S. W. KIMBLE.

Bending-Machines.

No. 144,109. Patented Oct. 28, 1873.

Fig. 1.

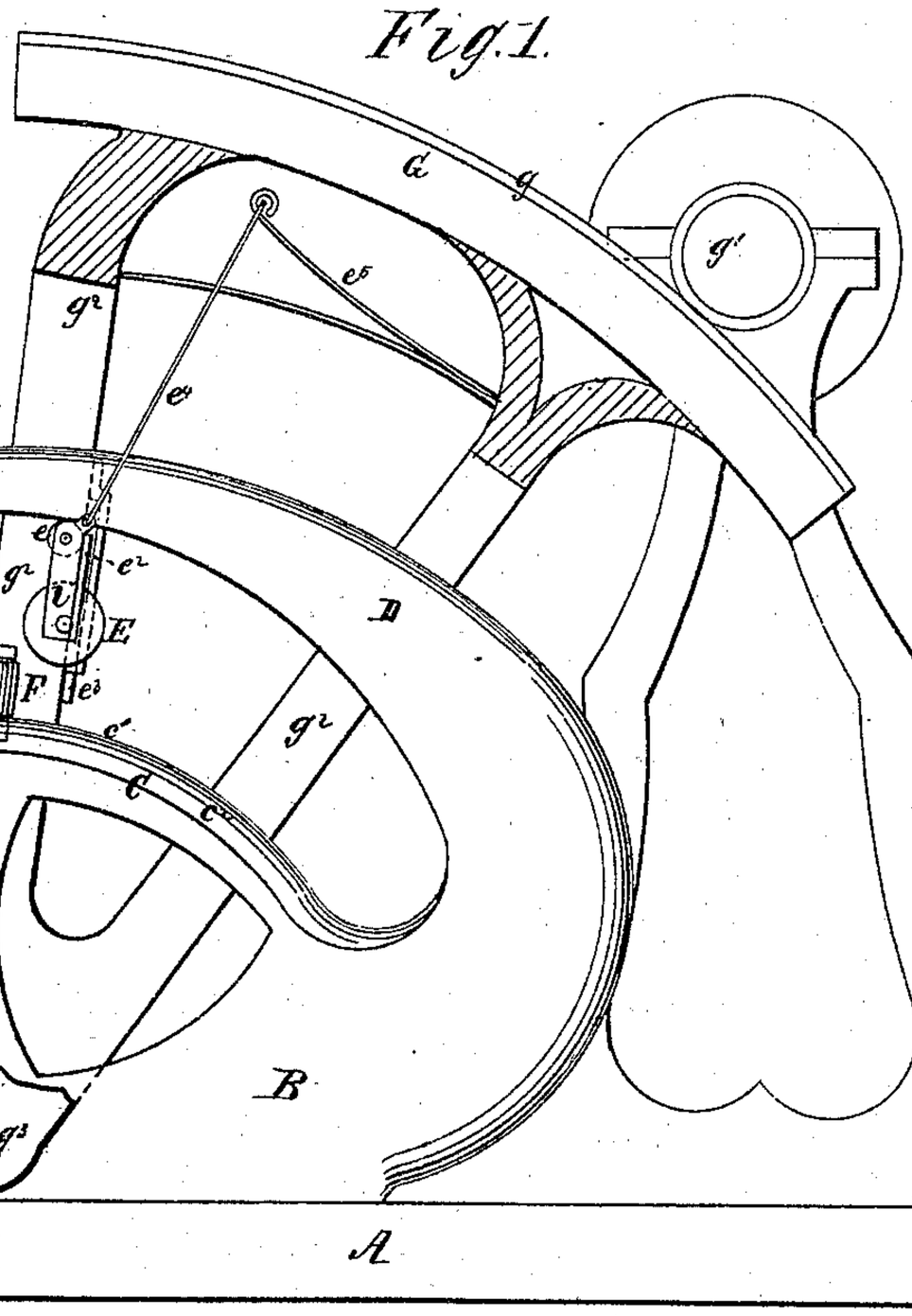


Fig. 3.

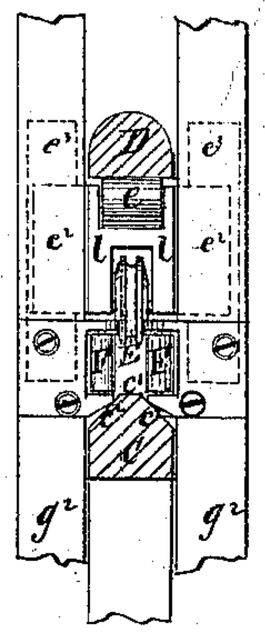


Fig. 4.

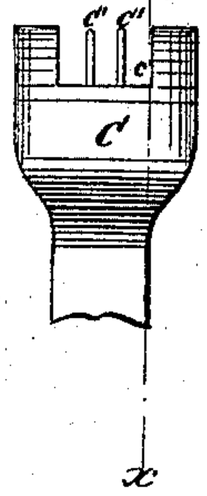
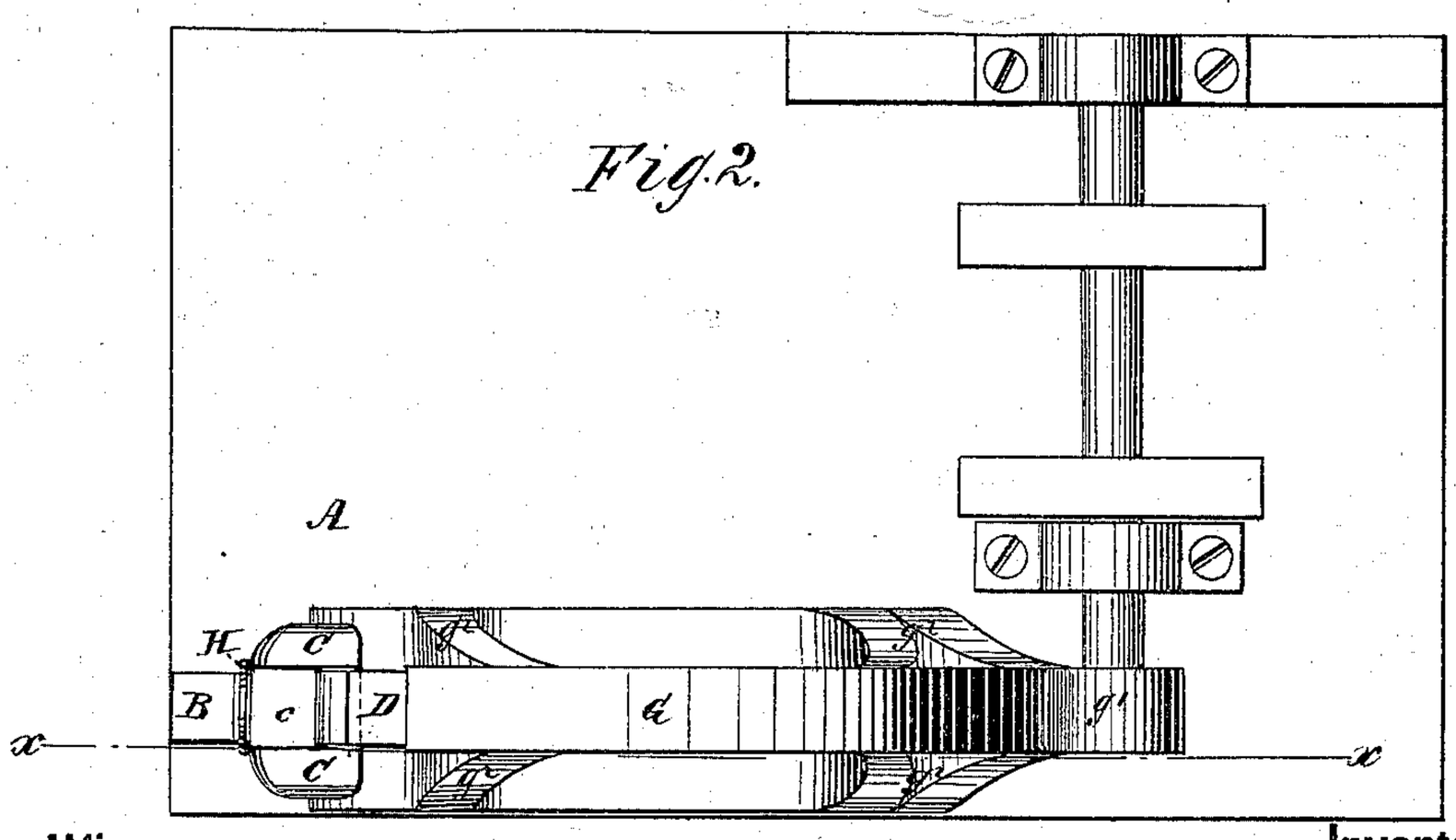


Fig. 2.



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UNITED STATES PATENT OFFICE.

SMITH W. KIMBLE, OF SPRINGFIELD, ILLINOIS.

IMPROVEMENT IN BENDING-MACHINES.

Specification forming part of Letters Patent No. **144,109**, dated October 28, 1873; application filed September 13, 1873.

To all whom it may concern:

Be it known that I, SMITH W. KIMBLE, of Springfield, in the county of Sangamon and State of Illinois, have invented a new and Improved Bending-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a longitudinal vertical section in line *x x* of Fig. 2. Fig. 2 is a top view. Figs. 3 and 4 are detail views.

The invention relates to means whereby corn-planter runners may be cheaply, conveniently, and effectually bent and brought into the desired shape, as hereinafter fully described and pointed out in the claim.

A represents a base or platform, from which rises an upright frame, B. On the latter is located the former C, having the gage-pins C′ near the inner end of the groove *c*, in which the blank is entered, and a plain surface, c^1, with side bevels c^2 c^2, one on each side thereof. D is a bar projecting over the former, and whose subjacent surface approaches gradually closer to the former, to allow the bending-roll E to bear upon the tapering blank, and, as it moves over, force it down to the former. F F are side rolls, which, as well as roll E, are placed in the slot of an arm, g^2, of the segment G, pivoted at g^3 to the frame. The roll E, however, is located in a frame, *l*, which has a friction-roll, *e*, at top, that bears against the bar D, side arms e^2 e^2, that enable it to slide in guides e^3 e^3, and a cord, e^4, which is looped over a spring, e^5. H is a pivoted yoke, which is passed over one end of the blank to hold it down in the groove *c*. The segment-arm G has a friction arc-surface, *g*, against which works a friction-pinion, g^1, on a rock-shaft, that is itself operated by two pulleys, one with a straight and the other with a crossed belt. The shaft, however, may be rocked or vibrated by any suitable means, this forming no part of my invention.

The tapering runner-blank is inserted with the thinner end foremost, while the thicker rests between the gage-pins C′ C′. The former projects between the side rolls F F and the slotted arms g^2 g^2 of the segment, while the thick end is held down by the pivoted yoke H thrown over it, the segment resting with one arm, g^2, against side projections on the head of former. The segment is now moved back over the former, the side rolls F F overcoming all tendency to buckle, while the top roll *e*, borne against the bar D, causes the blank to take the exact bend of the former. When the segment is returned to its starting-point, the roll E is lifted by its spring from the blank, and allows the finished runner to be removed and another blank inserted.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A vibratory segment provided with slotted arms, between which are placed the side rolls F and reciprocating top roll E, combined, as described, with a curved convex former, C, and a superposed bar, D, the subjacent surface of the latter gradually approaching the top of the former from front to rear, as set forth.

SMITH W. KIMBLE.

Witnesses:

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