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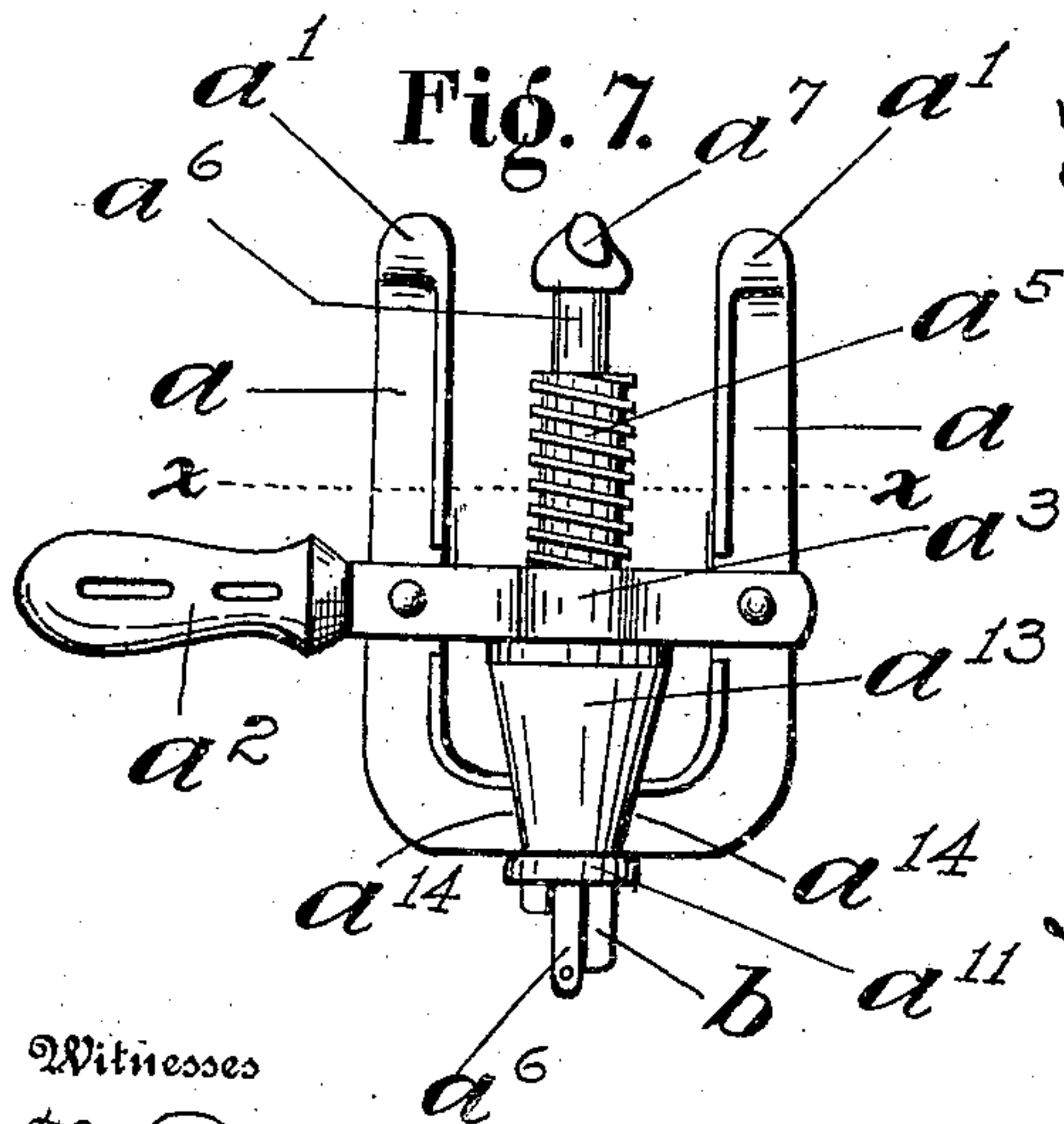
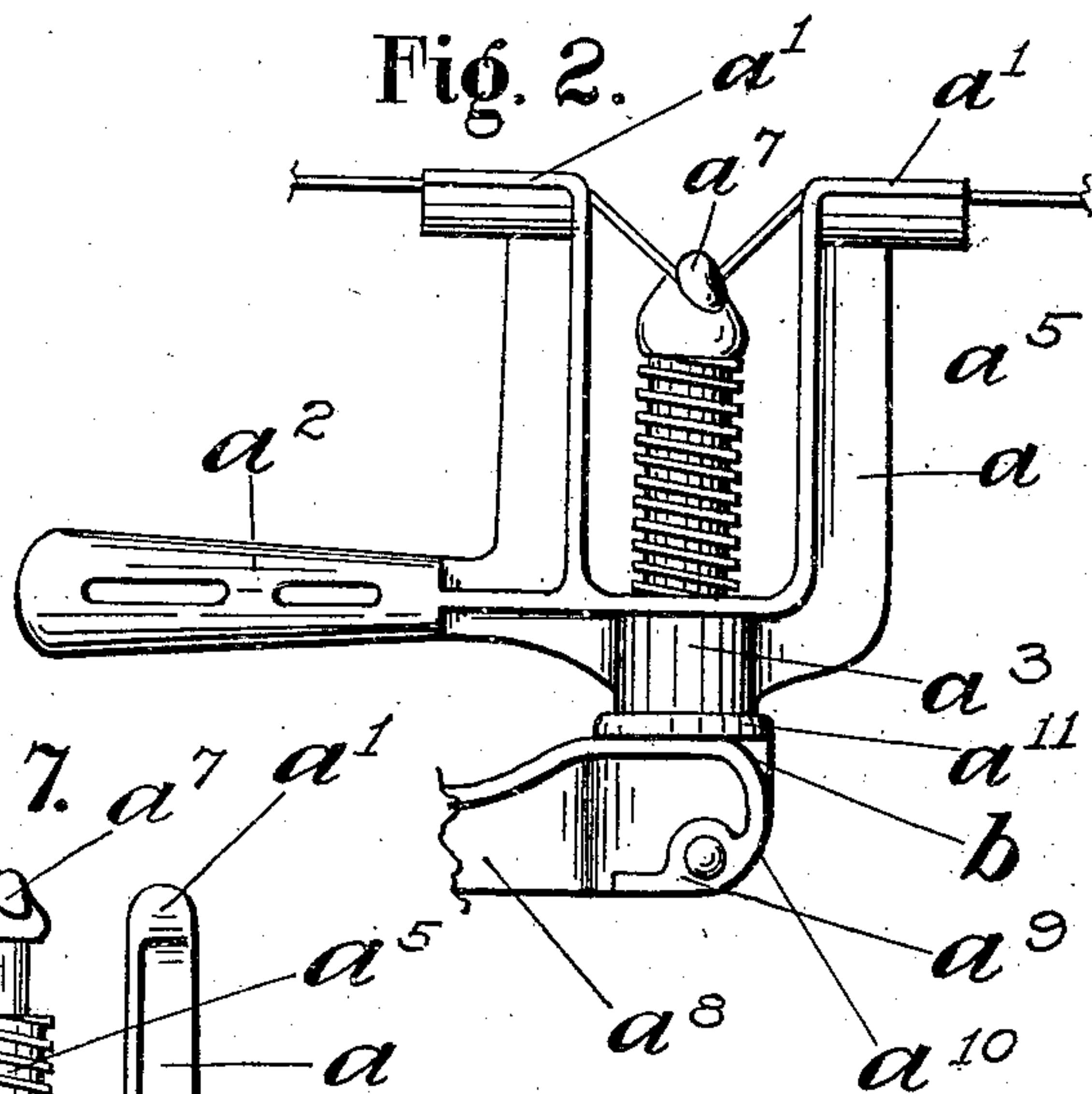
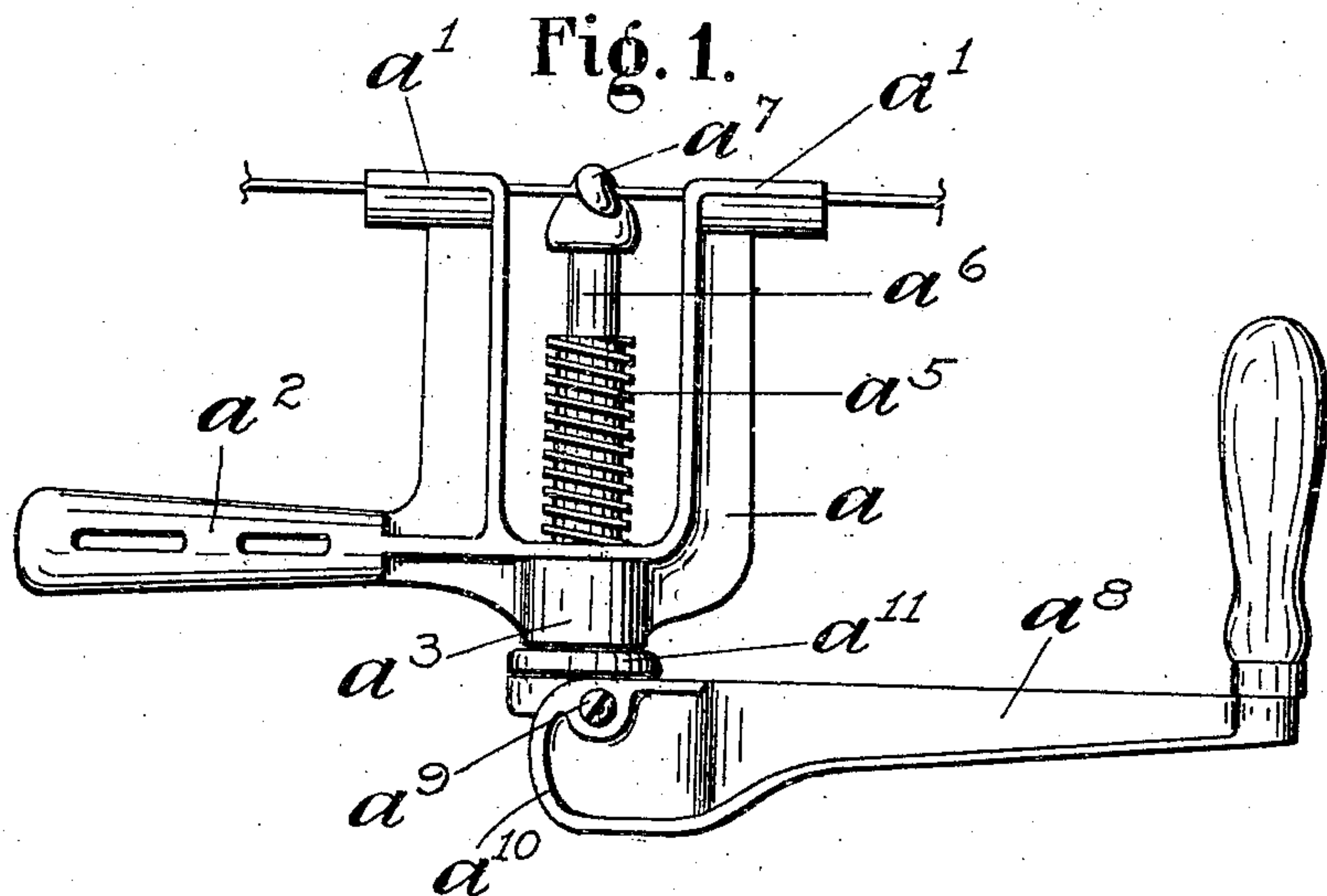
PATENTED DEC. 31, 1907.

H. BROOME & C. J. BOWLUS.

FENCE WIRE TIGHTENER.

APPLICATION FILED APR. 8, 1907.

3 SHEETS—SHEET 1.



Witnesses

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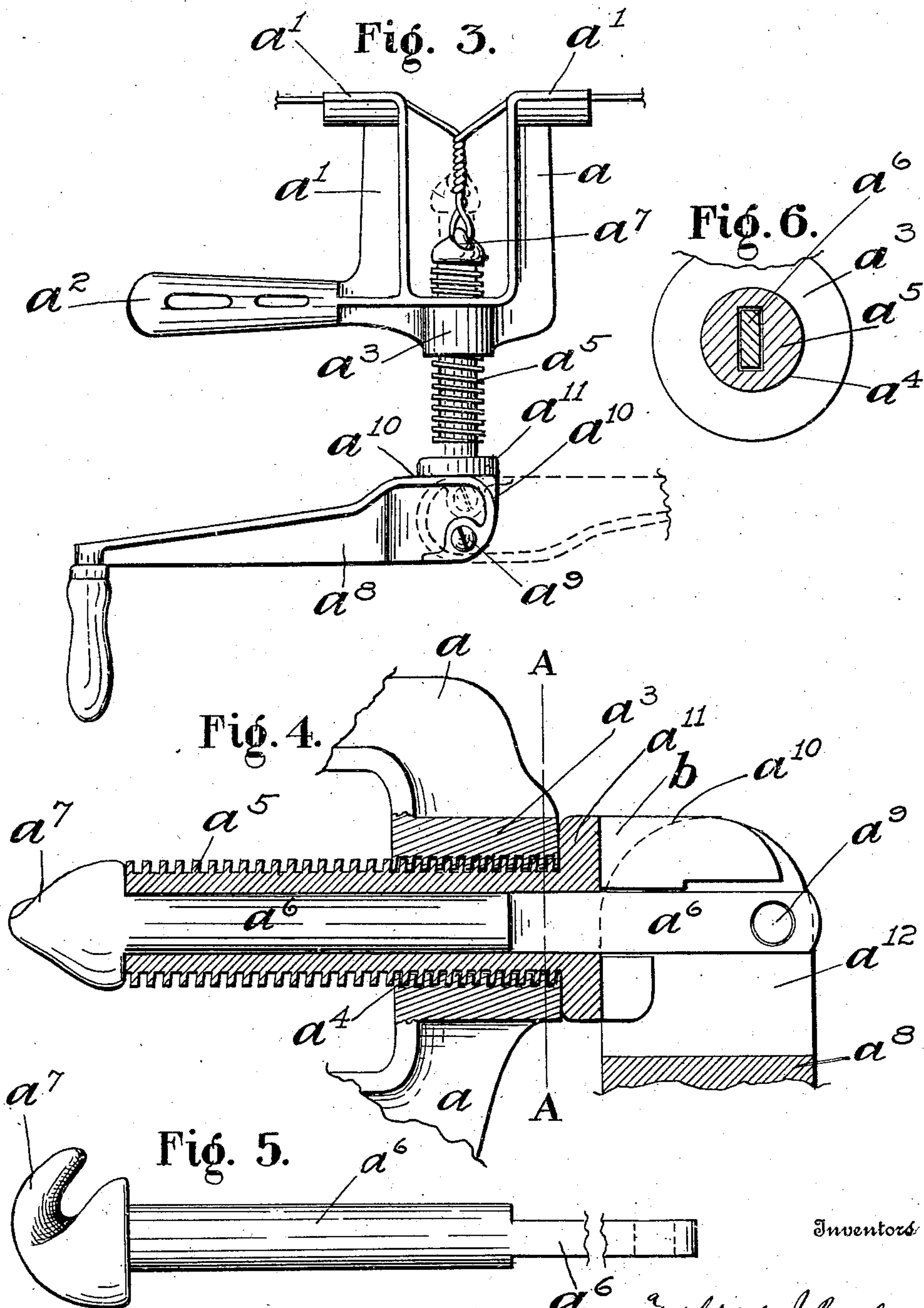
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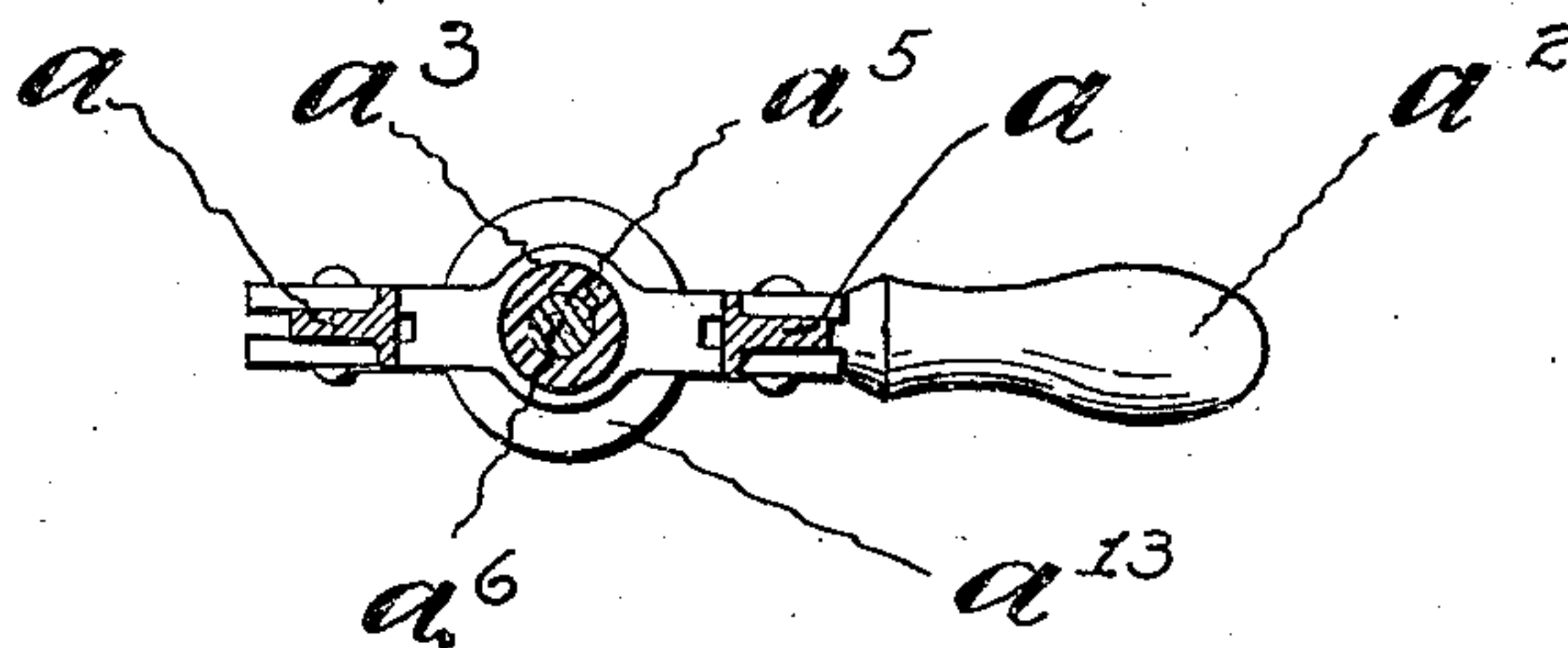
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3 SHEETS—SHEET 3.

Fig. 8.



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UNITED STATES PATENT OFFICE.

HENRY BROOME AND CHARLES J. BOWLUS, OF SPRINGFIELD, OHIO.

FENCE-WIRE TIGHTENER.

No. 874,934.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed April 8, 1907. Serial No. 367,083.

To all whom it may concern:

Be it known that we, HENRY BROOME and CHARLES J. BOWLUS, citizens of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Fence-Wire Tighteners, of which the following is a specification.

Our invention relates to an improvement in devices for tightening fence wires.

The object is to construct a device which can be most easily manipulated and most efficient for this purpose.

The primary object is to utilize a single crank handle for all the necessary movements of adjusting and taking up the slack and twisting the wire, and to arrange the device so that it can be advantageously employed for this purpose.

In the accompanying drawings, Figure 1 is a side view showing the parts in adjusted position, the wire being simply engaged by the hook. Fig. 2 is a similar view the slack having been taken up and the parts in position for the twisting operation. Fig. 3 is a similar view of the parts showing the wire twisted after the slack has been taken up. Fig. 4 is a longitudinal sectional view. Fig. 5 is a detail view of the hook member. Fig. 6 is a sectional view on the line A A of Fig. 4. Fig. 7 is a detail view of a modification especially adapted to tightening barbed wire. Fig. 8 is a horizontal sectional view of the modification shown in Fig. 7, the section being taken on the line x x of Fig. 7, looking toward the rear of the device.

Like letters of reference indicate like parts throughout the several views.

The frame or casting is designated by *a*, and the legs, *a*¹, are grooved for fitting the wire, as indicated in Figs. 1, 2 and 3. Preferably, the opening of the hook is made in alinement with the grooves. A handle, *a*², projects from the frame, *a*, which handle constitutes merely a holding means for the structure. The central part, *a*³, of the frame, *a*, is perforated at *a*⁴, as shown in Figs. 4 and 6, and said opening is screwthreaded as shown clearly in Fig. 4. The screwthreaded sleeve, *a*⁵, constitutes a movable member which is screwthreaded within the perforated opening, *a*⁴, and the hook member is slidingly mounted in said movable member. The hook member is indicated by *a*⁶, the hook being designated by *a*⁷, and being formed as shown in Fig. 5 such that the strands of wire when

twisted will readily slide to the end of the hook thereby assisting to make a desirable form of twist.

The crank handle, *a*⁸, is utilized both for sliding the hook member, *a*⁶, to position for engaging the fence wire and for sliding it to position shown in Fig. 2 for taking up the slack and also for rotating the movable member, *a*⁵, and it is connected to the hook so as to twist the wire simultaneously with the movement of taking up additional slack. The movable member, *a*⁵, is formed with a cap *a*¹¹. The crank handle, *a*⁸, is pivoted at *a*⁹ to the end of the shank of the hook member, *a*⁶, and the inner end (nearest the member *a*⁶) of said arm is formed cam-shape as indicated at *a*¹⁰, and this cam, *a*¹⁰, is adapted to bear against the face of the cap, *a*¹¹, thereby sliding the hook member, *a*⁶, independent of the screwthreaded movable member, *a*⁵. In Fig. 3 the crank arm is shown in a position such that it has connected the member, *a*⁵, to the slidingly movable hook member, *a*⁶, and by rotating the movable member, *a*⁵, by means of the crank, *a*⁸, the fence wire will be twisted. The ear, *b*, projects from the cap, *a*¹¹, and the inner end of the crank arm, *a*⁸, is bifurcated, as indicated in Fig. 4, and the ear, *b*, projects between the bifurcations, *a*¹², thereby forming a bearing surface for the crank, and with the crank constitutes means for connecting the members *a*⁵ and *a*⁶. When the crank is thrown from the position shown in Fig. 3 to a position shown in dotted lines the member, *a*⁶, may be slid toward the wire independent of the movement of the member, *a*⁵. As shown in Fig. 6, the shank of the hook member, *a*⁶, is adapted to fit within the opening formed in the body of the screwthreaded member, *a*⁵, such that the hook can be slid back and forth independent of the crank member, *a*⁵, but is adapted to be rotated in unison with said member.

The modified structure—a structure that is particularly adapted for tightening barbed wire—is shown so constructed that the barbs formed on the wire will not interfere with the movement of tightening and twisting the wire. For this purpose the legs projecting from the frame are pivotally mounted on the frame, and the ends of the legs, *a*¹, nearest the crank, *a*⁸, are formed with cam faces, and are spring-pressed against the cone shaped part, *a*¹³, and the end of the screwthreaded member, *a*⁵, is formed integral with the cone-shaped part, *a*¹³, which bears against the cam

faces, a^{14} . It will be apparent from the arrangement of the parts shown in Fig. 7 that whenever the sleeve, a^5 , is rotated by the crank, a^8 , the cone-shaped part, a^{13} , will bear against the cam faces, a^{14} , forcing the ends of the legs, a^1 , outwardly and the feet of said legs inwardly toward the hook, a^7 . This is especially desirable because when the twisting of the wire is being done it will be impossible for the barbs of the wire to interfere with the operation. On the contrary, the movement of the legs will permit the slack to be taken up without the barbs interfering with said movement.

15 The operation of the device is as follows: In order to apply the tightening device to a fence wire as shown in Fig. 1, the sleeve, a^5 , is rotated until it is at its extreme inward position—(the position nearest to the fence wire)—and one leg of the frame member is then placed against the wire and the device can be moved until the wire slips over the hook, and the other leg can be placed in proper position for the wire to fall in the groove. The handle is then oscillated to a position shown in Fig. 2 thereby pulling up the slack; by throwing the arm into the position shown in Fig. 3, the parts will be ready for the twisting operation. By then rotating the crank the sleeve, a^5 , will be rotated and the hook member being operatively connected to the movable sleeve will thereupon twist the wire somewhat as indicated in Fig. 3. In order to remove the hook from the wire, it is simply necessary to oscillate the crank back to the position shown in Figs. 2 or 1, and the hook can in that manner be readily disengaged from the wire leaving the wire twisted and the slack taken up. The same operation is performed with the modified structure of Fig. 7 with the understanding that whenever the sleeve, a^5 , is rotated the legs, a^1 , will be adjusted in a manner to permit the barbed wire to be readily twisted without interference from the barbs of the wire.

Having thus described our invention, we claim:

1. In a device for tightening fence wire, the combination of a frame, a movable member supported by said frame, a hook member slidingly mounted in said movable member, means connected with the hook member for operating said hook member independent of the movable member, and connections between the movable member and the hook

member for operatively connecting said members so that they will rotate in unison, substantially as specified.

2. In a device of the character mentioned, the combination of a frame, a rotatable member supported by said frame, a hook member slidingly mounted in said rotatable member, a crank connected to said hook member for sliding said member to and from the fence wire, means for connecting the hook member and the rotatable member whereby the crank will rotate said members in unison, substantially as specified.

3. In a device of the character mentioned, the combination of a frame, a rotatable member, means between the frame and the member for causing a longitudinal movement of the member when it is rotating, a hook member supported by the frame, a single crank arm connected with the member for giving the hook member a longitudinal movement independent of the movable member, and connections between the hook member and the rotatable member for causing same to be moved in unison by the crank, substantially as specified.

4. In a device of the character mentioned, the combination of a frame, a rotatable screwthreaded member supported by said frame, a hook member slidingly mounted in the rotatable member, operating means connected to the hook member for sliding same independent of the rotatable movement, and connections between the hook member and the rotatable member for causing said members to be rotated and simultaneously moved longitudinally by the operating means.

5. In a tightening device for fence wire, the combination of a frame, projecting supports pivotally connected to said frame, a rotatable member, a hook member supported by the rotatable member, means for rotating said rotatable member, and connections between the rotatable member and said projecting supports whereby said supports will be moved simultaneously with the rotation of said rotatable member.

In testimony whereof, we have hereunto set our hands this 4th day of April, 1907.

HENRY BROOME.
CHARLES J. BOWLUS.

Witnesses:

CHAS. I. WELCH,
CLARA GALLAGHER.