(No Model.) 2 Sheets—Sheet 1.

J. G. BODENSTEIN.

ICE CULTIVATOR.

No. 558,254. Patented Apr. 14, 1896.

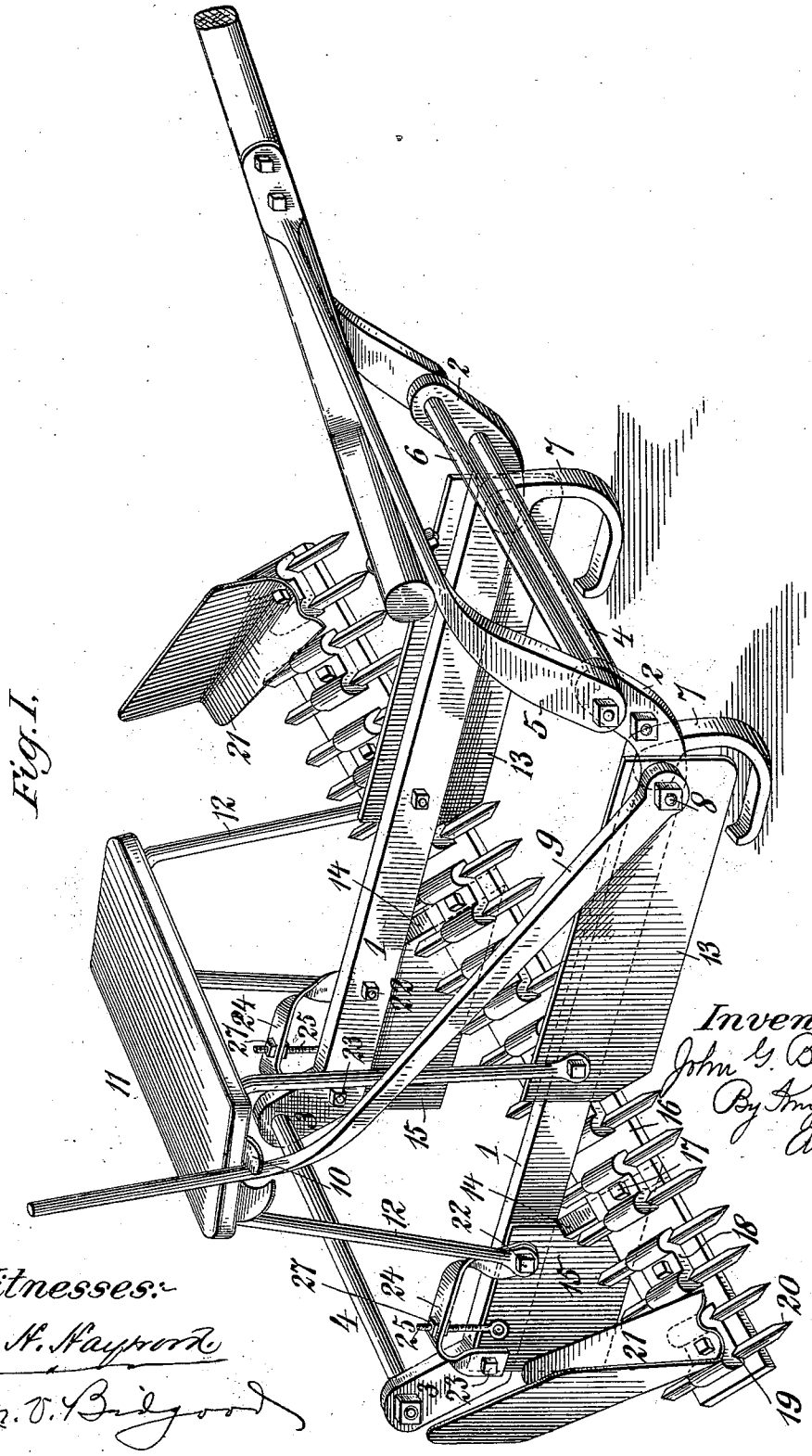


Fig. 1.

Witnesses:-
D. N. Kayford
H. V. Bridgwood

Inventor:-
John G. Bodenstein
By Knight Bros
Attys.

(No Model.) 2 Sheets—Sheet 2.

J. G. BODENSTEIN.

ICE CULTIVATOR.

No. 558,254. Patented Apr. 14, 1896.

Fig. IV.

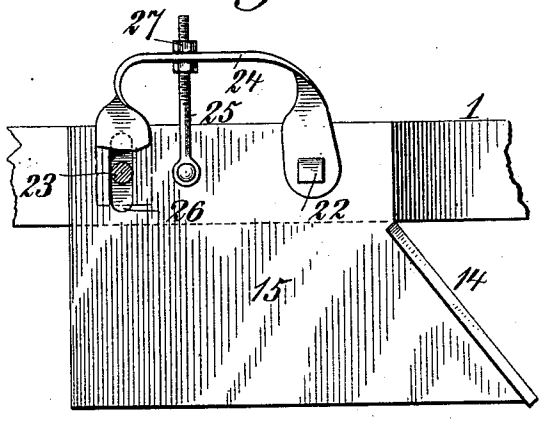


Fig. II.

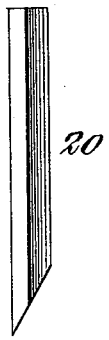
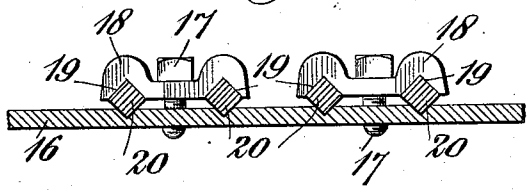


Fig. III.



Witnesses:-

D. K. Kaysor

H. V. Bidgood

Inventor:-

John G. Bodenstein

By Dwight Bros

Attys

UNITED STATES PATENT OFFICE.

JOHN G. BODENSTEIN, OF STAATSBURG, NEW YORK.

ICE-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 558,254, dated April 14, 1896.

Application filed March 22, 1895. Serial No. 542,785. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. BODENSTEIN, a citizen of the United States, residing at Staatsburg, county of Dutchess, State of New York, have invented certain new and useful Improvements in Ice-Cultivators, of which the following is a specification.

My present application is designed to embrace certain improvements which are made on the ice-cultivator for which Letters Patent No. 470,099 were granted to me on the 1st of March, 1892, and I will first describe my entire improved machine with reference to the accompanying drawings, and then point out in the claim the novel parts and combinations.

In said drawings, Figure I is a perspective view of my improved ice-cultivator. Fig. II is an elevation of one of the cutting-teeth. Fig. III is a sectional view of a part of the cutter bar and teeth. Fig. IV is a sectional elevation of the rear end of the frame and one of the rear runners.

The machine-frame consists of two parallel bars 1 1, having upturned ends 2 3 at front and rear, united by strong cross-bolts or braces 4 4. The shaft or pole irons 5 are pivoted directly to the upturned front ends 2 of the frame by means of the cross-bolt 6. The shoes 7 7, which regulate the action of the cultivator in the manner described in my former Letters Patent above referred to, are pivoted on the bars 1 of the frame at 8 and have the operating-lever 9, adapted to be engaged by the catch 10, supported on the seat 11, which in turn is supported by standards 12 from the bars 1. The front runners 13 are similar in construction and operation to the front runners of my former patent, except that I prefer to round off the front edges of said runners. On the inclined front flanges 14 of the rear runners 15 I fix the cutter-bar 16, which is a flat iron plate having holes at regular distances apart for bolts 17, which fix to said cutter-bar a series of double clamps 18, each having a pair of angular seats 19 for the cutter-teeth 20. Said cutter-teeth are rectangular in cross-section, as shown in Fig. III, and sharpened at their lower ends, as shown in Fig. II, so as to have a diamond-shaped under surface, the acute apex of which is presented forward when the cutters are fixed to the bar. I have in this tooth a sharp and perfectly-acting cutter which can be readily sharpened. If desired, the cutter-bar 16 may have angular seats, as shown in Fig. III, for the cutter-teeth.

The shoes 21 have in the present instance the same functions which the corresponding shoes have in my former machine. The rear runners 15 are fixed to the frame-bars 1 by bolts 22 23, which also hold in position stirrups 24, through which pass eyebolts 25, pivoted at their lower ends to the runners 15. The holes for the bolts 22 in runners 15 are circular, so that the latter may have motion only circumferential therewith; but the rear bolts 23 pass through vertical or slightly-curved slots 26 in said runners. By loosening the bolts 23 and turning the nuts 27 of eyebolts 25 and then retightening the bolts 23 the runners 15 may be adjusted quickly to any desired position, and then when the teeth 20 become blunted by considerable use their angle with relation to the ice may be quickly changed without the delay involved in re-sharpening.

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

The combination of the frame-bars 1, the rear runners 15 pivoted thereto by bolts 22 and having slots 26, the stirrups 24 and the adjustment of the bolts 25 and clamping-bolt 23, all arranged and adapted to operate, substantially as set forth.

JOHN G. BODENSTEIN.

Witnesses:
R. A. BROMHED,
GEORGE W. SIMMONS.