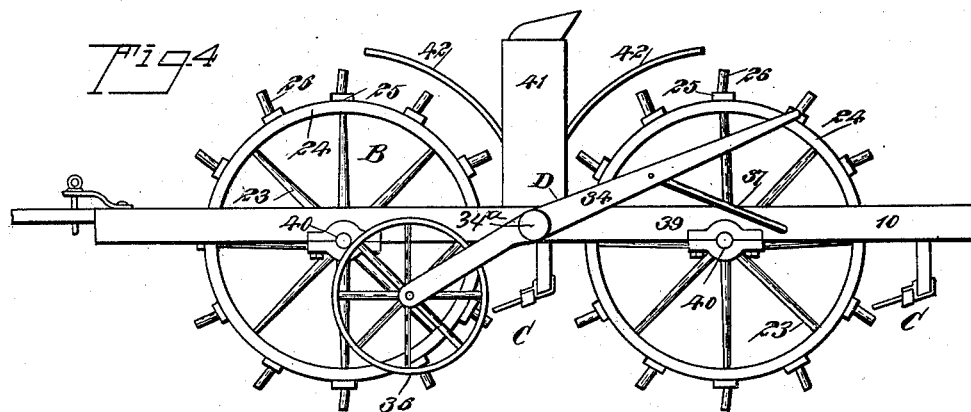


Fig. 5

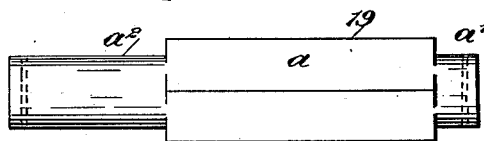
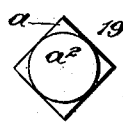


Fig. 6

Fig. 7



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UNITED STATES PATENT OFFICE.

CHARLES WEHRENBURG, OF MOUND CITY, ILLINOIS.

HARROW.

SPECIFICATION forming part of Letters Patent No. 647,345, dated April 10, 1900.

Application filed August 2, 1899. Serial No. 725,870. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WEHRENBURG, of Mound City, in the county of Pulaski and State of Illinois, have invented a new and useful Improvement in Harrows, of which the following is a full, clear, and exact description.

My invention relates to an improvement in harrows, and especially to an improvement upon the construction shown in Letters Patent No. 520,278, which were granted to me May 22, 1894.

The object of the invention is to provide a roller-harrow the rollers whereof can be adjusted so that sufficient space may be obtained between them to accommodate a row of corn or whereby two rollers may be brought so close together that they will act as a single long one.

Another object of the invention is to provide a means whereby the teeth of the rollers or drums will come so near the corn that they leave it perfectly clean and the ground in excellent shape.

Another object of the invention is to provide cleaners for the harrow-teeth that may be adjusted correspondingly to the rollers or drums and also to provide supporting-wheels which may be quickly brought into engagement with the ground and act through the medium of attached levers to raise the rollers or drums up from the ground; but the harrow may be built with or without said supporting-wheels at option of purchaser.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved harrow, showing the drums in two positions. Fig. 2 is a plan view of the improved harrow. Fig. 3 is a transverse section taken practically on the line 3-3 of Fig. 1. Fig. 4 is a side elevation of a modified form of the harrow. Fig. 5 is a detail perspective view of a division-beam used in connection with the construction shown in Figs. 1, 2, and 3. Fig. 6 is a

plan view of an axle used in connection with the division-bar shown in Fig. 5, and Fig. 7 is an end view of said axle.

The frame of the machine is usually rectangular, comprising side beams 10, front and rear beams 11, and intermediate beams 12 and 13, located one near the front and the other near the rear of the machine. A division-bar 14, preferably of metal, extends from the central portion of the front intermediate bar 12 to a corresponding portion of the rear intermediate bar 13, as shown in Fig. 2, and this division-bar at the central portion of each of its sides is provided with a socket 15, as shown in Figs. 3 and 5. A platform 16 is constructed at the rear of the frame, and a seat 17 for the driver is supported by said platform. This platform may be excluded, and an iron seat fastened to the frame by aid of a spring may be substituted.

When two drums or rollers B are employed, placed end to end, one of the said drums or rollers is located at each side of the division-bar 14, and a separate axle 18 and 19 is provided for each drum. As shown in Fig. 6, each axle consists of a polygonal body a , a short trunnion a' at one end that is adapted to enter a socket 15 in the division-bar 14, and a long trunnion a'' at the opposite end, which trunnions a'' are journaled in suitable boxes 20, attached to the sides of the frame, as illustrated in Fig. 3. Each drum or roller B consists of two hubs 21, said hubs being fitted upon the body portion a of an axle and adjustably held thereon by set-screws 22. Spokes 23 extend from the hubs outward to an engagement with bands or rings 24, and the said spokes are dished inwardly, so that the two drums or rollers B may be brought quite close together irrespective of the sockets 15 on the division-bar 14. In the further construction of the drum plates or boards 25 extend at desired intervals apart from one ring or band 24 to the other or can be one solid iron drum with teeth fastened in it, and these plates or boards 25 carry longitudinally-arranged teeth 26, which teeth may be of any desired character. A hood 27 extends over the rear portions of the drums in order to protect the driver, as shown in Figs. 1 and 2.

In connection with each drum B a cleaning device C is employed. Each cleaning device consists of a series of teeth 28, attached to a head-bar 29, and metal loops 30, polygonal in cross-section, which loops extend upwardly and rearwardly from the head-bar 29, and the loops of each head-bar are mounted to slide upon a cross-bar 31, which is attached to the lower ends of hangers 32, that extend downward from the rear portions of the side beams 10 of the main frame. The teeth 28 are given a downward and forward inclination and are so placed that the teeth of the drums will pass between the teeth 28 as said drums revolve. Pins 30^a or their equivalents are placed in the supporting-bar 21 adjacent to the outer edges of the outer loops of the cleaning devices to prevent the said devices moving from their adjusted position, since these devices are to be adjusted correspondingly to the adjustment of the drums B.

When the ground to be harrowed is where corn has been planted, the drums are moved far enough apart to permit the standing corn to enter a space between them, and thus escape injury; but when the ground is to be simply harrowed and no plants are in the ground the two drums are brought as close together as possible. The frame is provided with any approved form of tongue 33.

An elevating device D is employed at each side of the frame. This elevating device is likewise adapted as a wheeled support for the harrow when being taken to and from the field. Each elevating device consists of a lever 34, fulcrumed upon a trunnion a^2 of each axle 18 and 19, and the said lever is provided with a fork 35 at its lower end, in which a ground-wheel 36 is suitably mounted. Each lever is likewise provided with a link 37, pivotally attached to its inner face, and these links extend rearward and terminate in hooks 38 at their rear ends, which hooks are adapted to enter any one of a series of apertures 39, made in the side beams of the said main frame; but, as stated, the harrow may be built with or without the elevating device D at option of purchaser.

In operation when it is desired to raise the drums from the ground the hooks of the links 37 are disengaged from the frame, and the levers are then carried upward until the wheels 36 bear upon the ground, and the levers are further carried upward until they assume a perpendicular position or a position between the horizontal and perpendicular, and the links 37 serve, when placed in the apertures 39, to hold the levers in their upper position. Thus it will be observed that the entire frame and drums carried thereby will be raised, as shown in dotted lines in Fig. 1, and the wheels 36 will serve as supports for the entire structure.

In Fig. 4 I have illustrated a slight modification in the construction of the machine,

the difference being that the drums instead of being placed end to end are located one behind the other. This form of the harrow is particularly desirable for use in a field that is to be harrowed twice, since one drum following the other will accomplish the same result when the machine has been passed but once over the field. The drums and the elevating devices are the same as has been described in connection with the form of the machine shown in Fig. 1, except that the levers 34 are pivoted on spuds 34^a, located at the central portion of the frame. The axles 40 of the drums are pivoted in suitable bearings, and the same cleaning devices C are used; but the seat 41 is located on the frame between the two drums, and a hood 42 is provided for each drum, each hood extending from the support for the driver's seat.

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

1. A harrow comprising a frame, adjustable drums provided with teeth mounted to revolve in the said frame, the drums being arranged to closely approach each other at their abutting ends and constitute virtually one continuous drum, and lifting devices located one at each side of the frame, each lifting device consisting of a lever, a wheel mounted at one end of the lever, and links carried by the levers and adapted for locking connection with the frame.

2. In a harrow, the combination, with a frame, of adjustable independent toothed drums mounted to revolve in the frame, the drums being capable of being brought close together at their abutting ends, and lifting devices for the frame, located one at each side of the said frame, each lifting device consisting of a lever fulcrumed at the central portion of the frame, a ground-wheel mounted in the lower end of the lever, and a link pivotally connected with the upper portion of the lever, which link is arranged for adjustable locking connection with the frame at the rear of its center, as specified.

3. In a harrow, the combination, with a frame provided with a division-bar, and axles journaled in the division-bar and in the outer side portions of the frame, of toothed drums adjustably secured to the said axles, and cleaning devices for the teeth of the said drums, said cleaning devices having relative adjustment to the adjustment of the said drums, and means for locking the drums and cleaning devices in their adjusted positions, as set forth.

4. In a harrow, the combination, with a frame, a division-bar secured longitudinally in the frame, the division-bar being provided with opposing sockets in its side faces, and axles having trunnions at their ends and polygonal bodies, which axles are journaled in the said sockets of the division-bar and in

bearings at the outer portions of the frame, of toothed drums adjustably mounted upon the body portions of the axles, the ends of the said drums being dished, and cleaning devices for the teeth of the said drums, the said cleaning devices being adjustable upon their supports, and means for securing the drums

and cleaning devices in their adjusted positions, as described.

CHARLES WEHRENBURG.

Witnesses:

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W. A. WALL.