E. A. Goodes,

Wheel Harrow.

No. 92,719. Patented July 20. 1869.

Fig: 1.

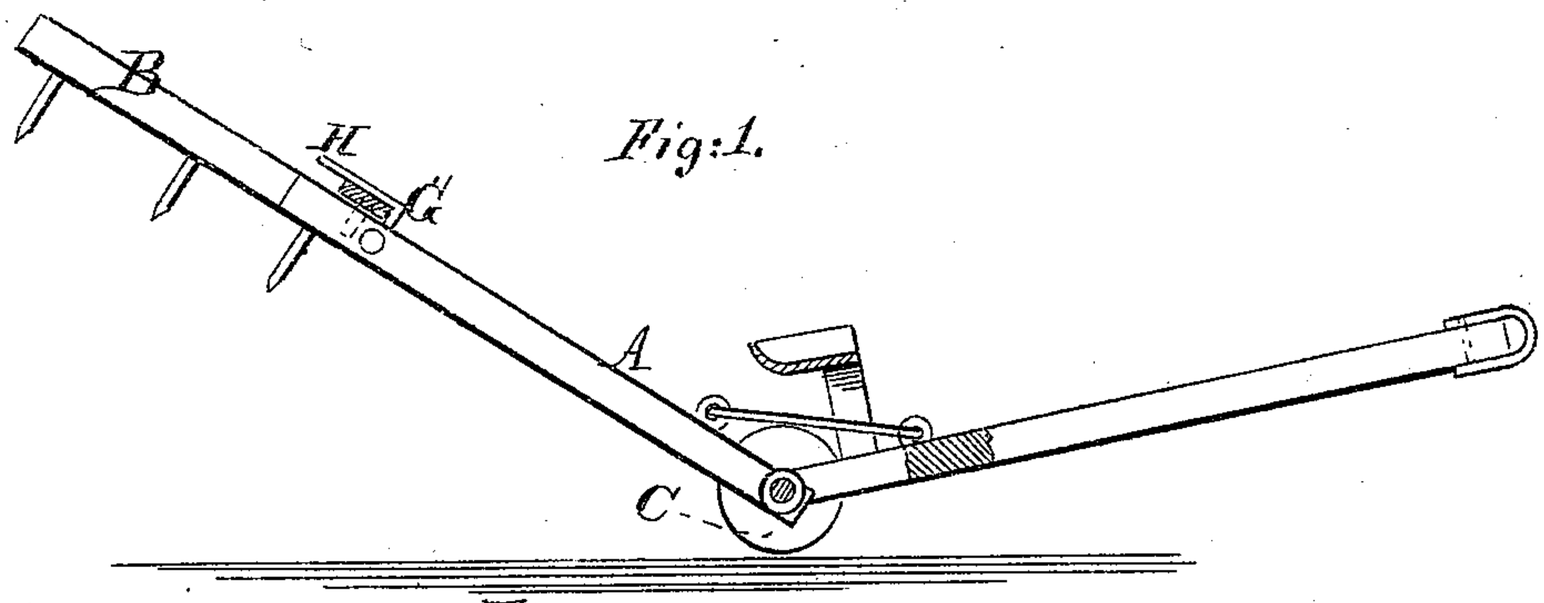
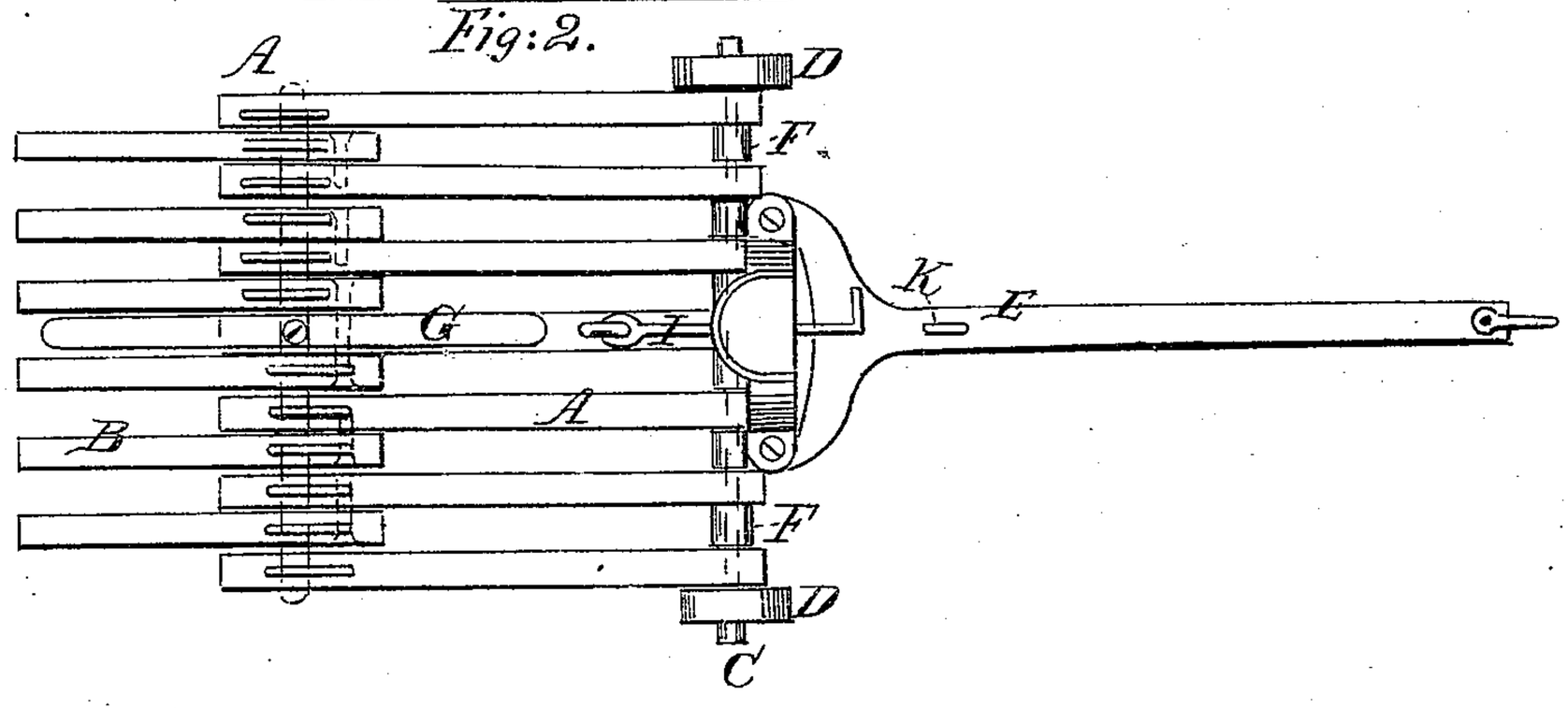


Fig: 2.



Witnesses.
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Letters Patent No. 92,719, *dated July* 20, 1869.

IMPROVEMENT IN HARROWS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, E. A. GOODES, of Philadelphia, Philadelphia county, Pennsylvania, have invented a new and useful Improvement in Harrows; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to improvements in harrows designed to adapt them to work in uneven ground, and also for transportation to or from the place of operation more advantageously than any now in use.

Figure 1 represents a longitudinal sectional elevation of my improved harrow, and

Figure 2 represents a plan view of the same.

Similar letters of reference indicate corresponding parts.

I employ two sets of longitudinal parallel bars, A B, for supporting the teeth, the one set, A, pivoted at their front ends to an axle, C, of a low truck, of which D represents the wheels, and E, the tongue or draw-bar.

Blocks F are interposed between the bars on the axle, to separate them so as to provide spaces between them, preferably of about the same width as the bars.

The rear ends of these bars are provided with teeth, one or more, as preferred, and at a sufficient distance in advance of the ends thereof. The other set of bars, B, is pivoted to them, being arranged in the spaces between.

This arrangement permits the application of the teeth of each bar to the ground independently of the other, so as to act upon all the parts thereof, no matter how uneven it may be.

G is a flat bar of metal, pivoted at its centre, near the rear end of the central bar of the set A, and capable of swinging in a horizontal plane.

All of the bars of both sets on one side of the central bar are provided with hooks, H, and their horizontal parts projecting rearward, and the bars on the other side have similar hooks reversed in position.

These hooks are so arranged that when the bar G is swung around to the position represented in red, and engaged with the hooks, the bars will be rigidly connected together in the vertical direction.

When in this position, all the bars may be maintained in the elevated position shown in fig. 2, by means of the hook I, on the central bar A, and the staple K on the tongue when hooked together.

The bars A are so connected to the axle as to be readily detached therefrom, for storing away when not required for use, or when the truck may be required for other purposes.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the bars A B and truck, when arranged substantially as specified.

2. The combination, with the bars A B, of the hooks H and clamping-bar G, when arranged substantially as specified.

E. A. GOODES.

Witnesses:

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