(No Model.)

C. S. OLDER & L. L. DEERING.

WIRE STRETCHER.

No. 298,881. Patented May 20, 1884.

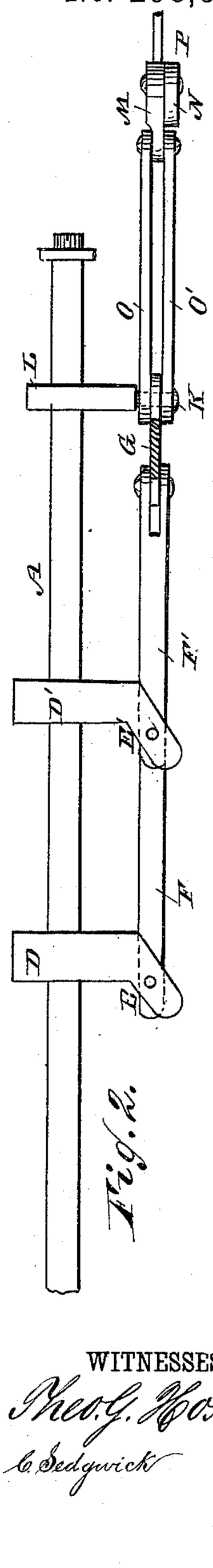

Fig. 2.

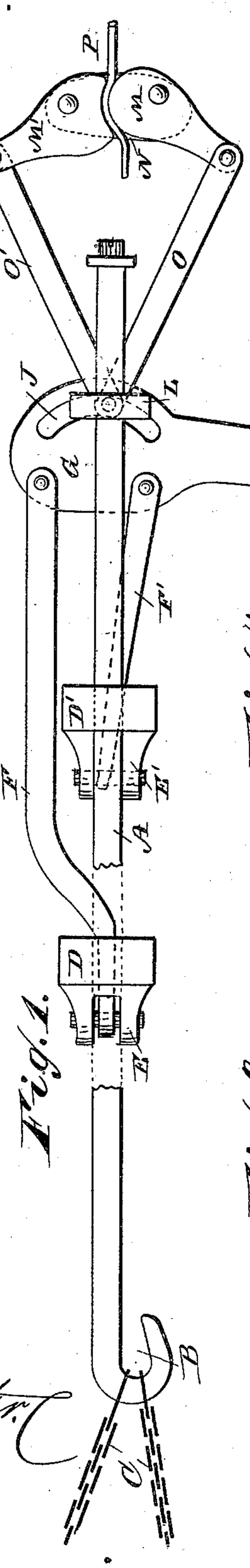

Fig. 4.

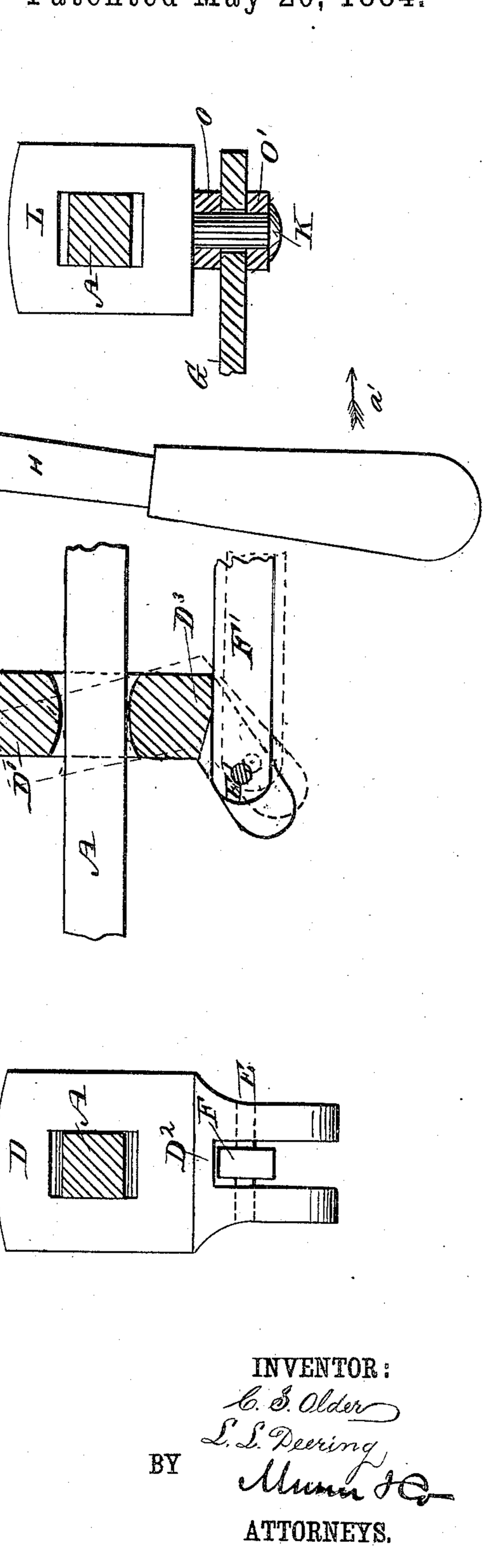

Fig. 5.

Fig. 3.

WITNESSES:

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CHARLES STEPHEN OLDER AND LEANDER LOWELL DEERING, OF INDEPENDENCE, IOWA.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 298,881, dated May 20, 1884.

Application filed May 7, 1883. (No model.)

To all whom it may concern:

Be it known that we, CHARLES S. OLDER and LEANDER L. DEERING, both of Independence, in the county of Buchanan and State of Iowa, have invented a new and Improved Wire-Stretcher, of which the following is a full, clear, and exact description.

The object of our invention is to provide a new and improved device for stretching wires for fences, telegraph, telephone, and electric-light lines, &c.

The invention consists of the several hereinafter described and claimed combinations of parts.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of our improved wire-stretcher, parts being broken away. Fig. 2 is a longitudinal elevation of the same. Fig. 3 is a face view of one of the gravity-clutches, the bar on which it is loosely mounted being shown in cross-section. Fig. 4 is a longitudinal sectional elevation of the same. Fig. 5 is a face view of the loop to which the lever is pivoted, parts being shown in section.

A bar, A, is provided at one end with a hook, B, for holding a chain, C, passed around a post or some other fixed object; or the hook B can be driven into a post, if desired. On the bar A are loosely mounted two square loops or gravity-clutches, D D′, which have the top and bottom edges of their openings convexed transversely, as shown in Figs. 3 and 4. The clutches D D′ are provided with downwardly and backwardly inclined forked arms E E′, in which connecting rods or bars F F′ are pivoted, the opposite ends of which are pivoted to opposite sides of a horizontal plate, G, made integral with or attached to a lever, H. The plate G is provided in front of the ends of the connecting rods or bars F F′ with a segmental slot, J, presenting its concave side to the ends of the rods F F′. The middle of the slot is on a line which is midway between the pivots holding the ends of the rods F F′ on the plate G. A pivot, K, passes through the slot J, and is made integral with or attached to a loop, L, mounted loosely on the bar A. The ends of two connecting rods or bars, O O′, are loosely mounted on the pivot K, above and below the plate G. The opposite ends of the rods O O′ are pivoted to the outer ends of cam-dogs M M′, which are pivoted on a plate, N. The inner end of the dog M′ is recessed, and the inner or corresponding end of the dog M is rounded to fit into the said recess in the dog M′.

The operation is as follows: The bar A having been secured to a post or other support by means of the chain C, or in any other suitable manner, it is placed in such a position that the plate G will be horizontal, and the clutches D D′ hang vertically, as this position of the clutches is essential for the operation of the device. The wire P is passed between the dogs M M′, and by the strain on the connecting bars or rods O O′ the outer ends of the dogs will be drawn toward each other, and the wire will be jammed and held firmly between the inner ends of the dogs M M′. Ordinarily the clutches D D′ hang vertically upon the bar A. If the lever H is moved in the direction of the arrow *a′*, the connecting-rod F′ will draw the lower end of the arm E′ of the clutch D′ in the same direction, as seen in dotted lines in Fig. 4, and thereby the grip of the said clutch on the wire will be increased. At the same time the connecting-rod F will press against the lower end of the arm E of the clutch D′ in the inverse direction of the arrow *a′*, and as the contact of its shoulder D^2 with the rod F prevents this pressure from throwing said clutch beyond a vertical position, the clutch will slide in that direction along bar A, the pivot K passing to that end of the slot J toward the handle end of the lever. The pivot of the connecting-rod F′ will be the fulcrum of the lever H, and the wire-gripping device will be drawn in the inverse direction of the arrow *a′*, and the wire will be drawn taut. If, then, the lever H is moved in the inverse direction of the arrow *a′*, the clutch D′ will be caused to occupy a perpendicular position, as shown in full lines in Fig. 4, by reason of the contact of its shoulder D^3 with the arm F′, and can be moved in

the inverse direction of the arrow *a'*; but the clutch D will be jammed firmly on the rod as the connecting-rod F draws the lower end of its arm E in the direction of the arrow *a'*. The pivot securing the end of the connecting-rod F on the plate G acts as the fulcrum, and the wire-gripping device will be drawn in the direction of the arrow *a'*, and the wire will be stretched or drawn taut again, and so on. The pivot at the end of the connecting-rod F' is the fulcrum when the lever H is moved in the direction of the arrow *a'*, and the pivot of the connecting-rod F is the fulcrum when the lever H is moved in the inverse direction. The clutch D' grips the bar A and holds the wire taut while the clutch D is moved back to get a fresh grip on the bar, and the clutch D grips the bar A while the clutch D' is moved back to get a fresh grip on the bar. The wire is held firmly by the dogs, and can be released easily by moving the outer ends of the dogs from each other. The wire is thus stretched or drawn taut every time the lever H is moved either in the direction of the arrow *a'* or the inverse direction.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. In a wire-stretcher, the combination, with the gripping device and the gravity-clutches, the latter being arranged on a bar, of the lever connected to said gripping device and clutches, and a looped bolt forming the pivot of the lever, and with its loop adapted to receive the bar upon which the gravity-clutches are arranged, substantially as and for the purpose set forth.

2. In a wire-stretcher, the combination, with the bar A, of the gravity-clutches having the top and bottom edges of their apertures convexed, the connecting-rods, the lever, and the gripping device, the bolt connecting the lever and the connecting-rods of the gripping device having an eye or loop through which the bar passes, substantially as and for the purpose set forth.

3. In a wire-stretcher, the combination, with the bar A, of the gravity-clutches having the top and bottom surfaces of their apertures convexed, which clutches are provided with downwardly and backwardly projecting arms, the connecting-rods, the gripping device, and the lever, the bolt connecting the lever and the connecting-rods of the gripping device having an eye or loop through which the bar A passes, substantially as and for the purpose set forth.

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