(No Model.) 2 Sheets—Sheet 1.

C. E. ALVORD.

BRUSH GRUBBER.

No. 564,135. Patented July 14, 1896.

FIG. 1.

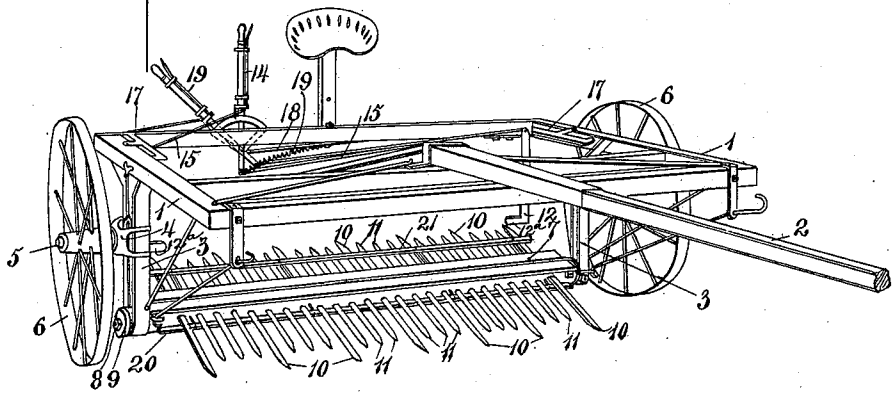
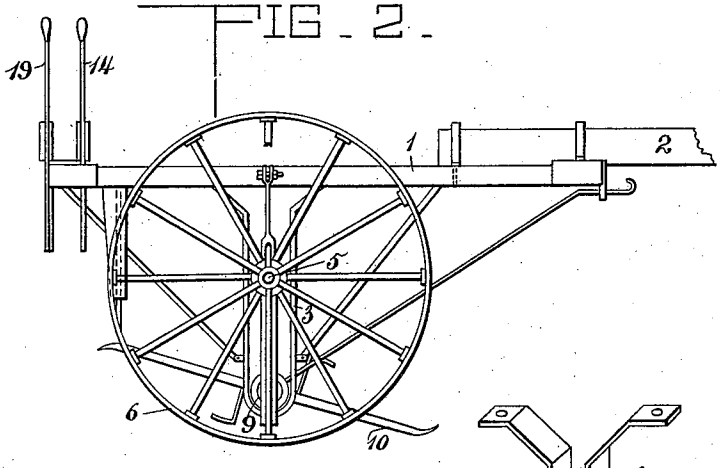


FIG. 2.



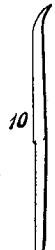
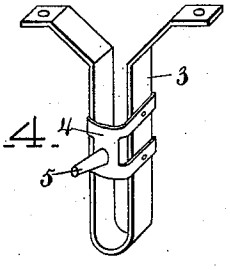


FIG. 3.

FIG. 4.



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By Knight Bros.
Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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BRUSH GRUBBER.

No. 564,135. Patented July 14, 1896.

FIG. 5.

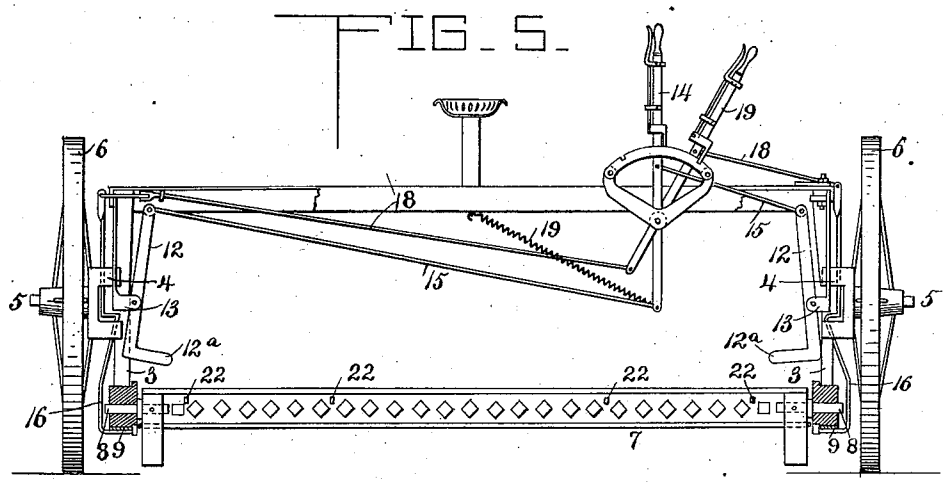
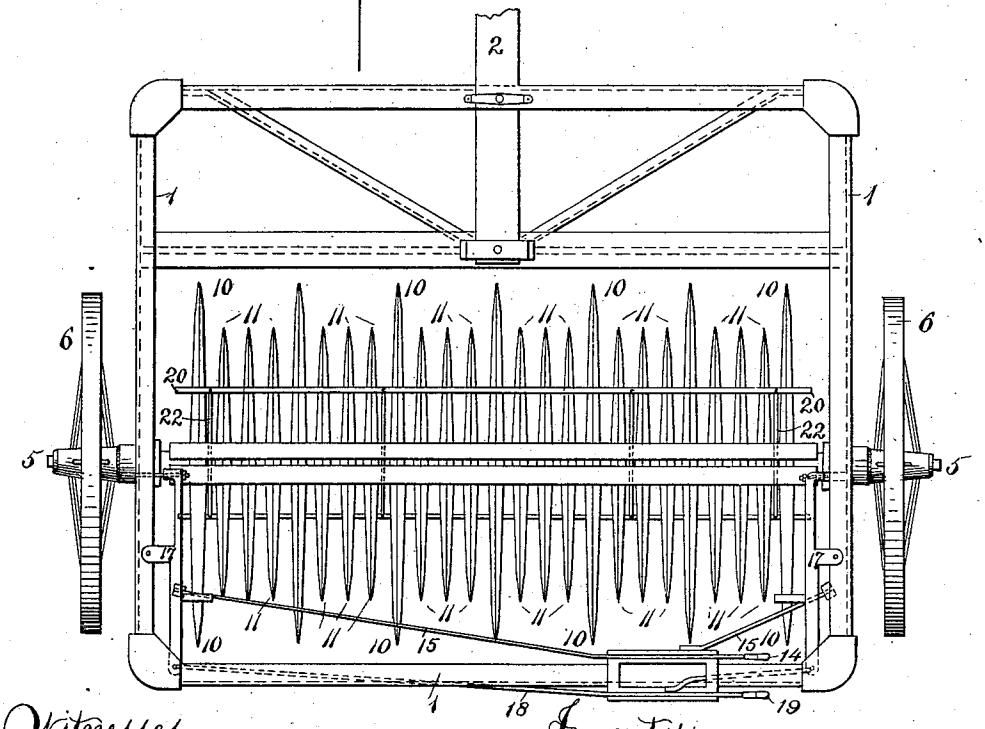


FIG. 6.



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UNITED STATES PATENT OFFICE.

CLARENCE E. ALVORD, OF GUNNISON, COLORADO, ASSIGNOR TO M. P. GETCHELL, OF SAME PLACE.

BRUSH-GRUBBER.

SPECIFICATION forming part of Letters Patent No. 564,135, dated July 14, 1896.

Application filed July 18, 1894. Serial No. 517,936. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE E. ALVORD, a citizen of the United States, residing at Gunnison, in the county of Gunnison and State of Colorado, have invented certain new and useful Improvements in Brush-Grubbers, of which the following specification, taken in connection with the accompanying drawings, is a full, clear, and exact description, such as will enable those skilled in the art to make and use the same.

The object of my invention is to provide a machine for extracting or grubbing up sage-brush or other vegetable growth from the ground and gathering them up and dumping them into piles ready to be burned or removed.

My invention consists of a two-wheeled vehicle provided with means for adjusting the axles to suit any-sized wheel that may be used, loop-guides in which operates a rotatable series of grubbing-teeth, and suitable means for throwing said series of grubbing-teeth into and out of use. An automatic clearing device of peculiar construction for removing the brush from the grubbing-teeth is also employed.

In order that my invention may be fully understood, I will first describe the same with reference to the accompanying drawings, and afterward more particularly point out the novelty in the annexed claims.

Figure 1 is a front perspective view of my improved machine. Fig. 2 is a side elevation of the machine in readiness for work. Fig. 3 is a side elevation of a double grubbing-tooth. Fig. 4 is a detail view of the loop-guide and adjustable axle. Fig. 5 is a rear elevation of my improved machine, looking from rear to front, part being in section. Fig. 6 is a top plan view of the same.

1 is a rectangular frame constructed of any suitable material and having secured to the front thereof in any suitable manner the draft-tongue 2.

3 3 are metal brackets or loop-guides secured to the under side of the side pieces of the main frame 1.

4 are adjustable brackets embracing the loop-guide pieces 3 and adjustably secured thereto by any suitable means.

5 are axles or trunnions formed integral with the brackets 4 and adapted to receive the wheels 6.

7 is a rotatable shaft constructed preferably of two beams, as clearly shown in Figs. 2 and 5, and formed with trunnions 8 at the ends, upon which are mounted friction-rollers 9, which rest in and are supported by the loop-guides 3. Mounted in the shaft 7 are a series of long teeth 10 and short teeth 11, which extend out from both sides of the shaft. The long teeth are turned slightly up at their ends in front and slightly down behind, so that as the shaft and series of teeth rotate the upwardly-turned teeth will always be in front. Both the long and short teeth are tapered from a central hub out to the points. In drawing the machine along the teeth catch into and gather the brush or other growth and carry it along until a sufficient quantity has been collected, when the series of teeth are caused to turn over and dump the load. The means for controlling the action of the gathering-teeth will now be explained.

12 are levers pivoted to suitable brackets 13 of the frame and formed with inwardly-extending lower ends 12^a for engaging the rear of the end teeth of the rotating series for holding them in operative position.

14 is a hand-lever, and 15 are rods connecting the upper ends of the levers 12 and hand-lever 14 above and below its pivot for the purpose of moving the said levers 12 in corresponding directions simultaneously.

When a load has been gathered on the grubbing-teeth, it is simply necessary to withdraw the levers 12 from engagement with the teeth by means of the lever 14, when the forward ends of the long teeth will engage in the ground and cause the series of teeth to revolve, the shaft rising in the loop-brackets 3 to allow the same to turn over.

It is desirable to provide means for holding the grubbing-teeth out of the way when the machine is taken from place to place, and for this means I provide spring-latches 16 at each end of the machine which are adapted to catch and engage the friction-rollers 9 when the shaft 7 is elevated by the rotation of the grubbing-teeth, and hold said shaft in elevated position.

17 are pivoted levers engaging the upper

ends of the latches 16, and 18 are rods which connect said levers 17 to the controlling-lever 19, whereby said latches may be moved out of engagement with the friction-rollers for allowing the shaft and grubbing-teeth to fall into operative position again.

20 and 21 are clearing-bars mounted upon the ends of the cross-rods 22, which extend through openings in the beams forming the rotatable shaft 7. The rods 22 are crooked slightly at their opposite ends, so as to support the bars 20 and 21 below the teeth in front of the machine and above the teeth at the rear of the machine. The rods 22 move easily through the shaft 7 and the clearing device rotates with the shaft and grubbing-teeth. After sufficient brush has been gathered on the front teeth, the shaft 7 is rotated so as to change the position of the teeth, and the machine proceeds, as before. When the teeth have changed position and start to gather a new load, the front clearing-bar 20 will come in contact with the standing brush and cause it and the rear bar 21 to slide back, (the rods 21 sliding through the shaft 7,) which will cause the bar 21 to push all of the brush off of the rear teeth.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of a suitable frame, a rotatable series of grubbing-teeth having trunnions movable vertically in said frame, and arranged to rise therein when the front teeth catch in the ground, means for controlling the rotation of said grubbing-teeth, catches for engaging the trunnions when elevated and suitable supporting-wheels, substantially as set forth.

2. The combination of a suitable frame, a rotatable series of oppositely-extending grubbing-teeth mounted in said frame, and a pair of rigidly-joined clearing-bars reciprocating on the respective sets of grubbing-teeth and adapted to clear them of brush, substantially as set forth.

3. The combination of a suitable frame, a rotatable series of oppositely-extending grubbing-teeth mounted in a suitable shaft journaled in said frame, a pair of clearing-bars supported on opposite sides of the shaft, and rods extending through openings in the shaft and connecting the clearing-bars, substantially as set forth.

4. The combination of a suitable frame, a rotatable series of oppositely-extending grubbing-teeth mounted in a suitable shaft journaled in said frame, a pair of clearing-bars supported on opposite sides of the shaft and rods extending through openings in the shaft and connecting the clearing-bars; said connecting-rods being offset or crooked at their opposite ends to bring the clearing-bars respectively above and below the teeth on opposite sides of the shaft, substantially as set forth.

5. The combination of a suitable wheeled frame, loop-guides secured to said frames a vertically-movable rotatable shaft mounted in said loop-guides, spring-latches adapted to engage the ends of said shaft for holding the same in elevated position, and means for operating said latches for releasing the shaft, substantially as set forth.

CLARENCE E. ALVORD.

Witnesses:
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