No. 786,170. PATENTED MAR. 28, 1905.

S. K. STANLEY & W. C. & W. T. MAYNARD.

HARROW.

APPLICATION FILED AUG. 19, 1903.

2 SHEETS—SHEET 1.

FIG. 1.

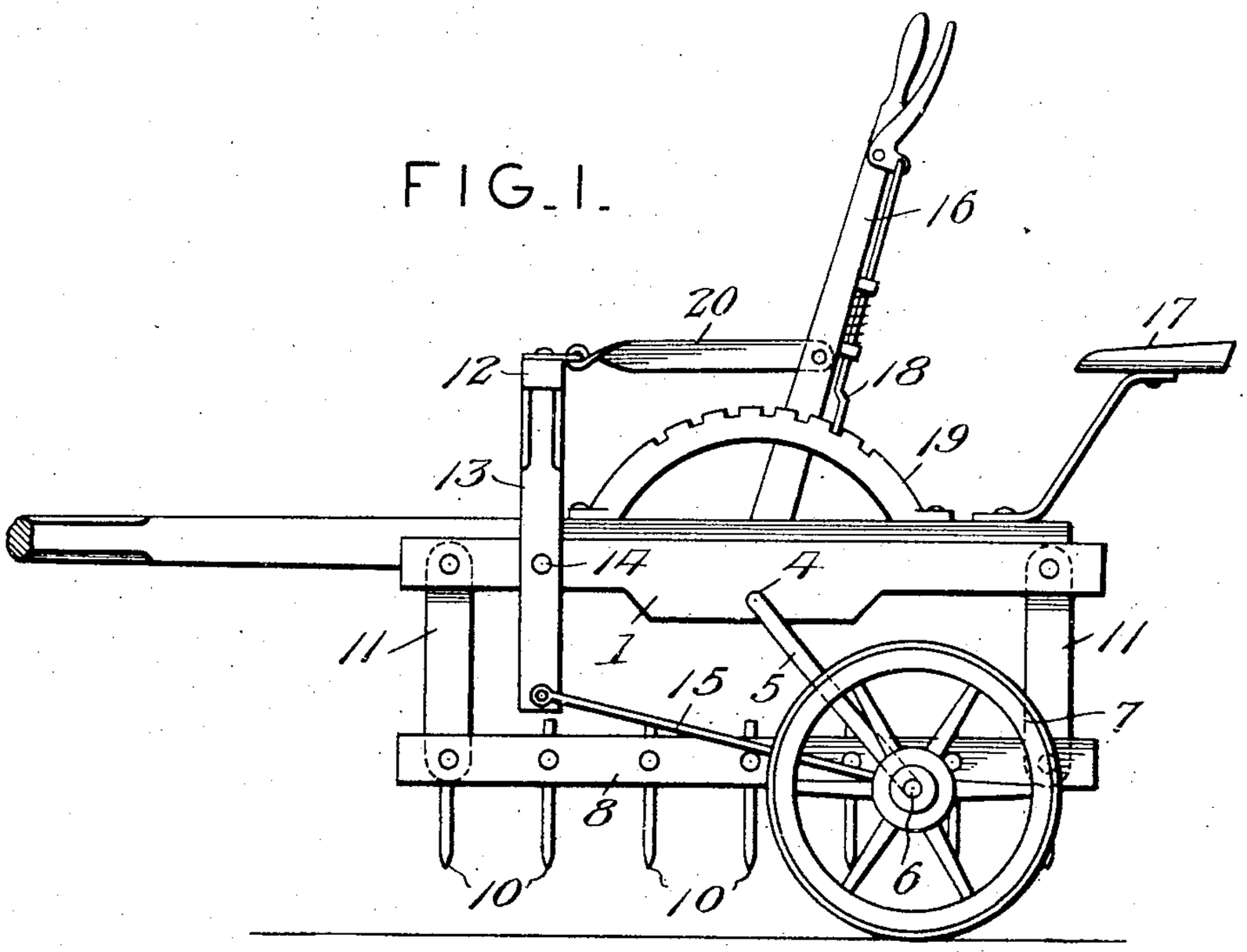
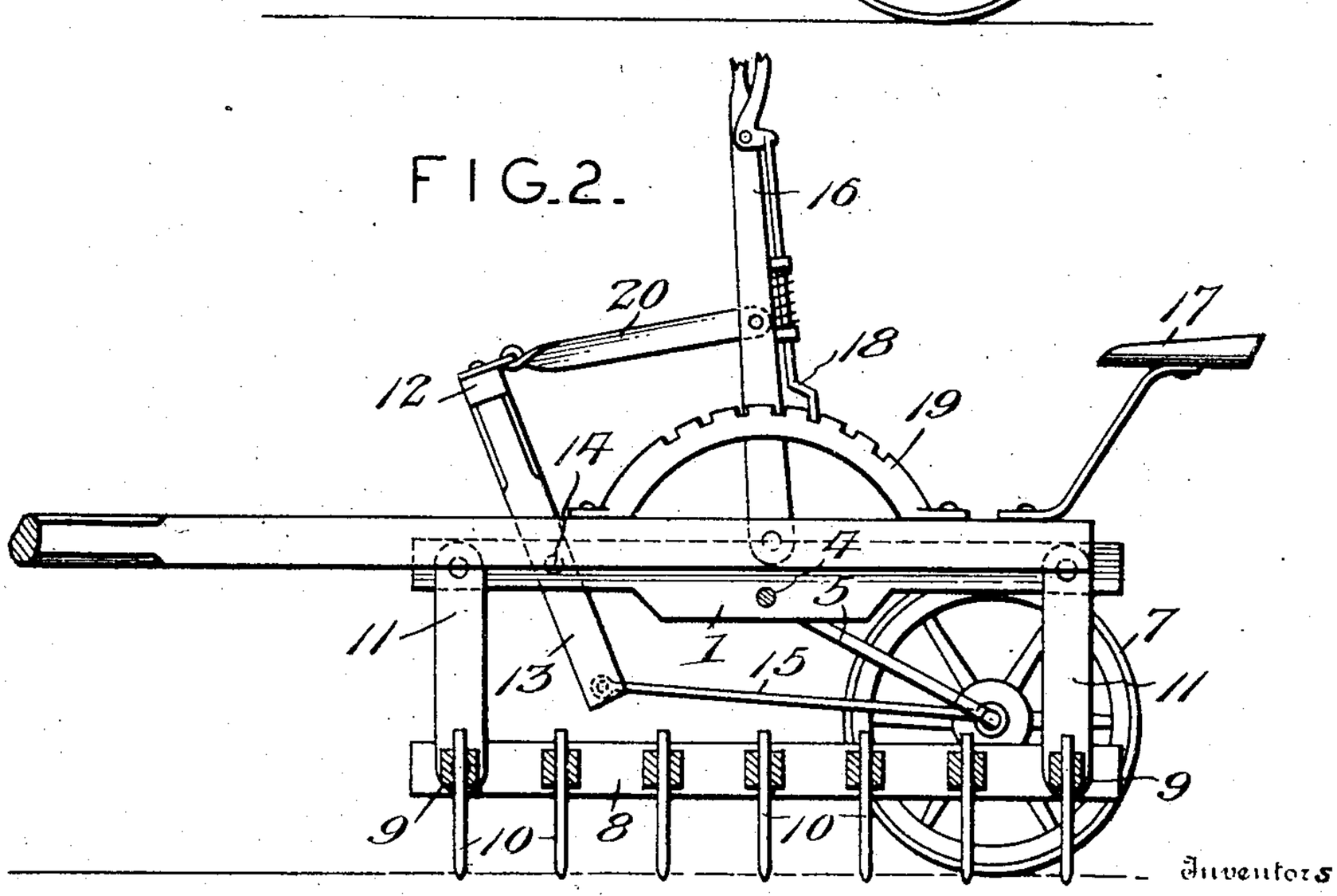


FIG. 2.



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2 SHEETS—SHEET 2.

FIG. 3.

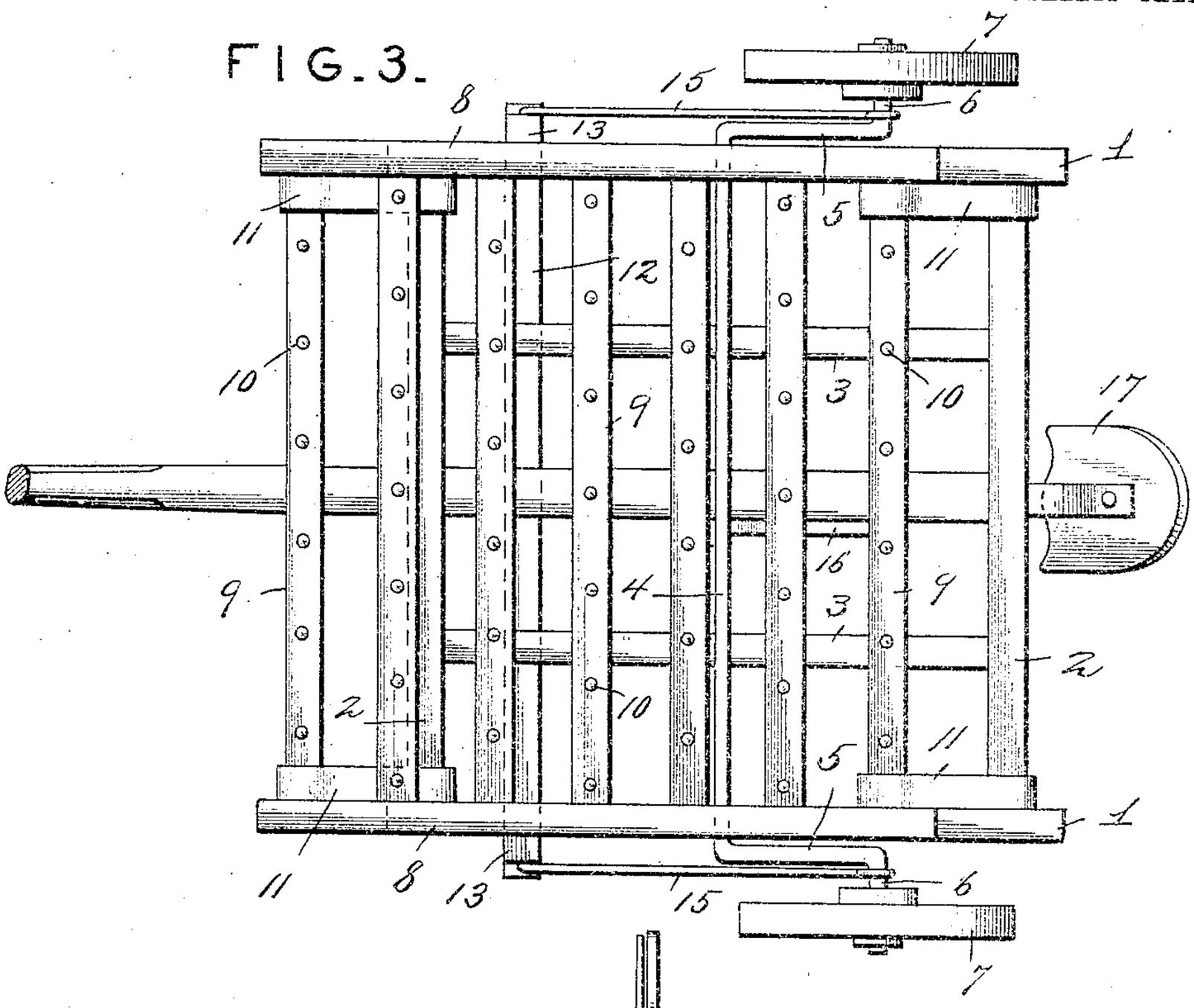
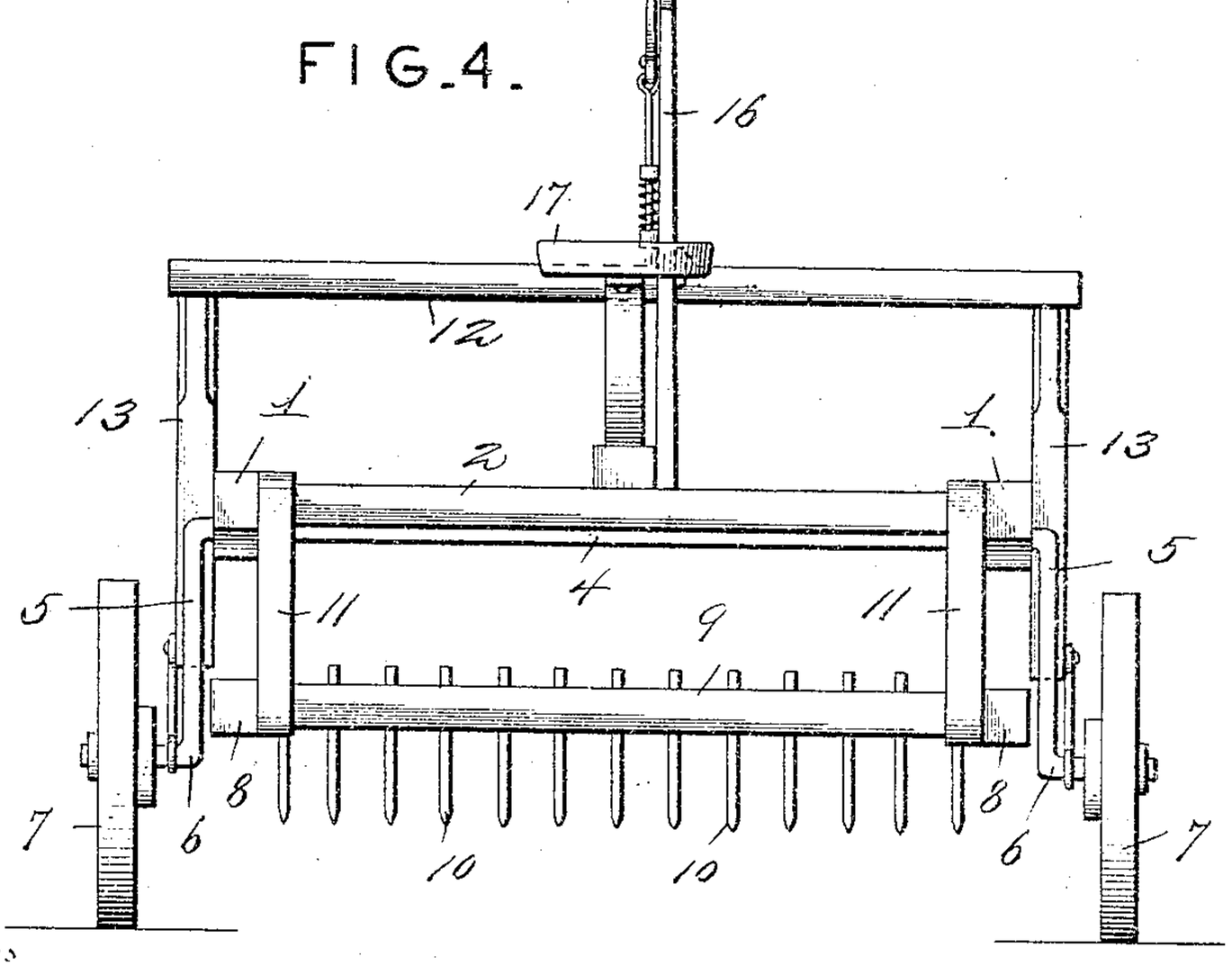


FIG. 4.



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UNITED STATES PATENT OFFICE.

SIMON K. STANLEY, WILLIE C. MAYNARD, AND WILLIAM T. MAYNARD,
OF RHEA MILLS, TEXAS.

HARROW.

SPECIFICATION forming part of Letters Patent No. 786,170, dated March 28, 1905.

Application filed August 19, 1903. Serial No. 170,055.

To all whom it may concern:

Be it known that we, SIMON K. STANLEY, WILLIE C. MAYNARD, and WILLIAM T. MAYNARD, citizens of the United States, residing at Rhea Mills, in the county of Collin and State of Texas, have invented new and useful Improvements in Harrows, of which the following is a specification.

This invention relates to harrows, and particularly to that class of harrows supported upon carrying-wheels, the object of the present invention being to provide means within the reach of the driver in his seat on the machine whereby the main frame of the machine may be raised and lowered relatively to the wheels for giving the desired depth of penetration to the harrow-teeth and also for enabling trash and other matter to be raked and carried along the ground to certain points, where it may be dumped or freed from the harrow-teeth and left in a pile. In connection with the adjustable main frame of the machine another object of the invention is to provide a self-adjusting harrow-frame which is adapted to play forward and backward and is self raising and lowering, whereby the harrow accommodates itself to any unevenness in the ground, while at the same time it is adapted to thoroughly break up the clods.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a wheeled harrow constructed in accordance with the present invention, showing the frame elevated. Fig. 2 is a sectional elevation of the same, showing the frame lowered. Fig. 3 is a bottom plan view of the machine, and Fig. 4 is a rear elevation of the same.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

The machine contemplated in this invention comprises, essentially, the main frame, which is composed of the longitudinal beams 1, connected by end cross-bars 2, the latter being in turn connected by intermediate longitudinal bars 3 and the frame as a whole being mounted upon an arched axle 4, the end portions of which are cranked, as shown at 5, and then extended laterally to form journals 6, upon which the carrying-wheels 7 are mounted.

Arranged below the main frame of the machine is the harrow-frame, which comprises, essentially, the side bars 8, extending lengthwise of the machine, and a plurality of cross-bars 9, connecting the bars 8 and each provided with a series of harrow-teeth 10. The harrow-frame is connected with the main frame of the machine by means of links 11, arranged at each corner of the harrow-frame and pivotally connected at their upper ends to the longitudinal beams 1. By means of this parallel link connection between the main frame and the harrow-frame the latter is adapted to swing beneath the main frame and to automatically move forward and backward and also to swing up and down, whereby the harrow-frame accommodates itself to any unevenness in the ground upon which the harrow-teeth are moving.

In order to adjust the main frame up and down relatively to the wheels, we make use of a yoke comprising a horizontal cross-bar 12 with pendent arms 13, which constitute levers, the same being fulcrumed at 14 between their ends on the machine-frame. Draft-rods 15 connect pivotally at one of their ends with the lower extremities of the arms or levers 13, said rods extending rearward and connecting at their other ends with the journals of the arched axle. The levers 13 are operated by means of a thumb-latch lever 16, arranged within convenient reach of the driver in the seat 17 and provided with a latch 18, which engages notches in a toothed segment or rack 19 on the main frame. The lever 16 is connected with the cross-bar 12 of the yoke 13 by means of an interposed pivotal link 20, so that when the driver rocks the lever 16 the cranked ends of the arched axle are moved forward or backward, and owing to the inclination of the cranks 5 the main frame of the machine is correspondingly raised or lowered, thus rais-

ing or lowering the harrow-frame to the same extent.

By means of the construction hereinabove described it will be seen that the teeth of the harrow may be raised or lowered to any desired extent to afford the desired depth of penetration and to enable the harrow to operate as a rake for gathering loose material on the surface of the ground and conveying the same to the point of dumping, the harrow being dumped by raising the same to a considerable distance above the ground, when the teeth will automatically clear themselves. It will also be seen that by reason of the linked connection between the main frame and the harrow-frame the harrow-frame can adjust itself at all times to any unevenness of the ground by swinging forward or backward or upward or downward.

Having thus described the invention, what we claim as new, and desire to secure by Letters Patent, is—

A wheeled harrow comprising a main frame, an arched axle pivotally connected with said main frame and having crank-terminals, wheels on said crank-terminals, a yoke comprising a horizontal cross-bar having pendent arms pivotally connected intermediate their ends to opposite sides of the main frame, links connecting the lower ends of said pendent arms with the crank-terminals of said arched axle, a hand-lever having a thumb-latch, a toothed rack adapted to be engaged by said thumb-latch, a link connecting said hand-lever with the cross-bar of said yoke, links pivotally connected with said main frame, and a harrow pivotally connected with said last-mentioned links.

In testimony whereof we affix our signatures in presence of two witnesses.

SIMON K. STANLEY.
WILLIE C. MAYNARD.
WILLIAM T. MAYNARD.

Witnesses:
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