

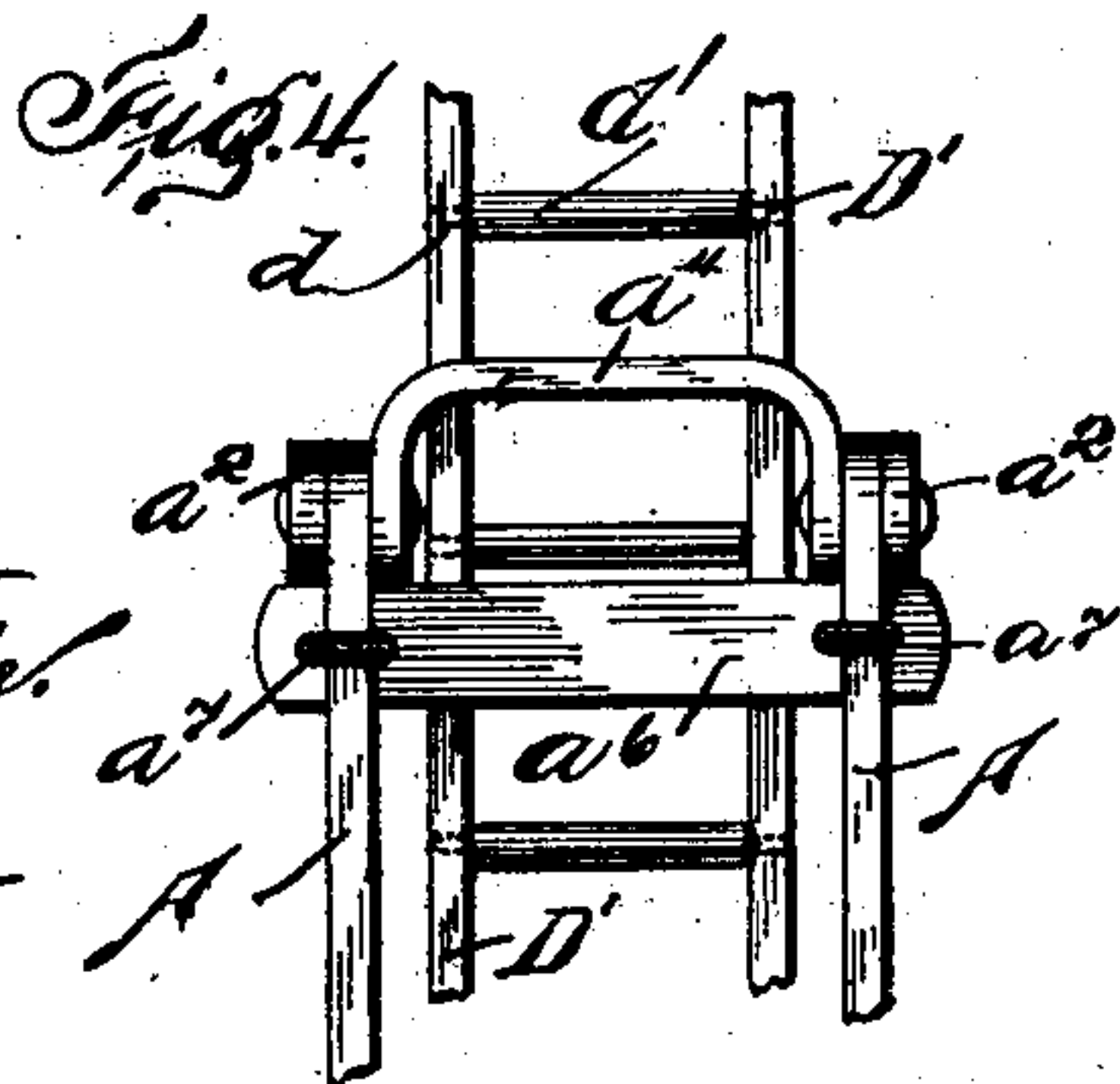
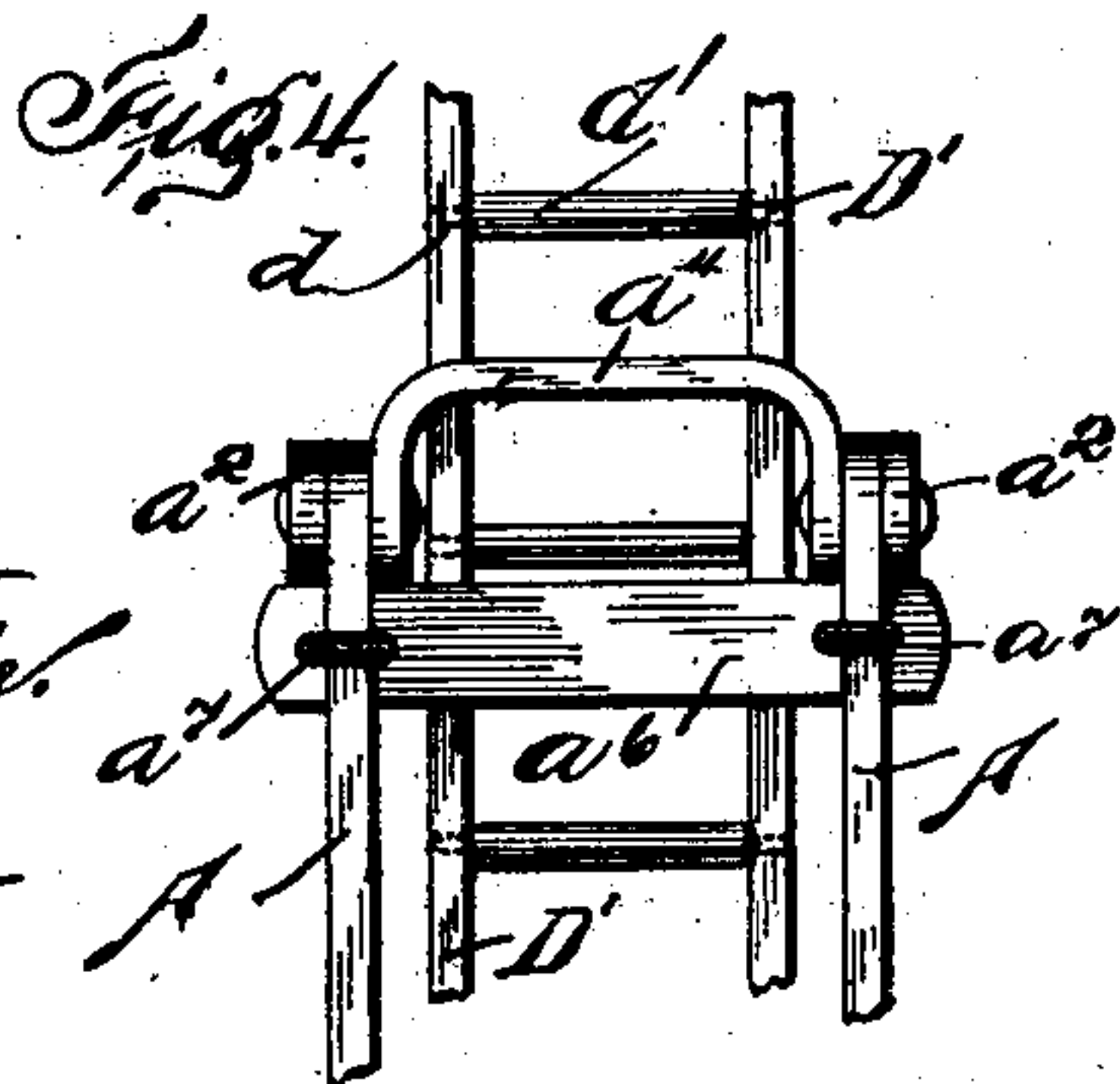
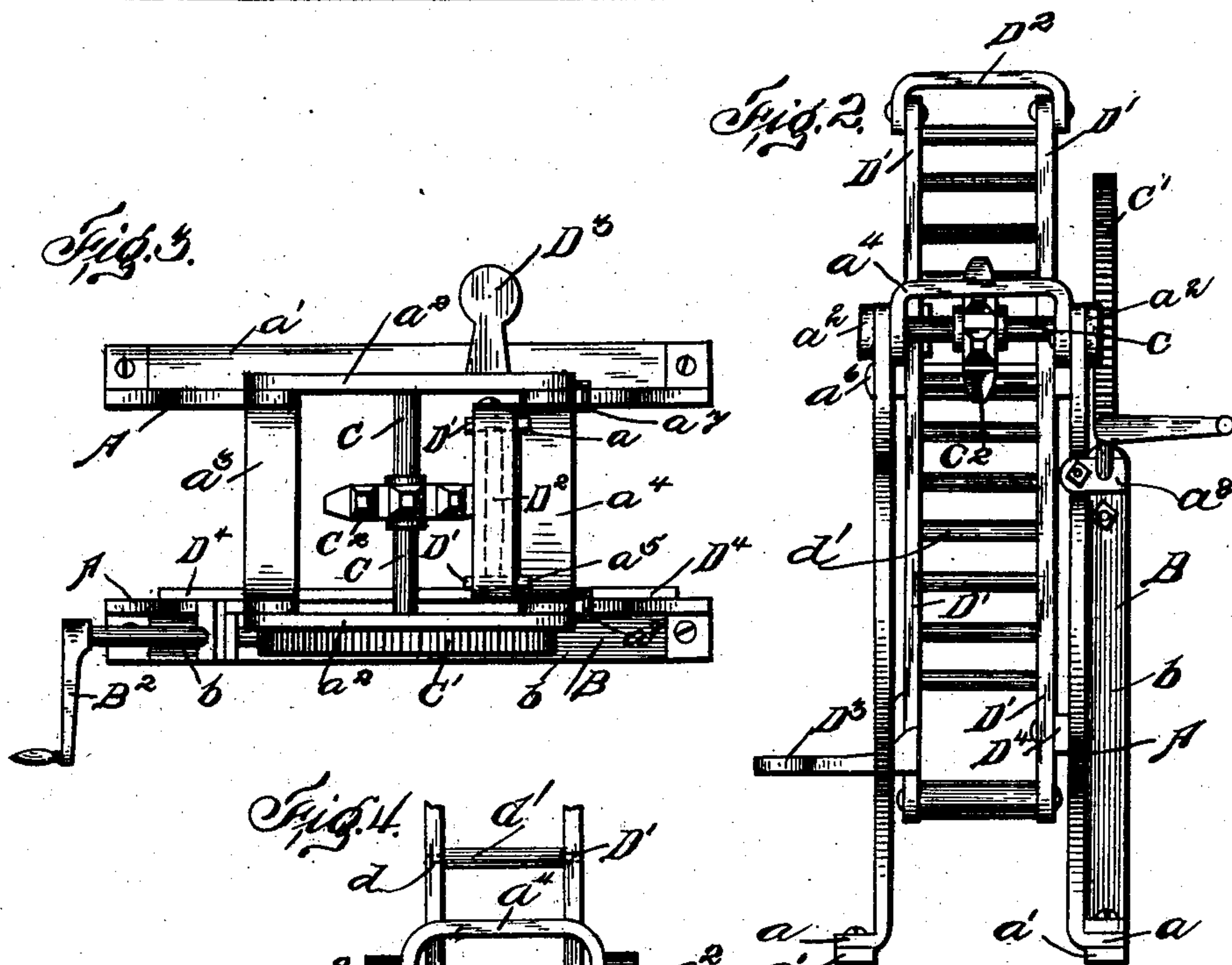
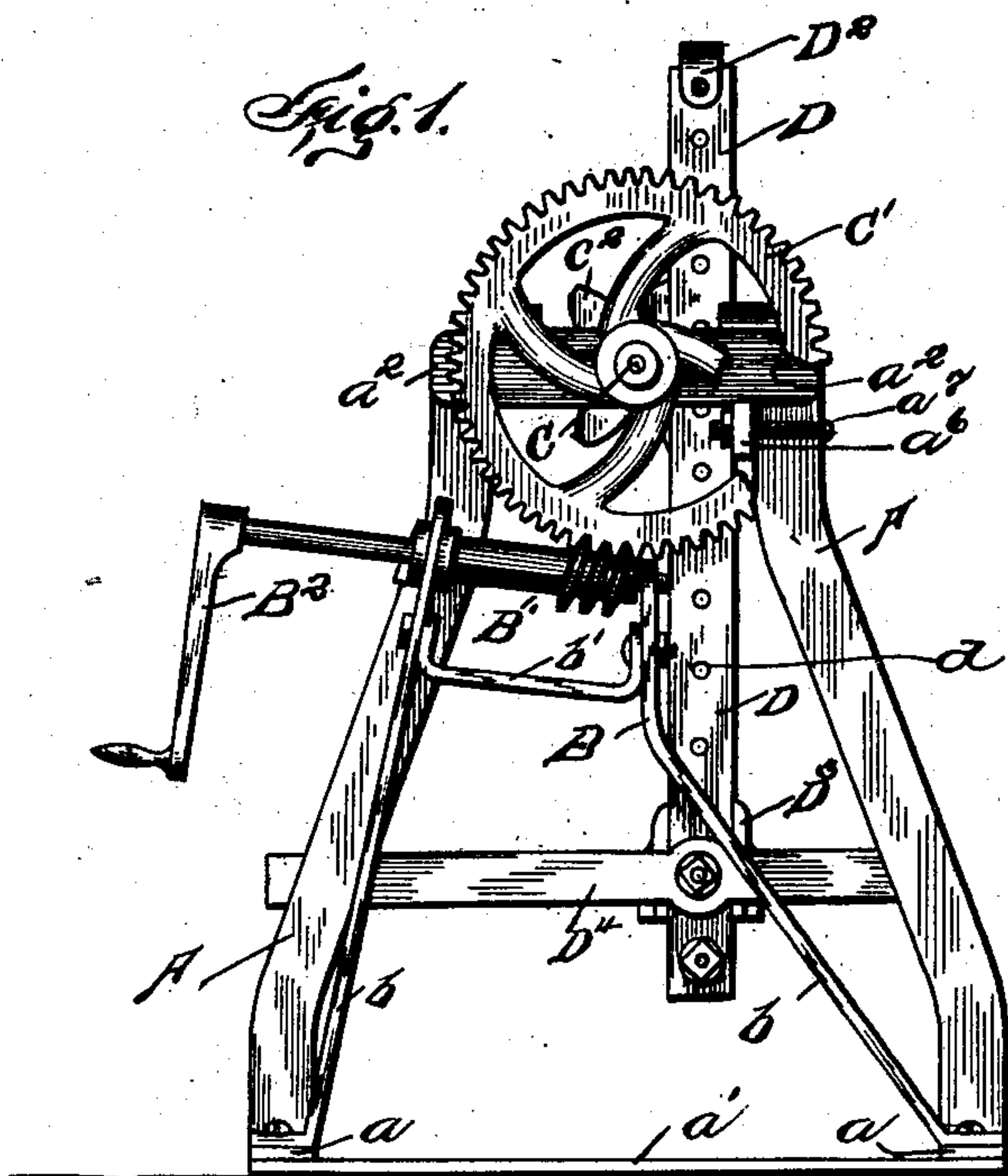
No. 742,083.

PATENTED OCT. 20, 1903.

G. STOCKAMP.
LIFTING JACK.

APPLICATION FILED JULY 13, 1903.

NO MODEL.



WITNESSES:

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GEORGE STOCKAMP, OF HOOPER, NEBRASKA.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 742,083, dated October 20, 1903.

Application filed July 13, 1903. Serial No. 165,226. (No model.)

To all whom it may concern:

Be it known that I, GEORGE STOCKAMP, a citizen of the United States, residing at Hooper, in the county of Dodge and State of Nebraska, have invented a new and useful Improvement in Lifting-Jacks, of which the following is a specification.

My invention relates to an improvement in lifting-jacks, and has for its object to provide a simple, cheap, and efficient device which may be used for lifting vehicle-axles, whereby the axle-spindles may be oiled. It may be also used for lifting rails, houses, &c.

My invention consists in certain novel features of construction, as will be hereinafter fully described, and pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improvement, partly broken away, showing the mechanism for raising or lowering the lifting-bar. Fig. 2 is an end elevation. Fig. 3 is a plan view. Fig. 4 is a fragmentary end view looking at the end opposite that shown in Fig. 2.

In carrying out my invention I construct a framework of flat bars of iron, steel, or other suitable material, and the base of said frame is of greater area than the top thereof. Said frame consists of the upright side bars A, which have their lower ends bent outwardly to form feet a . To said feet, on their under surface, are secured the base-bars a' . The side bars are connected at their upper ends by the horizontal side bars $a^2 a^2$ and the horizontal end bars $a^3 a^4$, said end bars having their ends bent downwardly and secured between the upper ends of the upright side bars by bolts which pass through said bent ends, through the upright side bars, and through the horizontal side bars $a^2 a^2$ and by means of nuts screwed on said bolts hold all three members together. One of the end bars a^4 is provided with the notches or slots a^5 , the purpose of which will presently appear.

To one side of the frame and exterior thereto is secured an auxiliary frame B, consisting of the inclined end bars $b b$, secured at their lower ends to the outturned feet of the main frame. Near the upper portion of the auxiliary frame I secure between the bars $b b$ the brace-bar b' , which serves to connect the bars $b b$ and at the same time brace the frame B.

Said brace-bar is set at a slight angle to the horizontal, and the end of one of the bars $b b$ is slightly higher than the other, and in the upper ends of said bars $b b$ is journaled the worm-shaft B', which is provided at its free end with a crank-handle B².

A horizontal shaft C passes transversely across the main frame at its top through the top side bars $a^2 a^2$ and, being journaled therein, one end (the end which is at the side to which the auxiliary frame B is located) extends beyond its side bar and has rigidly secured thereon the worm-wheel C', which stands above the worm-shaft B' and meshes with it. At about the middle of shaft C, I rigidly secure a star-pinion C². The lifting-bar D consists of the two side bars D' D', held apart by pins or bars d , on which are mounted rollers d' , and the top of the side bars D' D' are secured together by the head D², which is made of a flat piece of strap iron or steel having its ends bent to embrace the top ends of the bars and fastened thereto by bolts and nuts or rivets. The lower ends of bars D' D' are secured by a suitable bolt. The teeth of the star-pinion C² engage the cross-rollers or what correspond to the teeth of an ordinary rack. The edges of the bars D' D' fit in the slots or notches a^5 in the cross-bar a^4 and are guided thereby in their up-and-down movement. To the outer face of one of the bars D', at or near its lower end, is secured a projecting hook or nose D³, which permits the use of the jack with low-down objects. On the outer face of the opposite bar D', near its lower end, is secured a flat bar of strap iron or steel D⁴, said bar extending the entire length of the main frame and bearing with its outer surface against the inner face of the upright side bars of said frame, thus forming an additional guide for the lifting-bar, said guide-bar D⁴ being of such thickness as to just fill the space between the outer face of the lifting-bar and the inner face of the upright side bars of the main frame. To the inner edges of the upper portion of the upright side bars just beneath the cross-bar a^4 I secure another guide plate or bar a^6 , which consists of a piece of flat strap iron or steel, it being secured to the upright side bars by means of eyebolts a^7 or other suitable means. This guide-bar is of such thickness as to fill

the space between the inner edges of the upright side bars and the adjacent edges of the lifting-bar and forms a guide therefor. This guide-bar is located below the plane of the shaft C. Hence it will be observed that the lifting-bar is guided on all sides, and it will move vertically by the rotation of the star-pinion. This pinion receives its motion through the worm-wheel, which is driven by the worm-shaft located below the same and at an inclination to the horizontal. By locating the worm-shaft below the worm-wheel the worm-wheel rests upon the worm-shaft and being constantly in mesh great power can be obtained to raise the jack.

It will be noticed that the lifting-bar is held in its vertical position through the instrumentality of the star-pinion C², the notched cross-bar α^4 , the base-guide D⁴, and the upper guide-bar α^6 .

By my device I provide a simple, strong, and efficient jack which can be readily constructed and which will possess great lifting power.

The upper end of the auxiliary frame B is secured to the main frame by means of bar α^8 , secured at one end to said auxiliary frame and at its other end to one of the upright side bars of the main frame.

In practice when my jack is to be used in places where the ground is soft or yielding the jack-frame is to be placed upon a plank or board to prevent it sinking into the earth.

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

1. A lifting-jack consisting of a main frame, an auxiliary frame secured to one side thereof and adjacent thereto, a transverse shaft mounted in said main frame independently of said auxiliary frame, a worm-wheel secured to one end of the shaft, a worm-shaft mounted in the auxiliary frame below said worm-wheel and meshing therewith, a pinion secured to the transverse shaft within the main frame, and a lifting-bar mounted within the main frame, and engaged by the pinion, whereby said lifting-bar may be raised and lowered by the revolution of the worm shaft and wheel.

2. A lifting-jack comprising a main frame consisting of side bars and top end bars, one of said end bars having notches or slots in its inner edge, an auxiliary frame secured to the main frame at one side thereof, a transverse shaft mounted to rotate in the upper part of the main frame, a worm-wheel secured to one end of the transverse shaft projecting beyond the main frame at the side on which the auxiliary frame is mounted, a worm-shaft mounted to rotate in the upper part of the auxiliary frame below the worm-wheel, said worm-shaft meshing with the worm-wheel, a lifting-bar consisting of side bars, a head and rollers mounted on cross-pins connecting the side bars of said lifting-bar, a star-pinion secured

to the transverse shaft and engaging the rollers of the lifting-bar, the outer edges of the side members of the lifting-bar fitting in the slots in the edge of the end cross-bar, a horizontal guide-plate secured to one side of the lower end of the lifting-bar and engaging the side bars of the main frame at one side, and a transverse guide-plate secured to the main frame below, the end cross-bar having the slots, said transverse guide-plate adapted to be engaged by the lifting-bar in its up-and-down movement and guide the same.

3. A lifting-jack comprising a main frame consisting of side bars, outturned feet at the base thereof, side base-bars secured to said feet, top side bars secured to the upper ends of the upright side bars, end cross-bars joining the upper ends of the side bars, one of said end bars having slots or notches in its inner edge, a transverse shaft mounted to rotate in the top side bars and having one end projecting beyond the same, a star-pinion secured to said transverse shaft within the main frame, a guide-plate secured to the upright side bars below the end cross-bar that is provided with the slots, a lifting-bar comprising two side members secured together by bolts carrying rollers, said side members fitting in the slots in the end cross-bar and engaging the guide-plate located beneath the same, a horizontal base guide-bar secured to one of the side members of the lifting-bar, and projecting in both directions and engaging the side upright bars of the main frame, a worm-wheel mounted on the projecting end of the transverse shaft carrying the star-pinion, said pinion engaging the rollers of the lifting-bar to raise and lower the same, and an auxiliary frame secured to the base of the main frame at one side beneath the worm-wheel, said auxiliary frame having journaled at its upper end an inclined worm-shaft engaging and meshing with the worm-wheel from below, and means for rotating the worm-shaft whereby the lifting-bar through the agency of the worm-wheel and star-pinion will be raised and lowered and be held in vertical alinement by the aforementioned guide-notches and guide-bars.

4. A lifting-jack comprising a main frame, a lifting-bar guided to move vertically therein, a transverse shaft mounted to rotate in said frame, a toothed wheel secured to said shaft and adapted to engage the lifting-bar, a worm-wheel carried on the projecting end of said shaft, an auxiliary frame secured to the main frame at one side, a worm-shaft journaled in the upper end of the auxiliary frame at an angle below the worm-wheel and meshing therewith, and means for rotating said worm-shaft.

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Witnesses:

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