

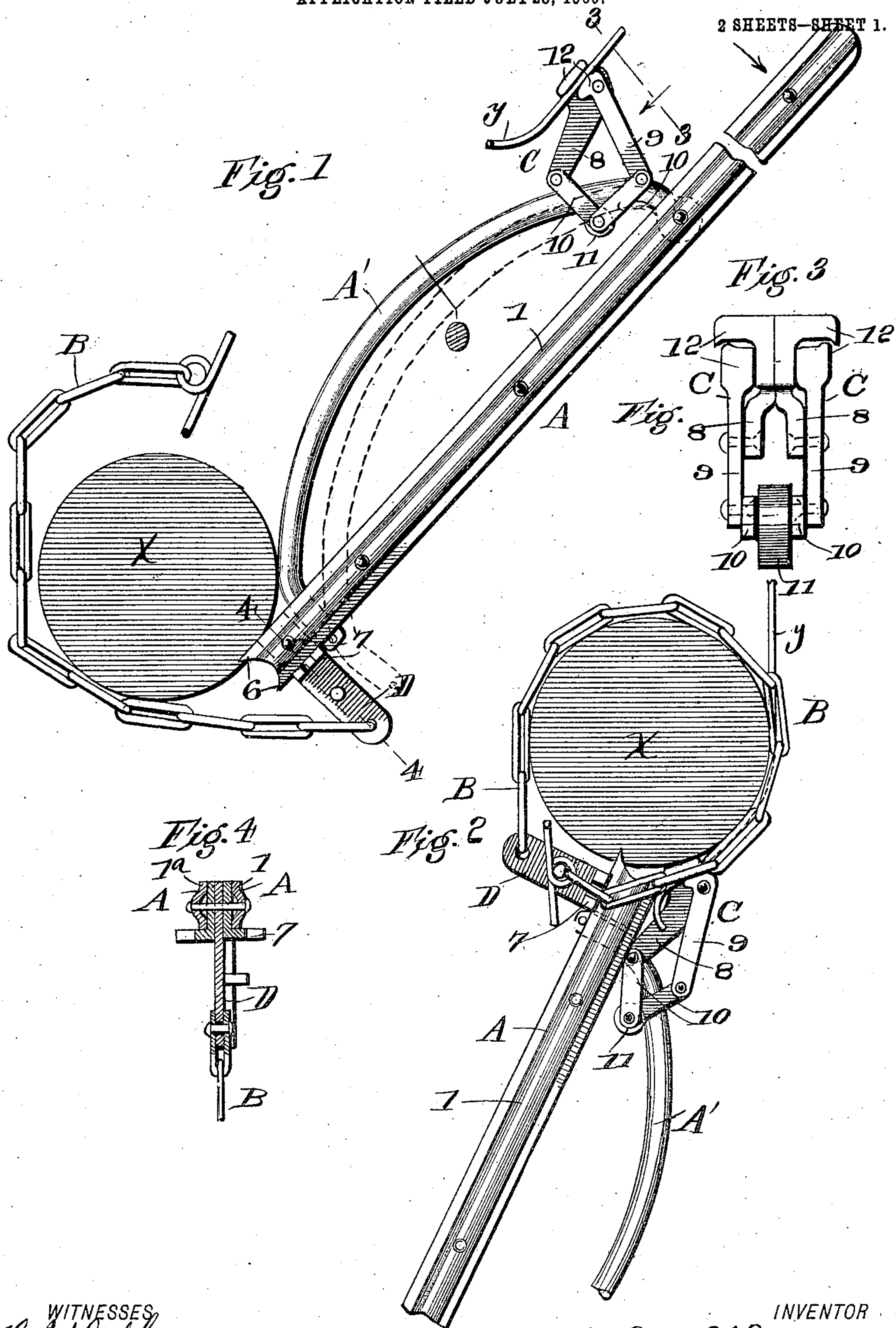
No. 844,194.

PATENTED FEB. 12, 1907.

O. C. A. SCHWIEN.
WIRE STRETCHER.

APPLICATION FILED JULY 28, 1906.

2 SHEETS—SHEET 1.



WITNESSES
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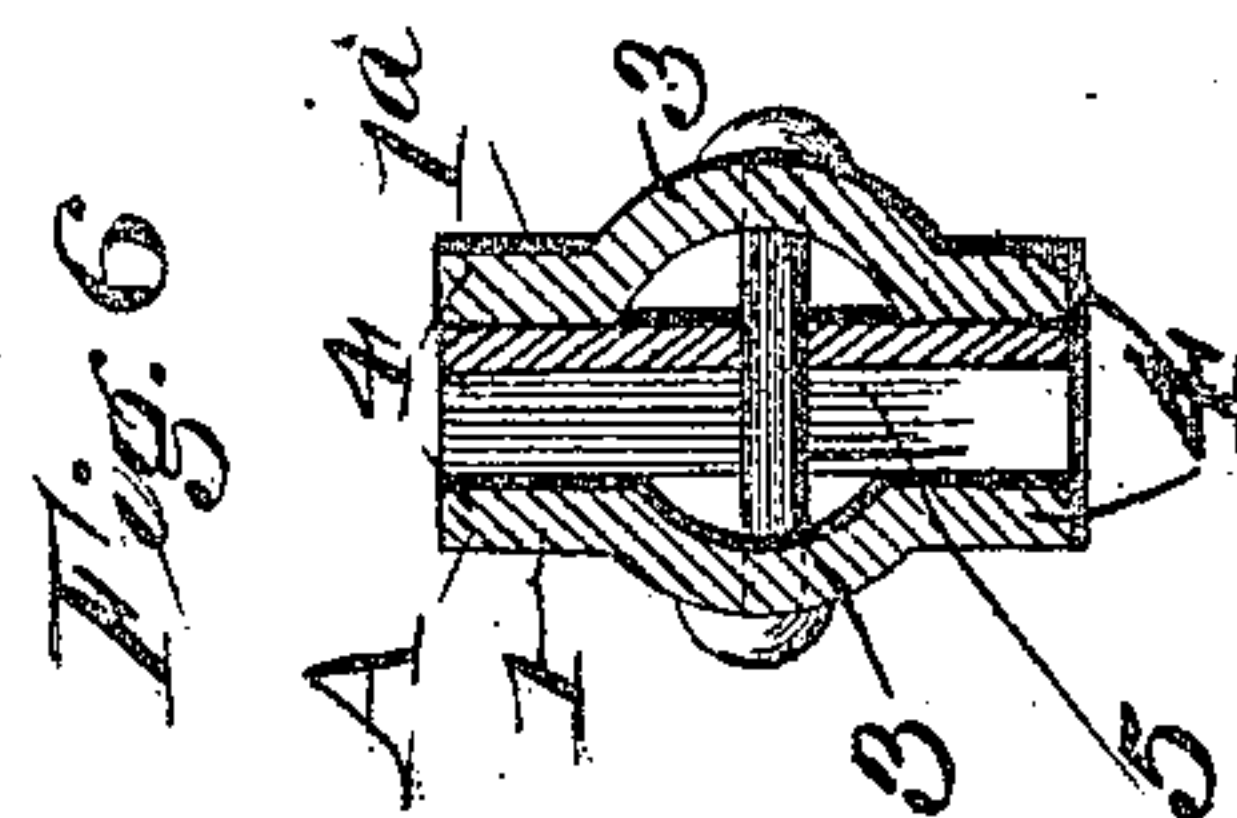
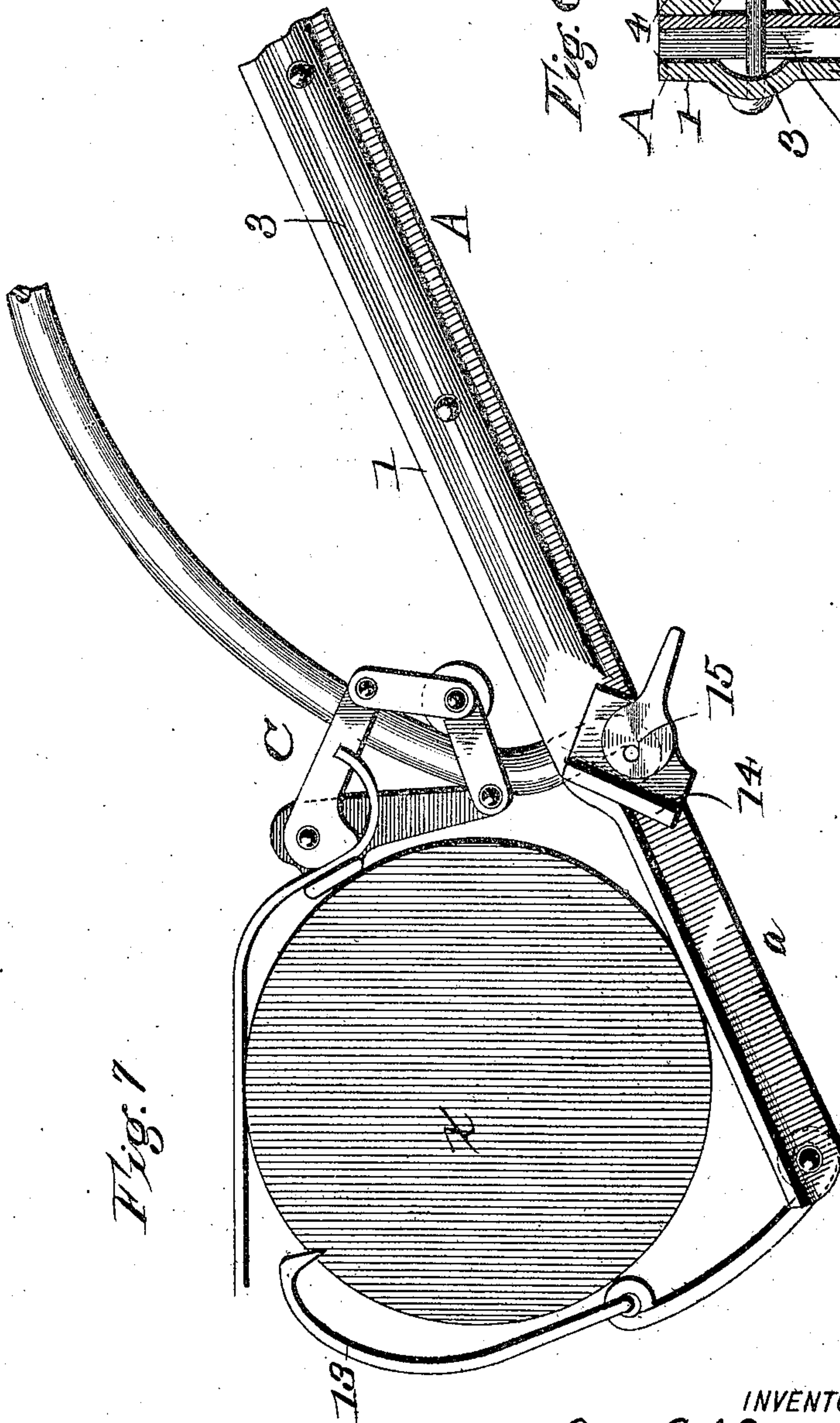
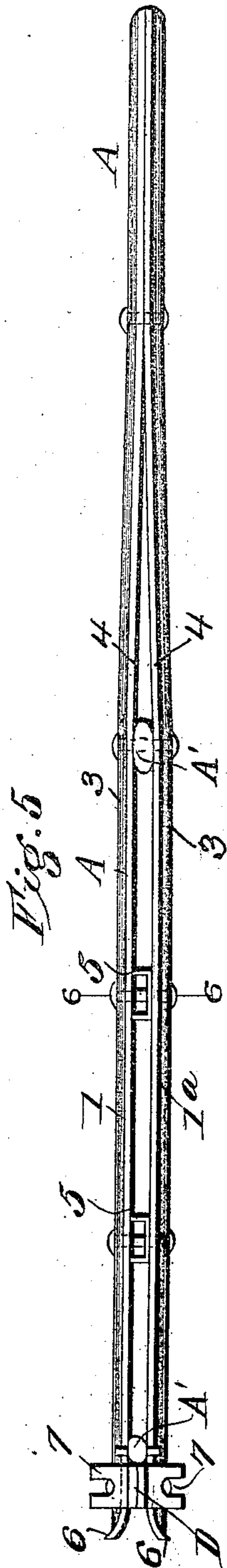
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WITNESSES

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OTTO C. A. SCHWIEN, OF DAVENPORT, IOWA.

WIRE-STRETCHER.

No. 844,194.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed July 28, 1906. Serial No. 328,178.

To all whom it may concern:

Be it known that I, OTTO C. A. SCHWIEN, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented a new and Improved Wire-Stretcher, of which the following is a specification.

My invention is an improvement upon that for which I have obtained Letters Patent No. 771,099, dated September 27, 1904. In said former invention I employed a lever having a curved and toothed portion adapted to engage or partly embrace a fixed post and provided with a wire-grip located at a point between the post and the handle or power end of the lever. The wire-grip traveled on the curved portion of the lever in the operation of stretching the wire, such travel occurring when the lever was swung around the post. In my present invention I have adopted an arrangement, construction, and combination of parts whereby the power and efficiency of the stretcher as a whole are increased and the weight and cost of the same reduced.

In the accompanying drawings, Figure 1 is a plan view showing my improved wire-stretcher applied to a post, the chain being loose, but drawn partly around the post in readiness to be connected with the adjacent end of the lever. Fig. 2 is a plan view of the same parts, showing the free end of the chain duly connected with the lever and the wire-clamp in the position it assumes when a wire has been stretched. Fig. 3 is a view taken on the line 3 3 of Fig. 1 and showing the double wire-clamp. Fig. 4 is a cross-section on the line 4 4 of Fig. 1. Fig. 5 is a plan view of the lever. Fig. 6 is an enlarged cross-section of the lever on the line 6 6 of Fig. 5. Fig. 7 is a view showing a modification in the means for attaching the lever to the post and also in means for clamping the wire.

I will first describe the invention as illustrated in Figs. 1 to 6, inclusive. A indicates the lever, B the chain or flexible tension device, and C the wire-grip. The lever is straight throughout, having no curved portion, as in my former invention, and it is composed of two longitudinal metal plates, the same being rolled or stamped from thick sheet metal or band-iron. Each of the two plates 1 1^a, (see Figs. 5 and 6,) which com-

pose the handle, has a central longitudinal swell or rib 3, and the same is bounded on each edge by a straight portion 4. As shown in Fig. 5, the plates 1 1^a are brought together and riveted at the outer end of the lever, but are separated or spaced apart in the body or main portion. Instead of the wire-clamp C traveling, as in the former case, upon a curved portion of the lever proper, I provide an arc-bar A', which forms a permanent and fixed attachment of the body of the lever. One end of this arc-bar is provided with an eye, by which it is pivoted to and between the plates 1 1^a composing the lever. The other end of said arc-bar passes between the plates, and a pin is inserted through the portion which projects on the other side of the bar, as shown in Fig. 1. This portion of the bar is thus adapted to slide between the plates 1 1^a of the lever; but withdrawal of the bar is prevented by the pin, as will be readily understood. Such a sliding adaptation is of practical use in the operation of the lever, since when the arc-bar is adjusted inward to the position shown by dotted lines, Fig. 1, it is, so to speak, out of the way of the post X, and therefore does not hinder the operation of the lever, as it otherwise might do. It will be understood, however, that whenever the lever A is pulled around the post from the position indicated in Fig. 1 to that indicated in Fig. 2 the wire-grip C, owing to the strain of the wire thereon, will pull the arc-bar A' back into the position shown by full lines, in which case the cross-pin passing through its adjustable end will prevent complete withdrawal of the said end from between the lever - plates. At points between the ends of the arc-bar I interpose blocks 5, (see Fig. 5,) which are short sections of channel-iron, for the purpose of spacing the plates 1 1^a apart, and rivets pass through the said plates and blocks, as shown, so that the lever combines maximum rigidity, strength, and lightness. The inner or larger end of the lever A is provided with four points 6 for engagement with the post X. Adjacent to the inner pointed end of the lever A is arranged a bar D, to whose outer end the chain B is attached. The said bar D is composed of three parts, the chain B being attached to the longer intermediate one, which is a piece of channel-iron, and the

other two being right-angular pieces, (indicated by 7,) the same being also constructed of channel-iron. The lateral projecting portions of these plates 7 are provided with notches or slots adapted to receive the links of the chain B, so that it will be firmly held in the operation of stretching a wire. The three parts D and 7 7 are secured together and between the plates 1 1^a of the lever by a single rivet, as shown in Figs. 1 and 4. It will be seen that when the chain is drawn around the post X any one of its links may be drawn into the slot or between the teeth 7, and thus temporarily engaged and locked with the lever. The wire Y, Fig. 1, being then drawn between the jaws of the clamp C, upon applying pressure to the free end of the lever in the direction of the arrow, Fig. 1, it is swept around the post X, the inner points 6 in such case taking into the post, and finally reaches the position indicated in Fig. 2, where the other points 6 have become engaged with the post and the first point disengaged therefrom, the wire-clamp C being meanwhile slid along the arc-bar A' and reaching the inner end of same. In this operation it is obvious that the wire will have been stretched and that as the tension on the same increases during the sweep of the lever the leverage increases accordingly. The wire Y is then secured by staples or other means to the posts or post which is near or adjacent to the post X, to which the lever is applied. The wire is then released from the clamp C and the operation repeated, if necessary. Ordinarily, however, a single operation, as described, will be sufficient to stretch the wire for a long length of fence.

As in my former invention, the clamp C is composed of levers 8 and 9, links 10 connecting their outer ends, and a roller 11, which is journaled on the pivot connecting the outer ends of the links and adapted to travel on the inner side of the arc-bar A', which, as indicated in Fig. 1, is oval in cross-section. The clamp differs, however, from the one described in my aforesaid patent in that the gripping-jaws 12 are duplicated on each side, as will be understood from Fig. 3. It is therefore practicable to clamp the wire on either side of the clamp, which is often a great convenience.

In Fig. 7 I show a modification in the construction of the end of the lever which is adjacent to the post X and also in the means for attaching the lever to the post while in use. The end of the lever adjacent to the post is extended and reduced in width and provided with a flange a, and in place of the chain adapted to extend completely around the post a hook 13 is provided, which is loosely connected with the lever and adapted to take into and thus engage the post, as will be readily understood. The lever is also shown

provided with a wire-clamp comprising a flange-plate 14 and a cam 15, pivoted thereto. It will be seen that by rotating the cam 15 the wire may be clamped between it and the adjacent flange 14. This device is frequently useful for temporarily holding the end of the wire when the first stretching has been effected and the wire is not drawn tight enough.

I claim—

1. The improved wire-stretcher comprising a lever, and an arc-bar attached thereto, a wire-clamp adapted to travel on said arc-bar, and a chain connected with the inner end of the lever adjacent to the arc-bar, substantially as described.

2. The improved wire-stretcher comprising a lever, a curved bar attached thereto and extending backward from the inner end of the lever, a wire-clamp adapted to travel on said arc-bar, and means for connecting the lever temporarily with the post, substantially as described.

3. The improved wire-stretcher comprising a lever formed of two longitudinal parts spaced apart in the body portion, an arc-bar whose ends are inserted and secured between said portions of the lever, a wire-clamp adapted to travel on the arc-bar, and means connecting the lever with the post during the stretching operation, substantially as described.

4. In a wire-stretcher, a lever comprising two parts each having a longitudinal central rib and laterally-projecting flanges, and means for spacing the two parts from each other, and means for rigidly connecting them, substantially as described.

5. The improved wire-stretcher comprising a lever, a wire-clamp and a curved part upon which it travels, the inner end of the lever having points adapted to take into and engage a post, and a chain for temporarily attaching the lever to a post, substantially as described.

6. In a wire-stretcher, the improved lever comprising two longitudinal parts which are rigidly connected, the inner end of the said parts being provided with teeth on opposite sides, as and for the purpose specified.

7. In a wire-stretcher, the combination with a lever, an arc-bar attached thereto, and a wire-clamp adapted to travel on the arc-bar, of a chain, and a lateral arm rigidly attached to the inner end of the lever with which said chain is connected, and means for engaging the free end of the chain when drawn around the post as required for the stretching operation, substantially as described.

8. In a wire-stretcher, the combination with the lever, the wire-clamp and a guide on which the latter travels, of a chain connected with the inner end of the lever, and means

for engaging and temporarily locking the free end of the chain, as described.

9. In a wire-stretcher, the combination with a lever having its inner end toothed, a
5 curved part upon which a wire-clamp is adapted to travel, a chain loosely connected with the inner end of the lever, and notched

plates adapted for engagement with the free end of the chain for temporarily locking it, substantially as described.

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Witnesses:

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HENRY LAWTON.