

No. 744,166.

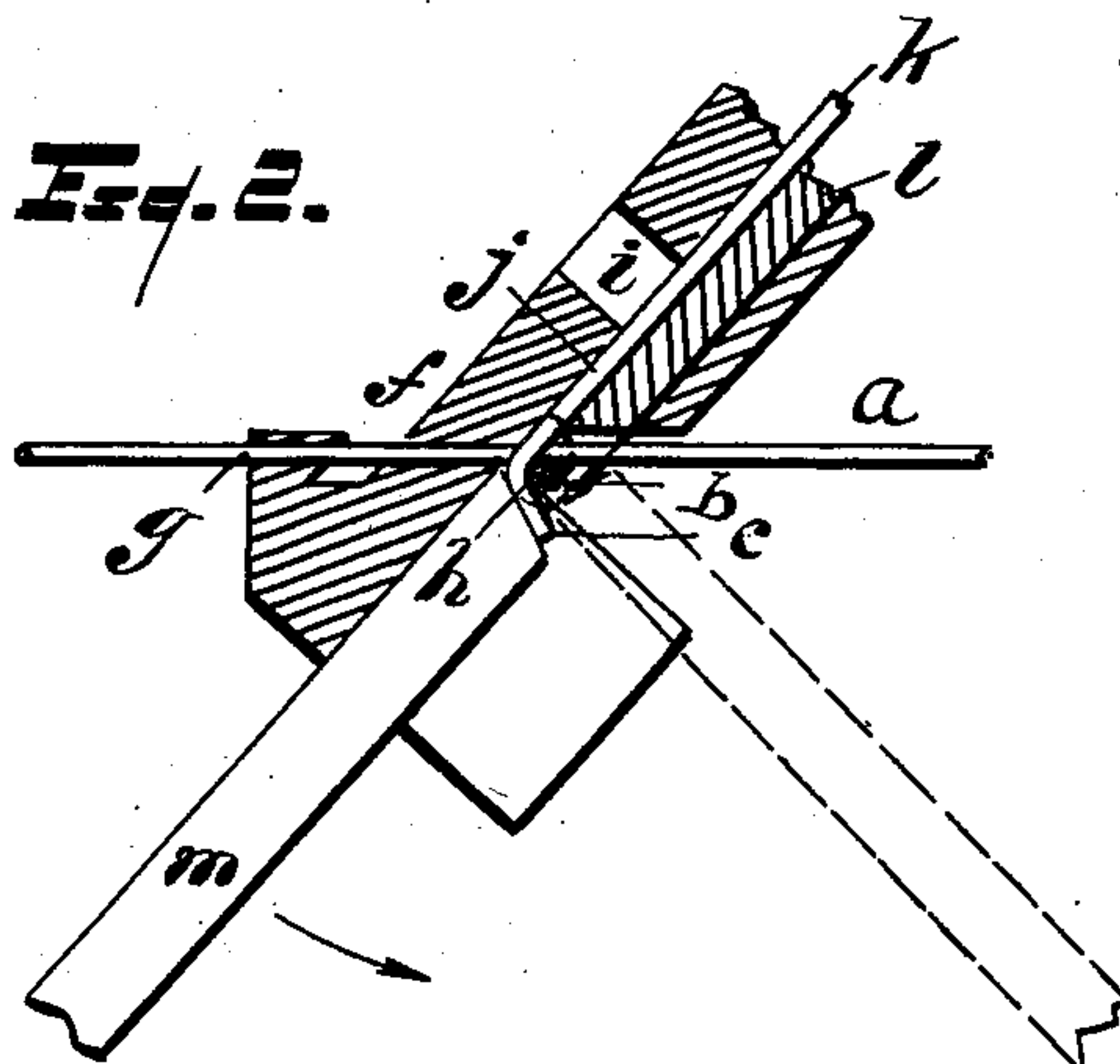
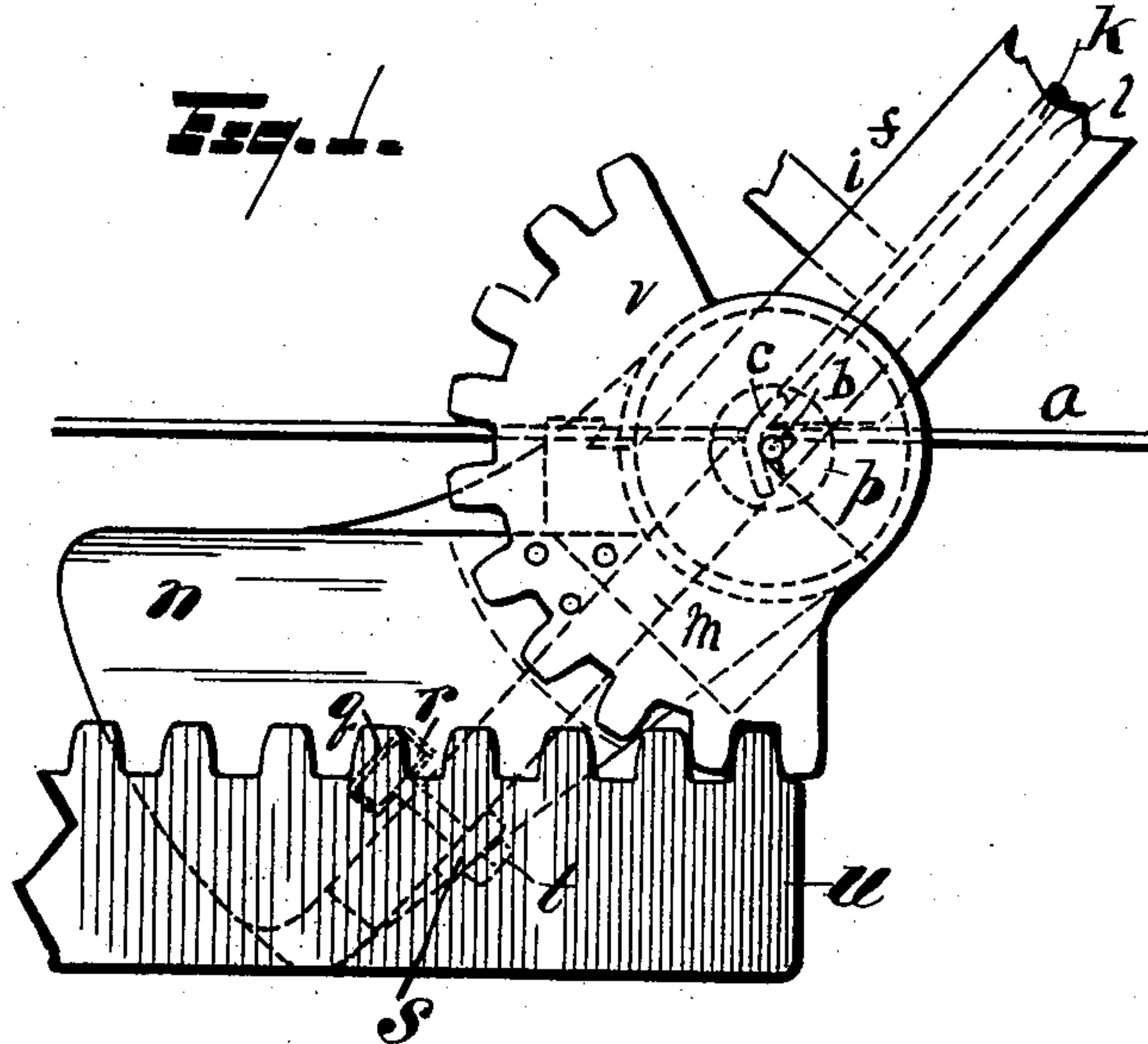
PATENTED NOV. 17, 1903.

M. CHURCH.
WIRE FENCE STAPLING DEVICE.

APPLICATION FILED JULY 15, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES

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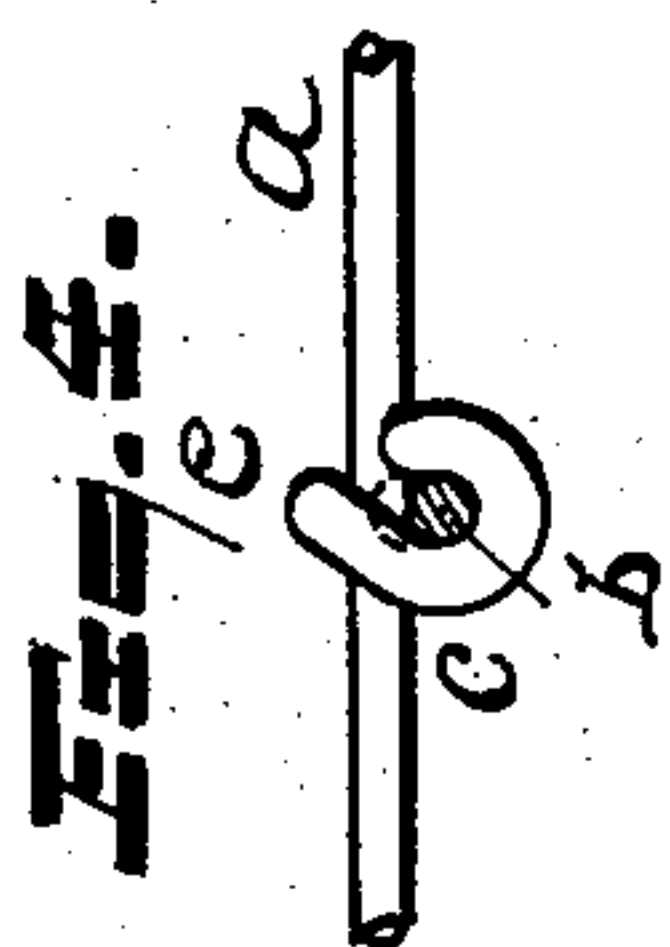


Fig. 3.

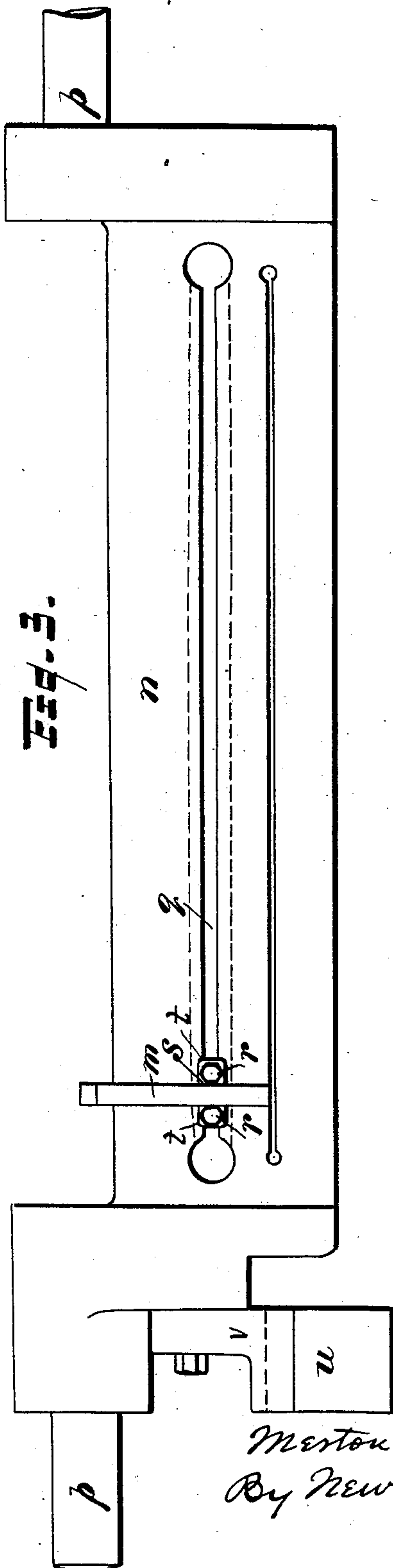
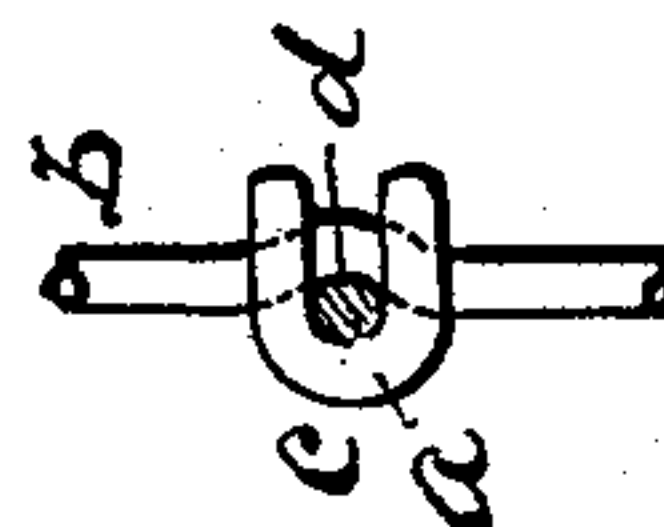


Fig. 5.



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UNITED STATES PATENT OFFICE.

MERTON CHURCH, OF DETROIT, MICHIGAN.

WIRE-FENCE-STAPLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 744,166, dated November 17, 1903.

Application filed July 15, 1903. Serial No. 165,559. (No model.)

To all whom it may concern:

Be it known that I, MERTON CHURCH, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Wire-Fence-Stapling Devices, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

My invention is designed to provide certain new and useful improvements in a wire-fence machine, the same being more particularly designed to provide an improved wire-fence-stapling device for joining fence-wires or for applying suitable staples to join the upright and horizontal wires of the fence in a superior and efficient manner.

I carry out my invention as hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in end elevation illustrating features of my invention, showing parts broken away. Fig. 2 is a view of certain features embodied in Fig. 1 in vertical section. Fig. 3 is a view in front elevation, showing the swinging beam. Fig. 4 is a view showing the horizontal wire and the vertical wire secured together by a staple, the vertical wire being in section. Fig. 5 is a view of the same, showing the upright wire, the horizontal wire, and the staple, the horizontal wire being in section, Figs. 4 and 5 showing the work accomplished by means of my invention.

A wire-fence machine of which my present invention constitutes a feature, it will be understood, is designed to construct a wire fence consisting of a series of horizontal wires *a*, united to a series of upright wires *b*, the horizontal and upright wires being united and held together at the point of their intersection by means of a two-pronged staple *c*, the prongs of the staple being clenched over and about the upright wires, the loop of the staple embracing the horizontal wires, the upright and horizontal wires being thereby held firmly in engagement the one with the other.

My present invention has the same object in view as that embodied in the United States Letters Patent granted to me April 24, 1900, No. 648,239, the means, however, of accom-

plishing the object differing in certain material respects from the means shown and described in said patent. As stated in my said patent, in joining the upright and horizontal wires the upright wire is slightly indented, preferably at the point of the intersection of the horizontal wire, as indicated at *d*.

In the mechanism embodied in my present invention I employ a suitable case *f*, constructed with an orifice therethrough, as at *g*, to receive the horizontal wire and with an additional orifice, as at *h*, to receive the vertical wire. The orifices *g* and *h* are arranged so that the horizontal and vertical wires will lie adjacent the one to the other. Said case is also formed with a suitable runway, as at *i*, through which the staples may be fed. Leading from the inner end of the channel *i* is an additional channel, as at *j*, through which a single staple may descend to be engaged with the wires. A plunger *k* is made reciprocatory in any suitable manner in the channel *j* to force the staples one by one into proper position to engage the wires. The staples, it will be understood, when forced firmly into place descend over or astride the horizontal wire. To hold the two wires firmly in place while the operation of bending the prongs of the staple is in process, a plunger *l* is forced into contact with said wires, as indicated more particularly in Figs. 1 and 2. To bend the prongs of the staple as required to accomplish the work designed by my invention, I employ a swinging clenching-arm *m*.

It will be understood that there are employed in my invention a series of the cases *f*, with their plungers *k* and *l*, a corresponding series of clenching-arms *m* being also employed for bending the staples about the intersecting point of the upright and horizontal wires. The swinging arms *m* may be oscillated in any suitable manner and by any suitable mechanism. As shown in the accompanying drawings, such a series of arms *m* may be secured to an oscillatory beam *n*, having its bearings upon shafts of the machine, (indicated at *p p*.) Said arms may be secured to the swinging beam also in any suitable manner. As indicated in the drawings, the beam is constructed with a T-shaped slot *p* to receive the heads of bolts *r*, said bolts

united by a clip *s* over the adjacent portion
 of the arm, nuts *t* binding the bolts *r* in place.
 One of the bearings upon the adjacent shaft
q is provided with a segmental gear *v*, with
 5 which meshes a reciprocatory rack-bar *u*, re-
 ciprocated from any suitable portion of the
 wire-fence machine. It will be evident that
 by the reciprocation of the rack-bar *u* the
 beam *n*, with its arms *m*, will be oscillated,
 10 the center of oscillation being coincident with
 the point of intersection of the upright and
 horizontal wires. I prefer in the initial op-
 eration of bending the points of the staple
 that they should be driven down against the
 15 end face of the arm *m*, preferably an oblique
 face, by the plunger *k*, the points of the sta-
 ples by this operation being given a partial
 bend, as indicated in full lines in Fig. 2, this
 20 partial bending of the prongs by the action
 of the plunger *k* against the end face of the
 arm *m* being accomplished while the arm *m*
 is stationary or before said arm has begun
 its oscillatory movement. This partial bend-
 ing of the prongs in this manner limits the
 25 required oscillation of said arms, inasmuch
 as said arms need only to oscillate or swing
 a sufficient distance to further bend the
 prongs into proper position, as indicated by
 the dotted position of the arm and of the
 30 prongs in Fig. 2. Thus I accomplish by
 means of the one set of swinging arms *m*,
 together with the plungers *k*, the entire bend-
 ing of the prongs of the staple. I do not
 limit myself to any particular mechanism for
 35 reciprocating the plungers or for feeding the
 staples to the machine. The case *f* may be
 of any suitable construction to serve for a
 plunger-guide and to form a guide for the
 upright and horizontal wires.
 40 It is evident that the swinging arms *m* may
 be adjusted laterally upon the beam as may
 be desired.

The operation of the mechanism embodying
 my invention will now be understood.

45 The loop of the staple is preferably made
 to offset or set forward over or in a plane with
 the upright wire, as indicated in Fig. 4 at *e*.
 This is accomplished by arranging the plun-
 ger *k* at an acute or oblique angle, as shown.

50 What I claim as my invention is—

1. In a wire-fence machine, means to carry
 horizontal and vertical intersecting wires,
 mechanism to feed the staples to the intersec-
 tion of said wires, and an oscillatory device to
 bend and clench the prongs of the staple over
 one of said wires. 55

2. In a wire-fence machine, means to carry
 horizontal and vertical intersecting wires,
 mechanism to feed the staples to the intersec-
 tion of said wires, and an oscillatory device to
 bend and clench the prongs of the staple over
 one of said wires, said plunger constructed to
 force the prongs of the staple against said de-
 vice while the device is stationary and there-
 by partially bend the prongs of the staple. 65

3. In a wire-fence machine, means to carry
 horizontal and vertical intersecting wires,
 mechanism to feed the staples to the intersec-
 tion of said wires, and an oscillatory device to
 bend and clench the prongs of the staple over
 one of said wires, said oscillatory device being
 laterally adjustable. 70

4. In a wire-fence machine, means to carry
 horizontal and vertical intersecting wires,
 mechanism to feed the staples to the intersec-
 tion of said wires, an oscillatory device to
 bend and clench the prongs of the staple, and
 an oscillatory beam carrying said device. 75

5. In a wire-fence machine, means to carry
 horizontal and vertical intersecting wires,
 mechanism to feed the staples to the intersec-
 tion of said wires, an oscillatory device to
 bend and clench the prongs of the staple over
 one of said wires, a segmental gear to oscillate
 said device, and a reciprocatory rack-bar to
 actuate said gear. 85

6. In a wire-fence machine, a case provided
 with horizontal and vertical intersecting wire-
 receiving channels and with a suitable feed-
 ing-channel, said case having in combination
 therewith a reciprocatory plunger to force the
 staples into place, and an oscillatory device to
 bend and clench the prongs of the staple. 90

In testimony whereof I have signed this
 specification in the presence of two subscrib-
 ing witnesses. 95

MERTON CHURCH.

Witnesses:

N. S. WRIGHT,
 M. M. STRUBLE.