

(No Model.)

E. R. MAINE.
CULTIVATOR.

No. 517,227.

Patented Mar. 27, 1894.

FIG. 1.

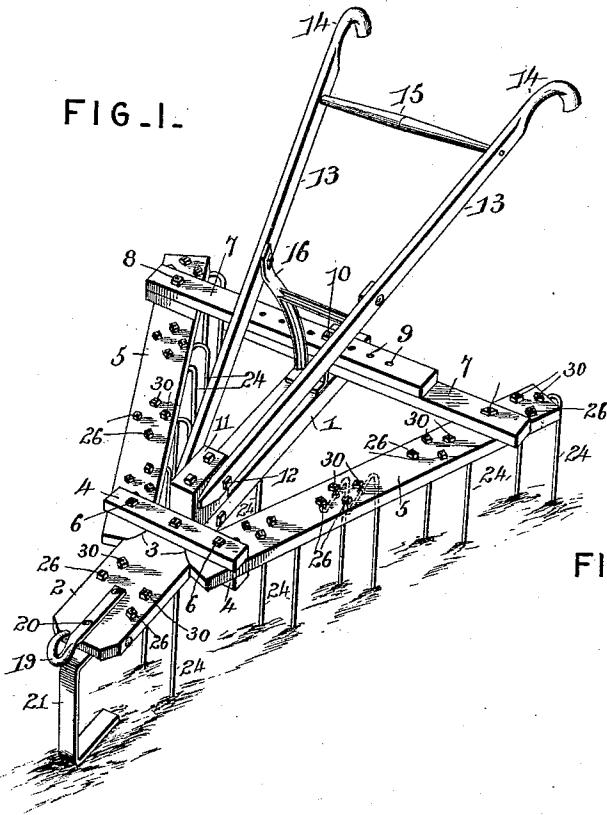


FIG. 4.

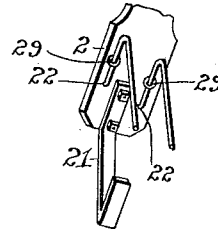


FIG. 2.

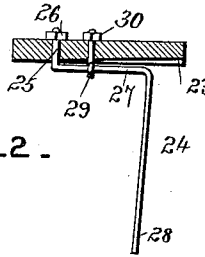
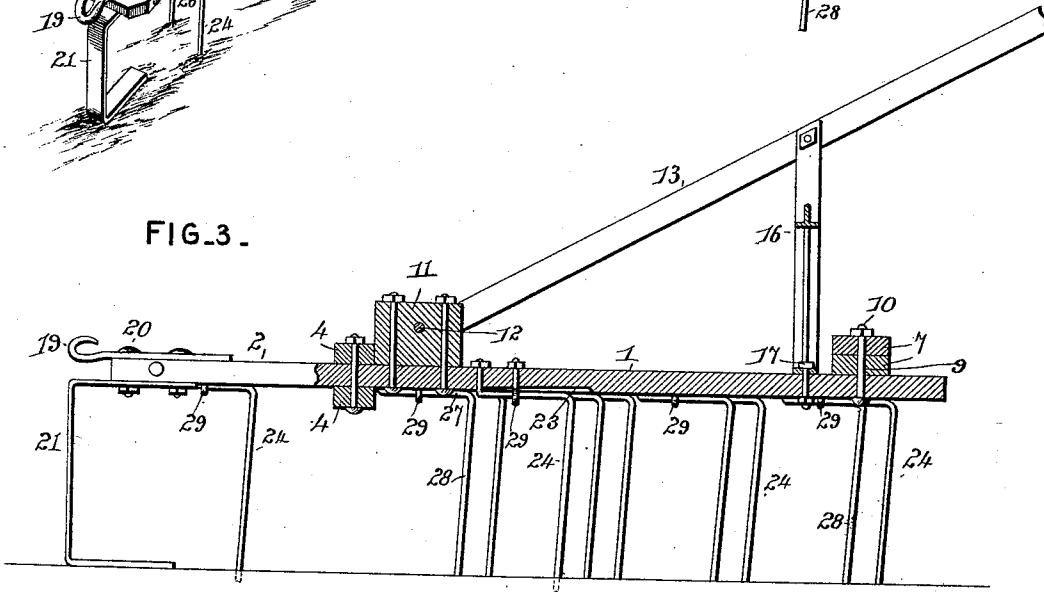


FIG. 3.



Inventor

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Witnesses:

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By His Attorneys.

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UNITED STATES PATENT OFFICE.

EDWIN R. MAINE, OF MAINESBURG, PENNSYLVANIA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 517,227, dated March 24, 1894.

Application filed July 19, 1893. Serial No. 480,925. (No model.)

To all whom it may concern:

Be it known that I, EDWIN R. MAINE, a citizen of the United States, residing at Mainesburg, in the county of Tioga and State of Pennsylvania, have invented a new and useful Cultivator or Harrow, of which the following is a specification.

My invention relates to improvements in light cultivators, or harrows; and the objects in view are to provide one that is of cheap, simple and durable construction; whose teeth are yielding and are not apt to be broken; and that may be adjusted laterally for cultivating or harrowing a wide or narrow path as may be desired.

Various other objects of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings: Figure 1 is a perspective view of a cultivator or harrow embodying my invention. Fig. 2 is a sectional view through one of the harrow-bars, a tooth being shown in side elevation. Fig. 3 is a longitudinal section through the cultivator. Fig. 4 is a bottom perspective view of the front end of main beam.

Like numerals of reference indicate like parts in all the figures of the drawings.

In the practice of my invention I employ a central main beam 1, which toward its front end is made wider, forming a head 2, the rear side of which gradually merges into the beam 1, producing the curved or cut out bearing shoulders 3. Cross pieces 4 are secured to the beam 1 above and below the bearing shoulders 3 and are securely bolted to said beam. A pair of cultivator bars 5 have their front ends at their inner corners rounded and located between the cross-pieces 4 and are pivotally bolted thereto by bolts 6. Near the rear ends of the bars 5 are bolted the outer ends of a pair of transverse adjusting bars 7, pivoting-bolts 8 being employed for this purpose. These adjusting bars 7 overlap at their inner ends and also overlap the rear ends of the main beam 1. Each of the bars 7 is provided with a series of bolt-holes 9, those of one bar aligning with those of the other and also with a single bolt-hole formed in the main beam 1 near the rear end of the latter, and an adjusting-bolt 10 is em-

ployed for the purpose of securing the adjusting-bars 7 together, and holding the cultivator-bars 5 a proper distance apart. A block 11 is supported upon the main beam 1 immediately in rear of the cross-pieces 4, and pivoted to opposite sides of the block by a bolt 12 is a pair of handle-bars 13, whose rear ends terminate in the usual hand-holds 14 and are connected by the transverse rung 15. A metal yoke or standard 16 is bolted as at 17 to the upper side of the beam 1 immediately in rear of the adjusting bars 7, and has its upper branches bolted as at 18 to the inner sides of the handle bars. The head 2 of the beam 1 is provided with the usual draft-hook 19 or other suitable draft-device, and is bolted as at 20 to a horizontally disposed U-shaped runner 21, the lower horizontal portion resting upon the ground and serving to support the front end of the machine. The head 2 of the beam 1 is provided at each side of its center with perforations 22, one being arranged in advance of the other, and in rear of each perforation a channel 23 is formed in the head. Pairs of similar perforations are formed in each of the bars 5, one perforation of each pair being arranged in advance of the other, and similar channels are also formed in rear of each perforation. Spring teeth 24 have their upper ends let into the perforations, for which purpose they are upwardly bent at their extremities, as at 25, and are threaded, said extremities receiving nuts 26, whereby they are held in place. Immediately below the bars in which they are mounted the teeth are rearwardly disposed in the line of draft just below the channels 23 as indicated at 27, and are finally bent downward to form the cultivating ends 28. Eye-bolts 29 receive the horizontal portions of the teeth, pass up through the beam and bars, and are provided with nuts 30. In addition to the front pair of teeth carried by the beam 1 a rear tooth is likewise located upon the under side of said beam. It will be seen that the series of bars are staggered with relation to each other, and that the space traversed by the machine is very thoroughly cultivated in a manner that will be obvious. The channels upon the under sides of the bars permit the teeth to vibrate so as to increase the action of the same.

In operation the runner 21 rides lightly over the soil, thus supporting the front end of the machine, and the series of teeth are dragged through the soil in the usual manner, pulverizing the same.

I do not limit my invention to the precise details of construction herein shown and described, but hold that I may vary the same to any degree and extent within the knowledge of the skilled mechanic.

Having described my invention, what I claim is—

1. In a cultivator, the combination with the central beam having a projected head at its front end, opposite toothed side bars pivoted to the central beam at the inner end of its head, adjusting devices between the rear ends of the side bars and the rear ends of the central beam, a U-shaped horizontally disposed runner 21, attached to the front extremity of the projected head of the central beam and having its lower horizontal end traveling on the ground, and cultivating teeth secured to the central beam, certain of said teeth being located on the front head in rear of and at both sides of said runner, substantially as set forth.

2. In a cultivator, the combination with a bar having a perforation and in rear of the same provided with a channel extending therefrom at an angle, of a spring tooth having its upper end passed through the perforation and provided with a nut above the bar,

and below the perforation rearwardly bent in a horizontal line as at 27 under the channel, and finally terminating in depending vertical portions 28, and an eye-bolt embracing the horizontal portion 27 of the tooth and passing through a perforation in the bar and provided with a nut, substantially as specified.

3. In a cultivator, the combination with the main beam widened at its front end, the horizontally disposed U-shaped runner secured thereto, the upper and lower cleats applied to said main beam, the side beams pivoted to the ends of the cleats, and the rear adjusting bars, said side beams being provided with pairs of perforations having channels in rear of the same, of the spring teeth comprising the vertical portions 25 and 28, and the horizontal portions 27, the said vertical portions 25 being arranged in the front perforation of each pair, and the horizontal portions seated in the grooves or channels in rear thereof, and the eye-bolts 29 receiving the horizontal portions of said teeth and located in the rear perforations, and the nuts 26 and 30 arranged on the upper ends of the cleats and eye-bolts respectively, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDWIN R. MAINE.

Witnesses:

T. H. TAYLOR,
A. J. BROWN.