

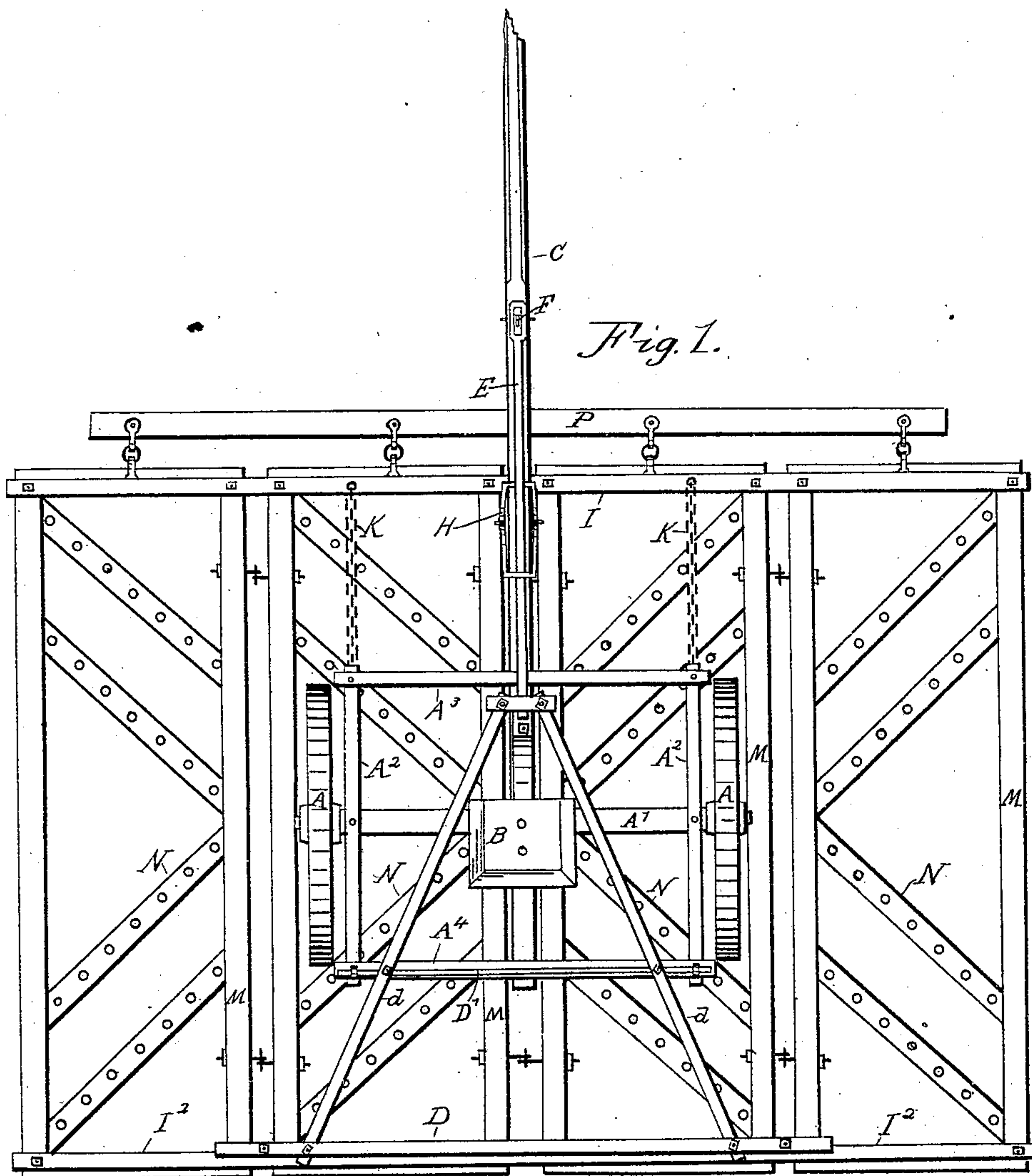
(No Model.)

2 Sheets—Sheet 1.

J. FEESS.
SULKY HARROW.

No. 275,030.

Patented Apr. 3, 1883.



Witnesses.
Elihu B. Stowe.
James G. Tarr

Inventor.
John Feess.
By Joshua B. Webster Attorney.

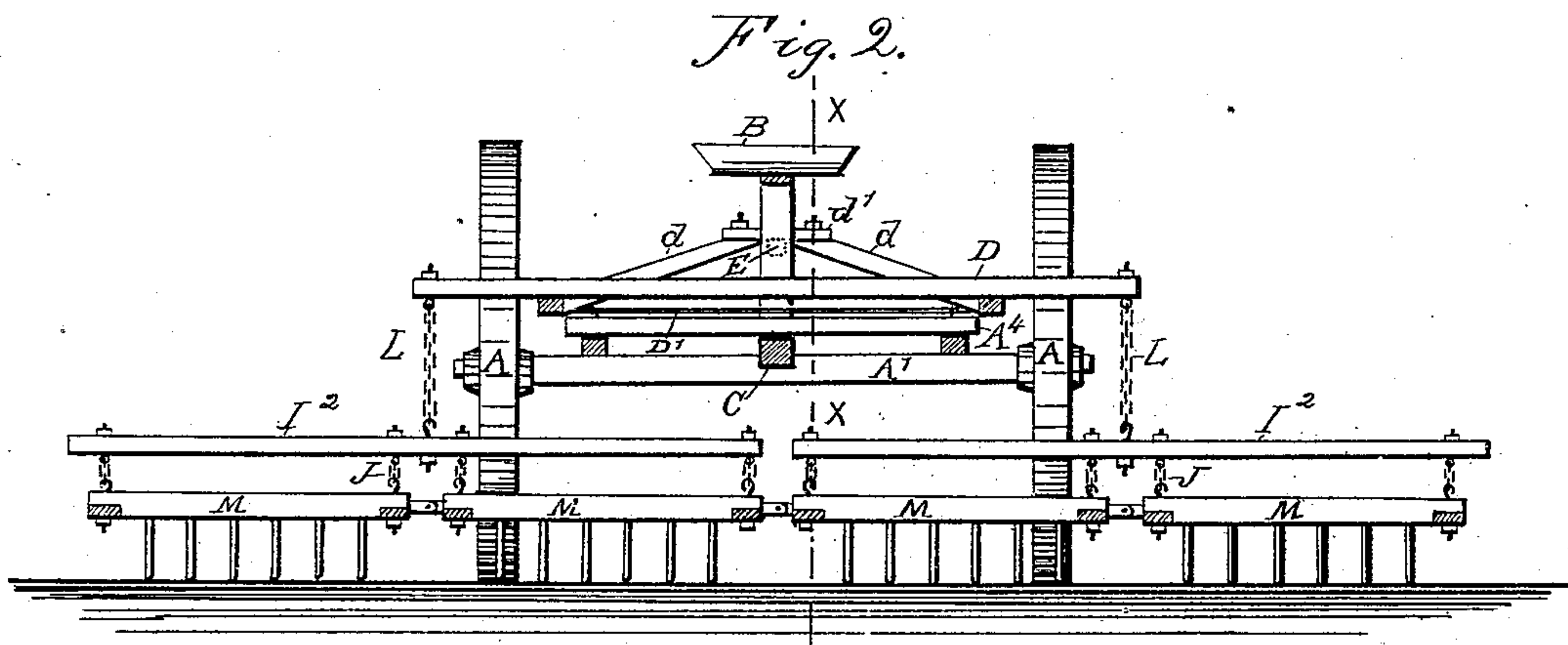
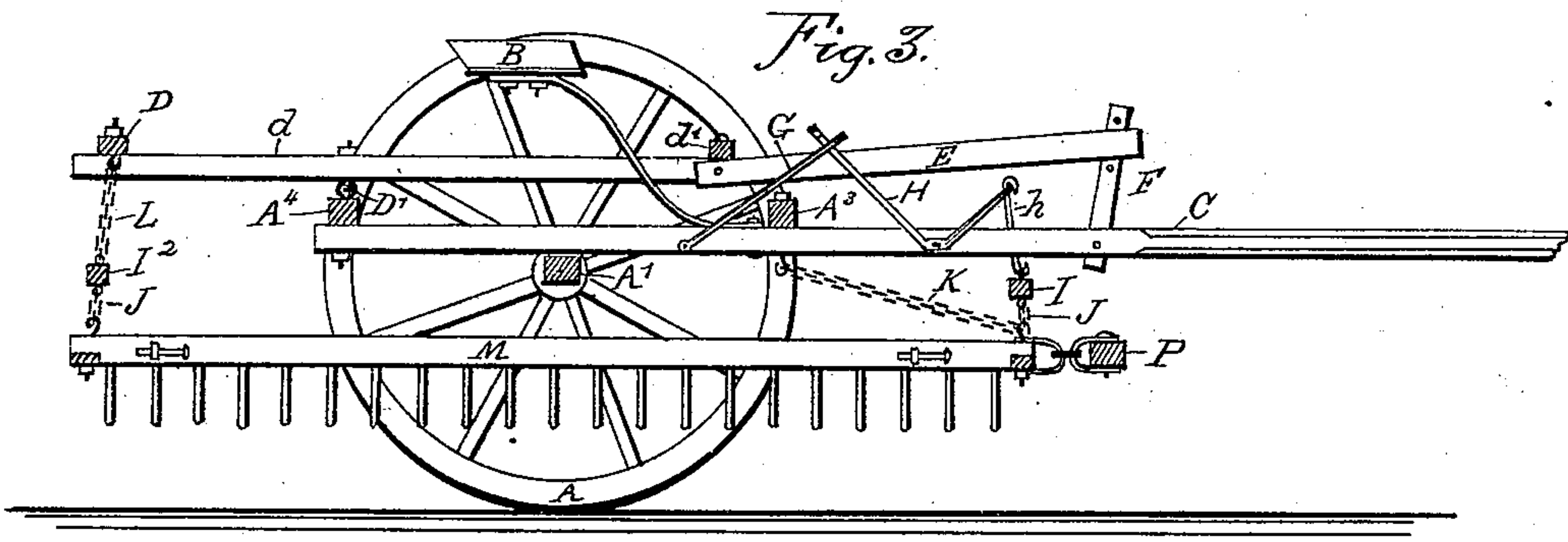
(No Model.)

2 Sheets—Sheet 2.

J. FEESS.
SULKY HARROW.

No. 275,030.

Patented Apr. 3, 1883.



Witnesses:
Elihu P. Howes
James G. Tait

Inventor.
John Feess.
By Joshua B. Webster Attorney.

UNITED STATES PATENT OFFICE.

JOHN FEESS, OF MARYSVILLE, CALIFORNIA.

SULKY-HARROW.

SPECIFICATION forming part of Letters Patent No. 275,030, dated April 3, 1883.

Application filed October 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN FEESS, a citizen of the United States, residing at Marysville, in the county of Yuba and State of California, have invented certain new and useful Improvements in Sulky-Harrows; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Figure 1 is a plan of my harrow. Fig. 2 is a rear elevation of the same. Fig. 3 is a sectional elevation of the same on line X X, Fig. 2.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish a sulky-harrow which shall be convenient and effective in use by reason of being easily raised from the ground and the teeth readily prevented from clogging.

A are the wheels of the sulky, having an ordinary axle, A'.

A² are the sides of the frame of the sulky, bolted at their centers to the top of axle A'.

A³ is the front piece of the sulky-frame, bolted at its ends to the top of the front ends of frame sides A².

A⁴ is the rear piece of the sulky-frame, bolted at its ends to the top of the ends of frame sides A². The tongue C is bolted at its rear end to and beneath rear frame end, A⁴; also rests upon and is bolted to the axle A', and beneath and to front frame end, A³, the tongue, axle, and sulky-frame thus being well braced, stiff, and mutually self-sustaining.

M are the harrow-sections, four in number, united by short link-connections, and being of an oblong (longitudinally) figure, each section having four cross-bars, N, the inner ends of which are secured to the inner longitudinal bar of each harrow-section, near such bar's center, and the other ends diagonally to the outer longitudinal bar. This arrangement of the longitudinal and cross-bars secures great strength to each section of the harrow, and also admits, as shown, the wheels A of the sulky between the inner cross-timbers N of the

two inner sections of the harrow, as a triangular-shaped space between the timbers is the consequence of the location, as described, of said timbers N. These timbers N also carry the harrow-teeth, which are thus, from their position, less liable to clog, and most thoroughly pulverize the soil, as each tooth follows directly a course parallel with its fellow. Chains J, extending from eyes in each of the rear corners of harrow-sections M, connect them to hangers I², there being one hanger to each two sections of the harrow. Hangers I² are in turn connected by chains L, extending from their centers to the ends of a rear bar, D, of a raising triangular-shaped lever composed of said rear bar, D, and side bars, d, and of a connecting front end foot-board, d', the fulcrum of said lever being a round stationary shaft, D', attached at the top of rear frame-piece, A⁴, and passing round eyelets whose ends are attached beneath side bars, d, of the triangular lever. The front ends of bar d at their intersection form a jaw within which is loosely secured by cross-pin a front lever, E, having its forward horizontal end sleeved and fitting over and upon the head of a standard, F, and resting upon a cross-pin of said standard, whose foot is loosely pinned to pole C. The front ends of the inner sections, M, of the harrow are secured to the front ends of the sulky-frame pieces A² by draft-chains K. A cross-hanger, I, is secured by chains J to the front corner of each of the sections M. Said hanger I is secured to the lower end of a double-headed hook, h, which extends upward through an opening in pole C, having its upper end hooked upon an angular-shaped double lever, H, having its fulcrum upon a pin transversely of the tongue C, immediately in front of sulky-frame end A³ and riding front lever, E. The upper end of said triangular lever H is within easy reach of seat B, which is mounted upon a spring secured to the tongue C, just behind frame end A³. A light vertical standard, G, its lower end playing upon a transverse pin in tongue C, attached immediately back of frame end A³, has a hook-shaped upper end. The driver, by foot-pressure upon block d', bears down the inner end of rear lever and rear end of front lever, E, and thus readily raises and lowers the rear end of the

harrow-sections M, while a similar and simultaneous, if desired, result is obtained with the front ends by depressing the rear end of the lever H. When the harrow-sections are thus
5 raised they may be retained in that position for transportation, as the hook-head of the standard G engages with the rear end of lever H, while by releasing said hook-head of standard G the harrow-sections again drop upon
10 the ground. By the use of either of the raising devices, as described, independently, the respective ends of the harrow-sections M may be temporarily raised to permit the dropping off of clogging material. The four-horse tree
15 P is attached, independently of the sulky, to the front of the four sections M of the harrow, so that if it is desired to detach the sulky the said sulky and all its collateral parts may be quickly removed from the harrow proper,
20 and the simple harrow be used in the field and the sulky for road purposes.

I am aware that many features shown in my drawings are not new; but

What I claim as new and of my invention
25 is—

1. The combination, with the tongue C, of the angular-shaped double lever H, riding the front lever, E, and arranged at its rear and upper end to engage with the hook-head of standard G, and having the upper end of double-headed hook h attached to its forward end, and passing down through tongue C and engaging with cross-hanger I, said cross-hanger I being connected to the front bars of the harrow-sections by chains J, all arranged and operating substantially as herein described and set forth. 30 35

2. The rear leverage apparatus, in combination with the two cross-hangers I² by means of the chains L, said hangers being connected with the rear bars of the harrow-sections by the chains J, all arranged and operating substantially as herein described and set forth. 40

In testimony whereof I affix my signature in presence of two witnesses.

JOHN FEESS.

Witnesses:

ELIHU B. STOWE,
JOSHUA B. WEBSTER.