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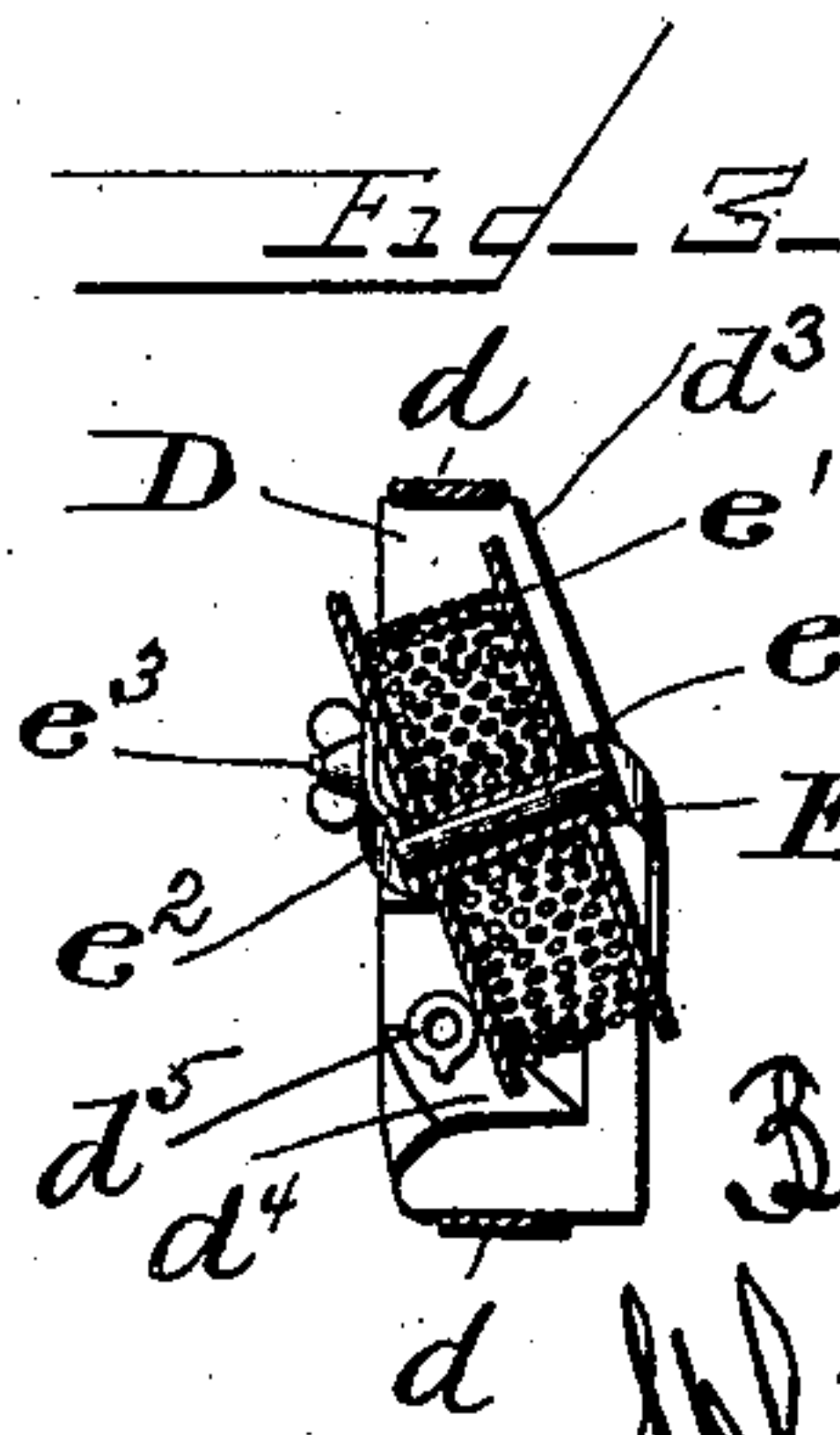
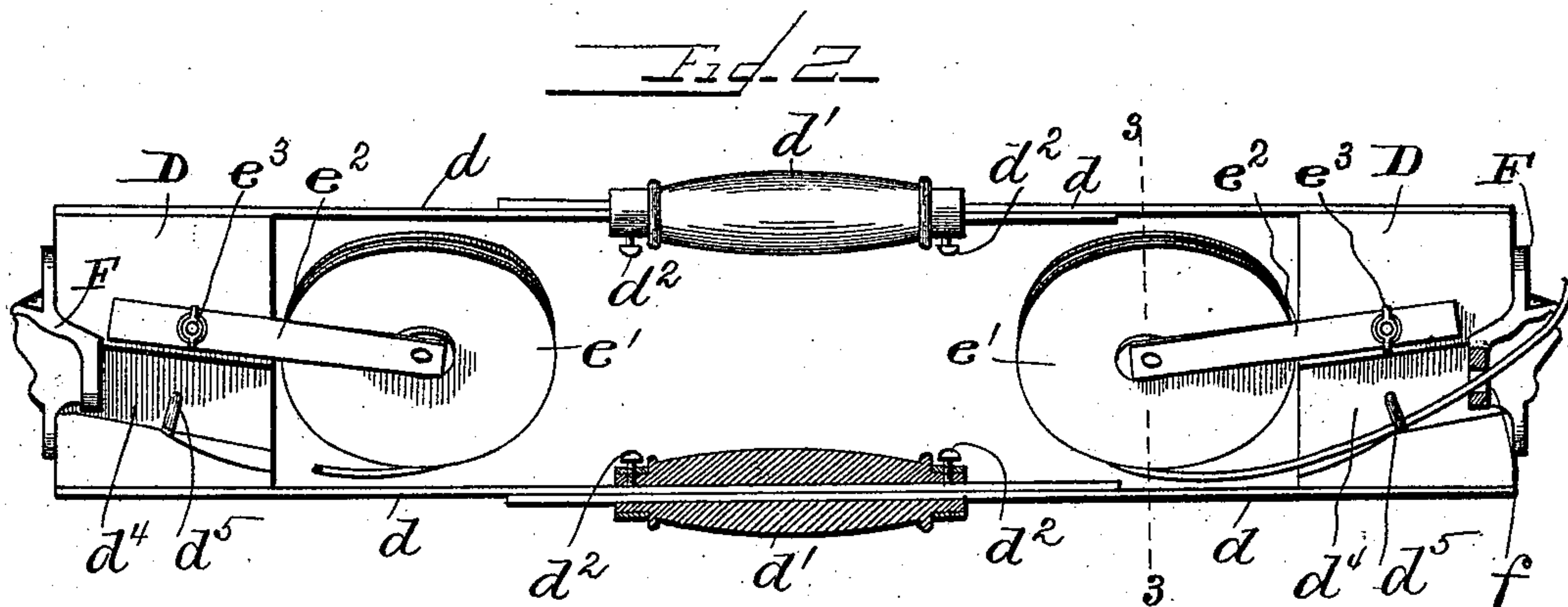
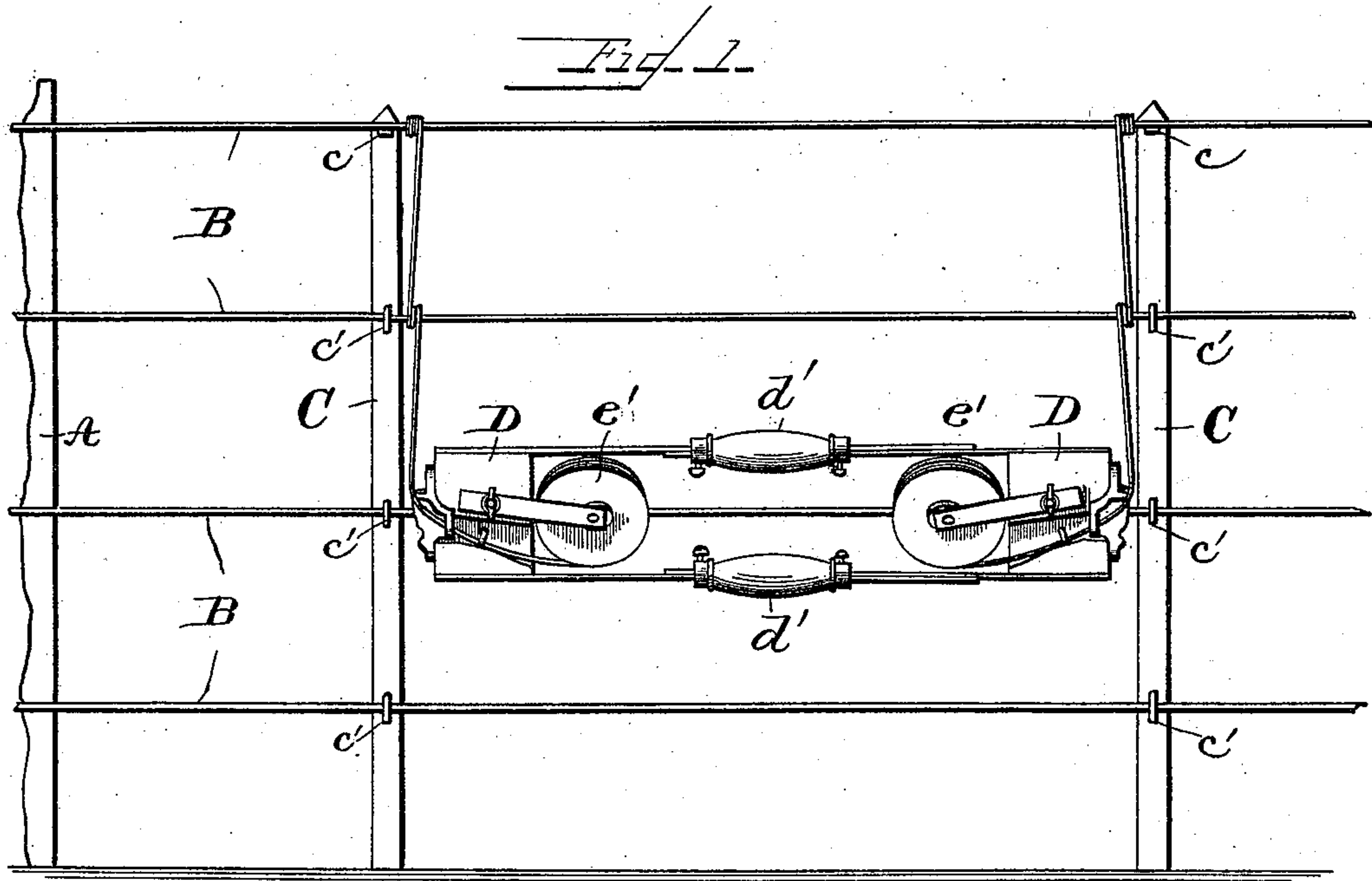
3 Sheets—Sheet 1.

H. C. PRATT.

DEVICE FOR ATTACHING STAY WIRES IN WIRE FENCES.

No. 538,385.

Patented Apr. 30, 1895.



Witnesses  
G. A. Pauberschmidt.  
J. D. Kingsbury.

Inventor  
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(No Model.)

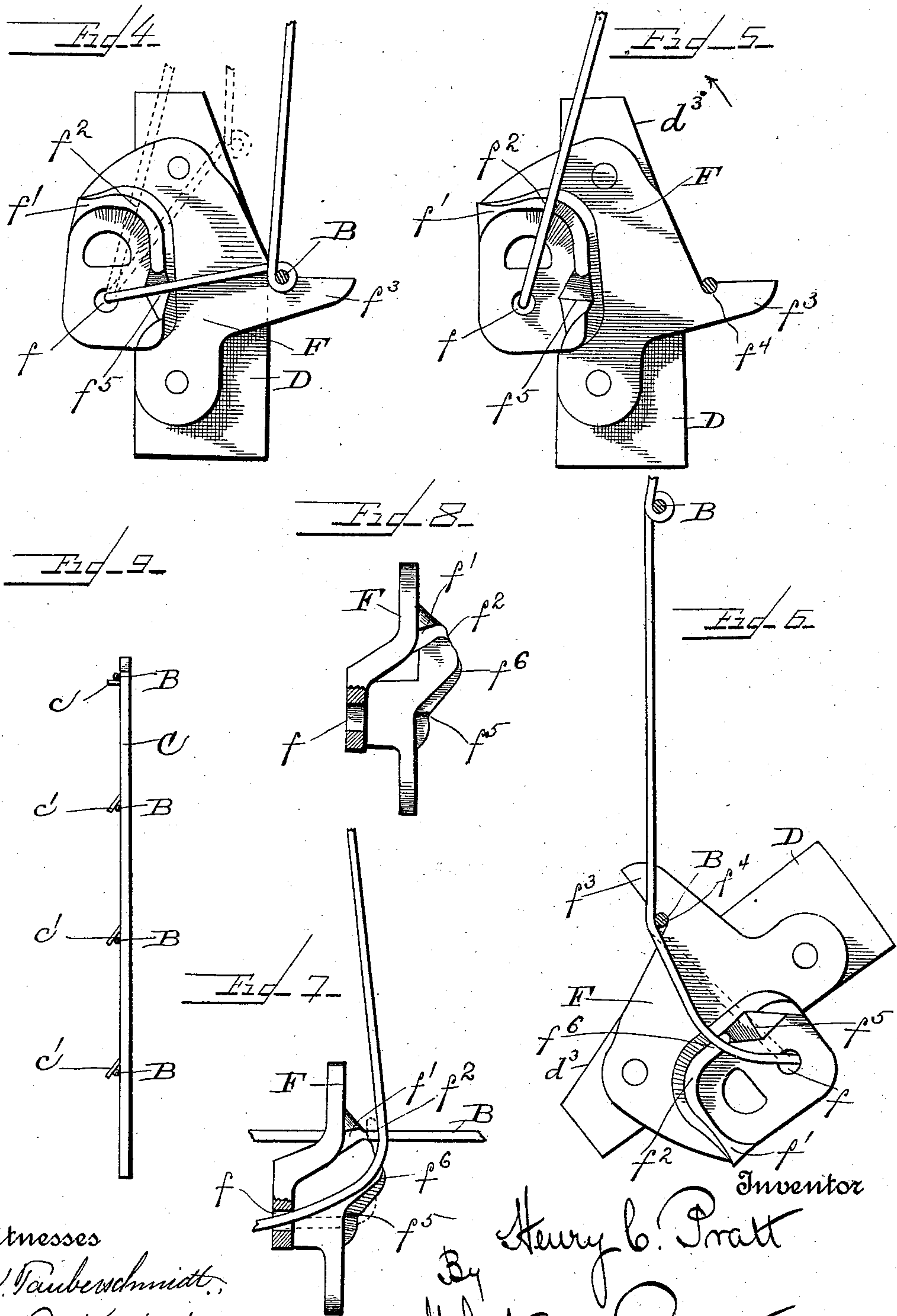
3 Sheets—Sheet 2.

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(No Model.)

3 Sheets -Sheet 3.

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Fig 10

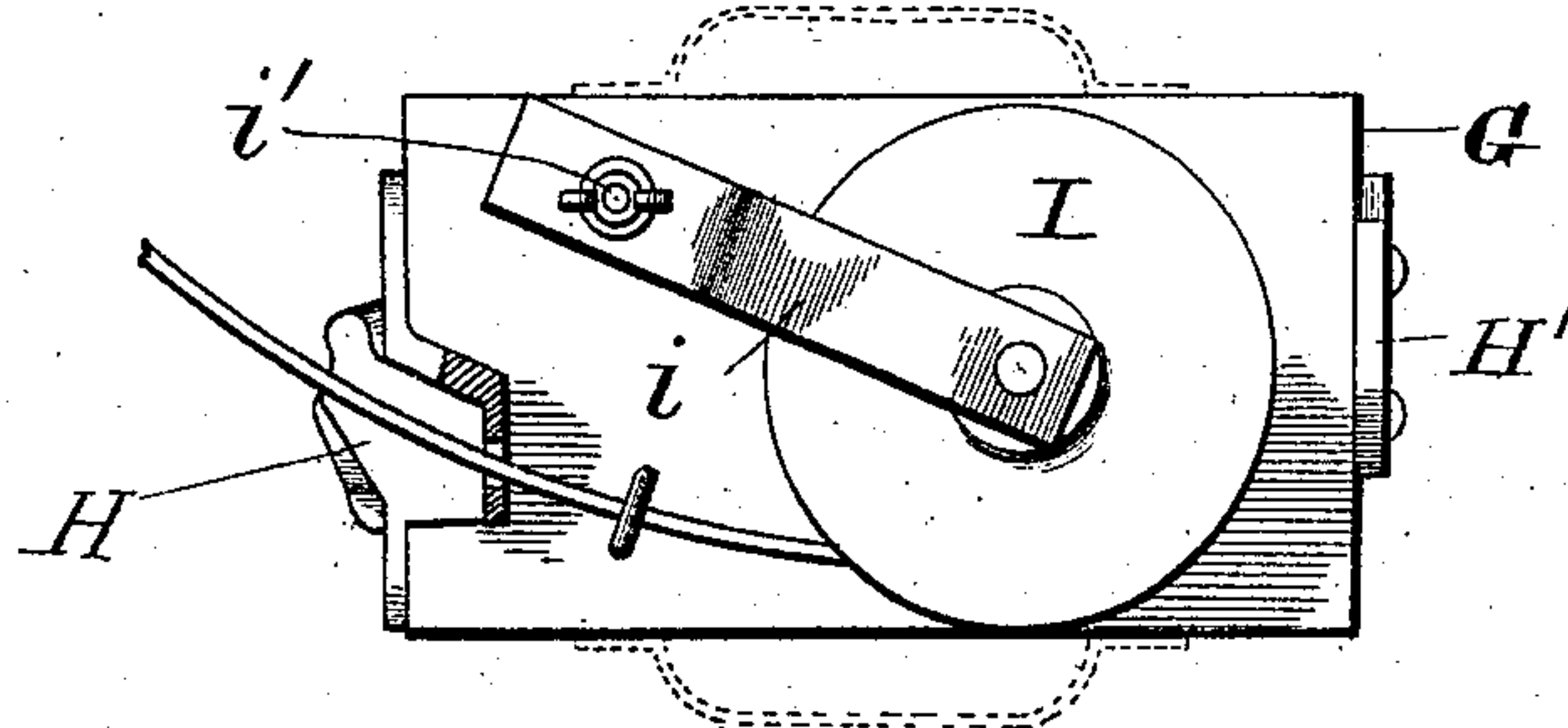


Fig 11

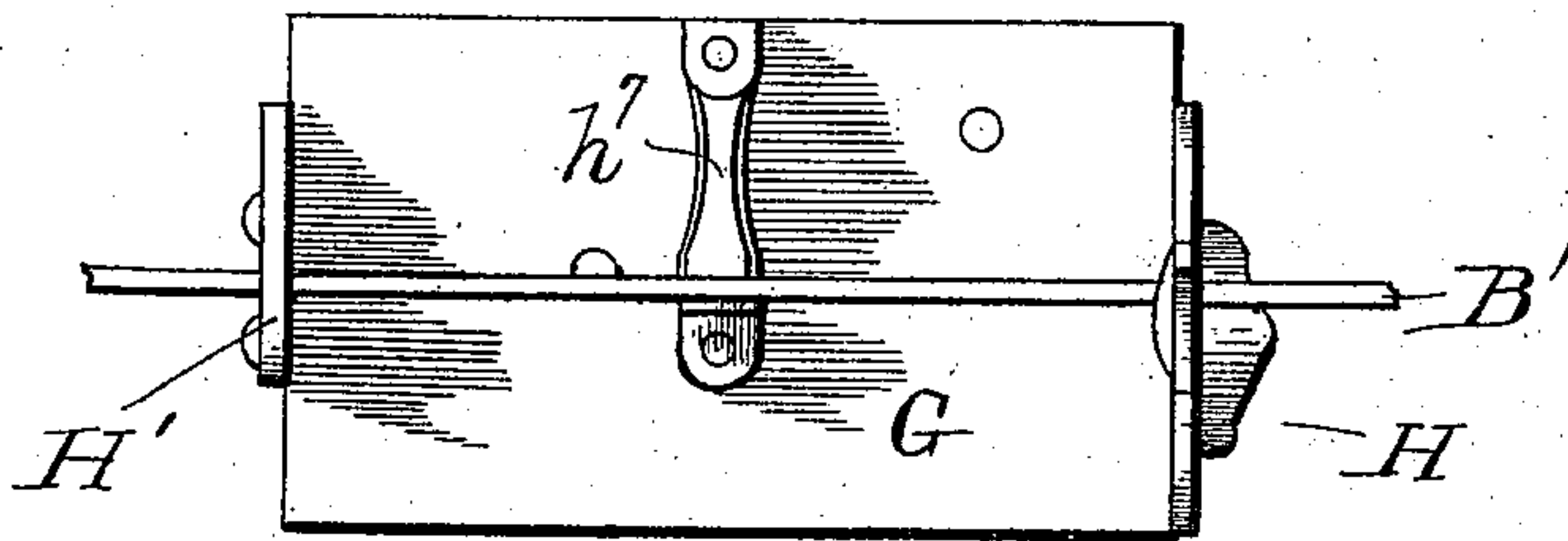


Fig 12

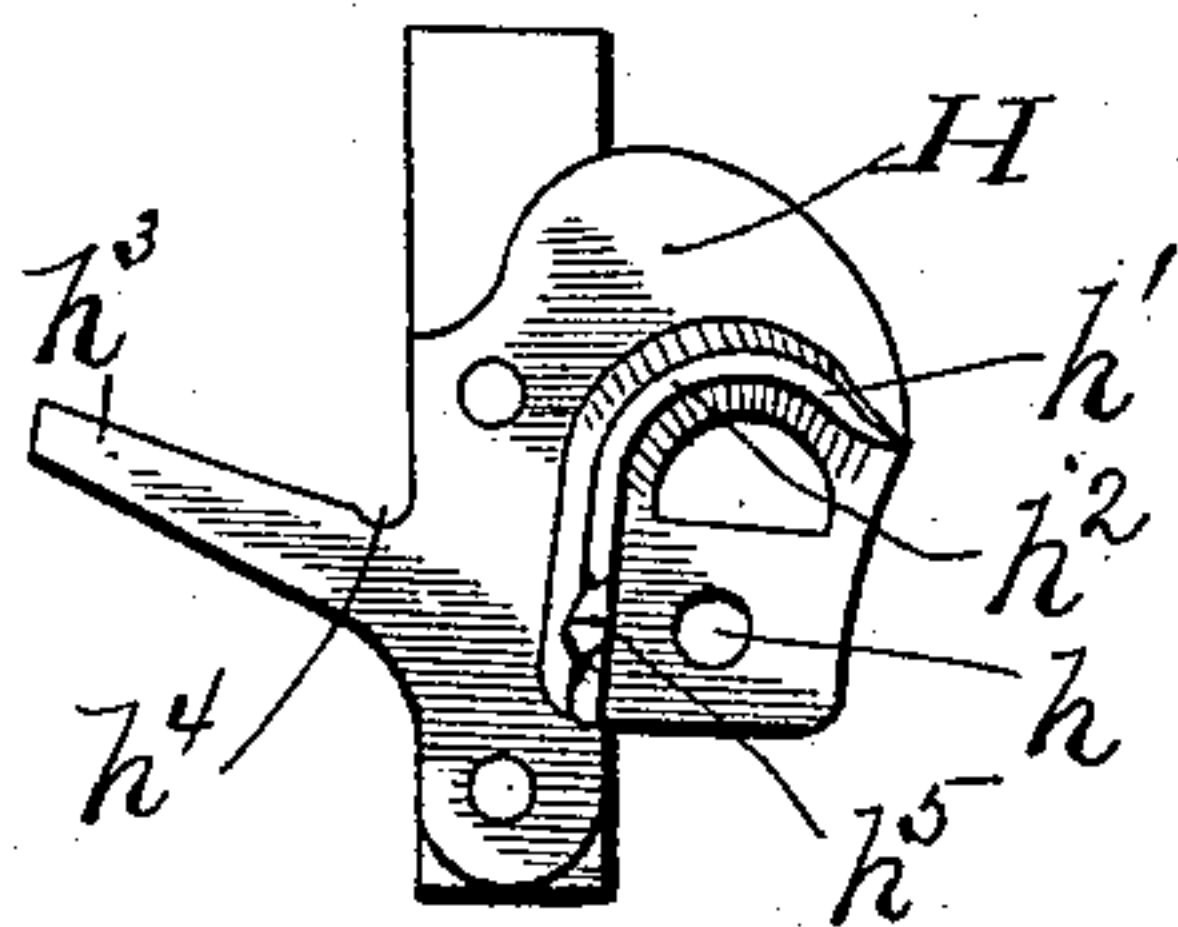


Fig 13

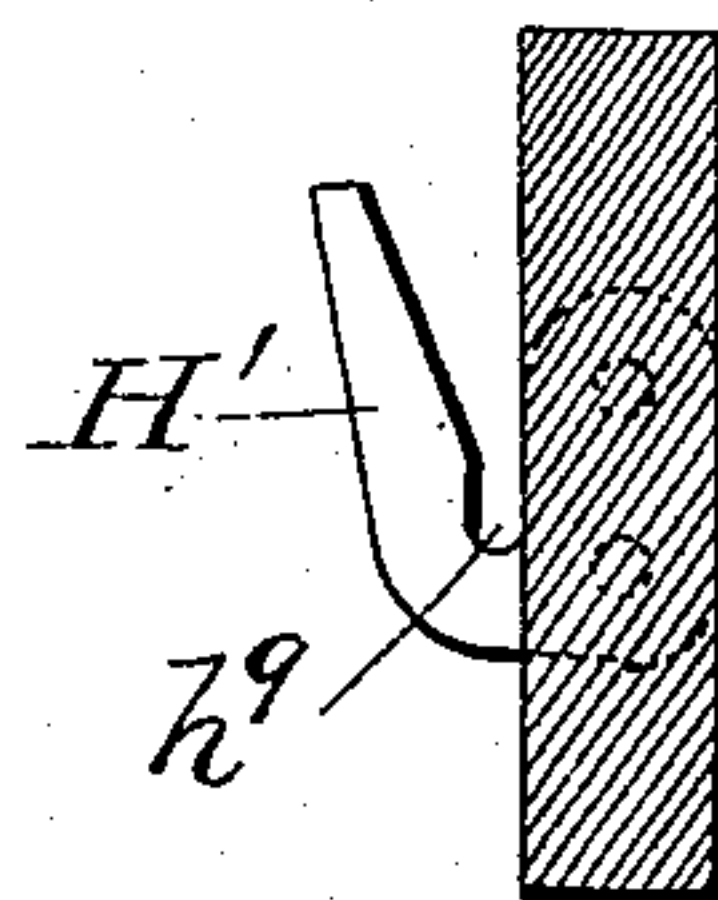
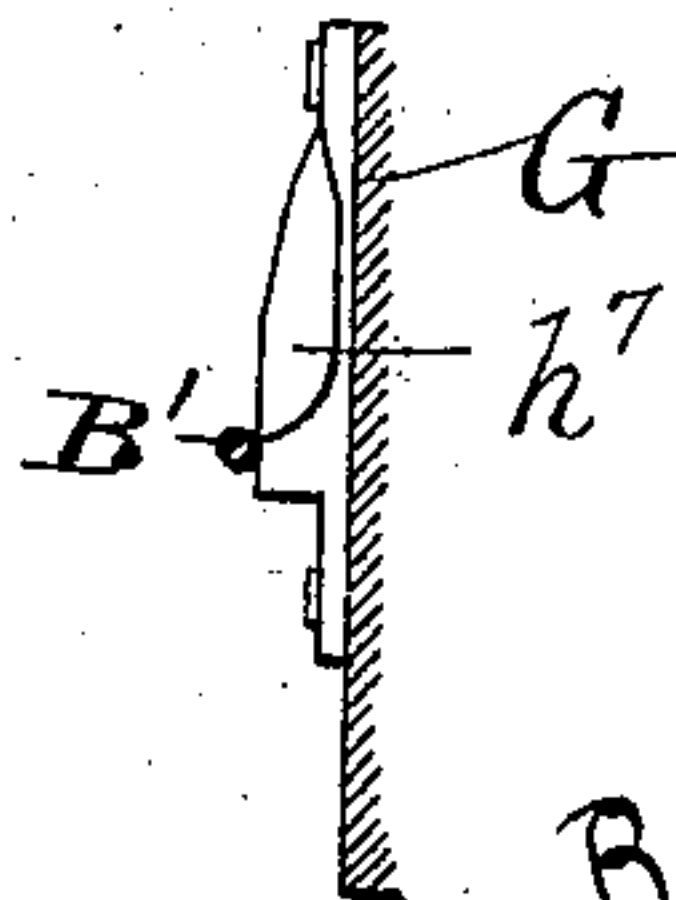


Fig 14



Witnesses

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# UNITED STATES PATENT OFFICE.

HENRY C. PRATT, OF CANANDAIGUA, NEW YORK.

## DEVICE FOR ATTACHING STAY-WIRES IN WIRE FENCES.

SPECIFICATION forming part of Letters Patent No. 538,385, dated April 30, 1895.

Application filed October 11, 1894. Serial No. 525,605. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY C. PRATT, a citizen of the United States, residing at Canandaigua, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Devices for Attaching Stay-Wires to Wire Fences; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists in the novel features of construction and combination of parts hereinafter fully described reference being had to the accompanying drawings which illustrate one form in which I have contemplated embodying my invention and said invention is fully disclosed in the following description and claims.

Referring to the said drawings, Figure 1 represents a portion of one panel of fence, showing my improved apparatus in operative position for attaching stay-wires. Fig 2 is an enlarged plan view of the apparatus, parts being shown in section. Fig. 3 is a sectional view on line 3 3 of Fig. 2 looking toward the right. Fig. 4 represents an end view of the machine just before it is removed from engagement with one of the fence-wires. Fig. 5 represents a similar view of the machine just after it has been placed in engagement with a fence-wire. Fig. 6 represents a similar view showing the machine in position to lay the first coil of the stay-wire at a greater distance from the machine than the succeeding coils. Fig. 7 is a side elevation of the delivery-plate in the position which it occupies in Fig 6, a part of said plate being shown in section. Fig. 8 is a detail view of said delivery-plate. Fig. 9 is a detail side elevation of one of the stay-bars for holding the fence-wires while the stay-wires are put on. Fig. 10 represents a front elevation of a slightly-modified form of machine for putting on a single stay-wire. Fig. 11 is a rear view of the same. Figs. 12 and 13 are detail views showing the plates at opposite ends of the machine. Fig. 14 is a detail view showing a device for deflecting the fence-wires out of a straight line when engaged by the machine.

The apparatus illustrated in Figs. 1 to 9 inclusive is adapted for putting on two vertical

stay wires simultaneously. In these figures A represents a portion of one of the fence posts which support the horizontal fence wires B B of which there may be any desired number. C C represent vertical stay bars which are provided with a series of pins *c, c' c'* the top pin *c* being preferably horizontal and the pins *c'* being inclined downwardly as shown best in Fig. 9. These bars are secured to the fence wire at each end of the machine as shown in Fig. 1 to hold the wires of the fence from being drawn out of line toward each other while the stay wires are being put on. The pins *c' c'* engage the upper sides of the lower wires and the pin *c* engages the under side of the top wire thus holding the rods C C against accidental displacement. These rods can be instantly removed by withdrawing the top wire horizontally from above the pin *c* and raising the rod C, so as to disengage the pins *c'*.

The machine for applying the stay wires consists of a pair of end blocks D D each provided with a pair of parallel steel bars *d d'* which pass through a pair of hollow handles *d' d'*. Each of these handles engages one bar from each end block and is provided at each end with set screws *d<sup>2</sup> d<sup>2</sup>* by which the said bars may be clamped in any position to which they may be adjusted. It will thus be seen that the end blocks D D may be adjusted to different distances apart according to the distance desired between the adjacent stay wires of the fence.

Each of the blocks D D is provided with a rigid arm E provided with a pin *e* upon which is mounted a spool *e'* for carrying the wire for the vertical stay wires and said spool is set at an angle to the body of the machine. The rear side of the block D is also sloped or beveled as indicated at *d<sup>3</sup>*, Figs. 3, 4, 5 and 6, for a purpose hereinafter set forth. I also provide a spring tension arm *e<sup>2</sup>* engaging the spool *e'* having an aperture to slip over the supporting pin *e* and provided with a fastening bolt and a wing nut *e<sup>3</sup>* for adjusting the tension of said arm.

Each of the end blocks is provided on its front side with a recess or channel *d<sup>4</sup>* in which is located a wire guide *d<sup>5</sup>* consisting preferably of an eye and at each end of the machine is a delivery plate F each secured to one of



the blocks D, one of said plates being shown in detail in Fig. 8.

Each of the delivery plates F is provided with an eye or wire guide  $f$  which I term the delivery eye, which is preferably located in a sunken or offset portion of the plate in line with the groove or recess  $d^4$ . Around this depressed portion the plate is provided with a lip or rib  $f'$  which extends beyond the face of the plate, see Figs. 4, 5, 6, 7 and 8 which lip has portions disposed at right angles to each other forming a corner  $f^2$  over which the wire is delivered when the machine is being moved from one wire to the other, and for convenience I will designate this corner portion of the lip the "initial delivery point."

The plate F is provided with a rearwardly projecting arm  $f^3$  in line with the delivery eye  $f$  projecting at right angles to the rear face of the said block D and provided with a notch or recess  $f^4$  to receive one of the fence wires. In line with this notch, the lip  $f'$  is provided with a delivery recess  $f^5$  or depressed portion over which the wire passes from the delivery eye when the machine is coiling the stay wire about one of the fence wires as shown in Fig. 4. Between the delivery recesses  $f^5$  and the initial delivery point  $f^2$  the lip  $f'$  is provided with a raised portion  $f^6$  which is inclined on both sides and which engages the stay wire when the first coil is about to be made and forces it to be laid at a greater distance from the end of the block D than the other coils are subsequently laid when the wire passes from the delivery recess  $f^5$  and thus prevents the coils from being laid one over the other.

The operation takes place in the following manner: When the machine is drawn from one fence wire B to another it is in the position shown in Fig. 5 and the arms  $f^3$  are placed beneath the next lower fence wire with the notches  $f^4$  engaging the wire. The stay wire is then in the position shown in Fig. 5 and passes over the initial delivery point  $f^2$ . The machine is then turned by means of its handles in the direction shown by the arrow, Fig. 5, until it reaches the position shown in Fig. 6, when by the change of position of the machine the wire will slide along the lip  $f'$  up to nearly the top of the raised portion  $f^6$  where it will be caused to cling slightly by frictional engagement therewith, until the stay wire has been made to engage the fence wire B as in Fig. 6. Thus the raised portion  $f^6$  of the lip will lay the stay wire at a distance from the plate F (see Fig. 7) and upon turning the device farther the wire will slip off of the raised portion of the lip  $f'$  and engage the delivery recess  $f^5$  as shown in dotted lines in Fig. 6 but the first coil of the stay wire, around each of the fence wires will thus be laid farther away from the machine than the others. The wire for subsequent coils will be paid out over the delivery recess  $f^5$  and will fall within the first coil, (see Fig. 1) thus avoiding piling the wires one on top of the other and making neat coils.

It is desirable to have the wire from the spools  $e'$  paid off most rapidly when the machine is being moved from one fence wire to the next, and by reference to Fig. 1 it will be seen that while this is being done the wire passes from the lower sides of the spools through the guides  $d^5$   $d^5$ , the delivery eyes  $f$  of the delivery plates, and over the initial delivery points  $f^2$  of the lips  $f'$  in the same general curve as it leaves the spool, so that the wire is not bent or deflected to any appreciable extent and renders very easily. When however the first coil is about to be made and the wire slips to the delivery recess which is in a line about at right angles to the line followed by the wire in rendering over the initial delivery point, the wire is bent sharply at an angle and thereafter renders with considerable friction over the delivery recess, in addition to the tension of the tension arm  $e^2$ , thus drawing the stay wires taut from one fence wire to the other in making the fresh coil of the stay wire and coiling the wire tightly upon the fence wire. This insures neat looking and firmly secured stay wires.

In applying stay wires on a fence with my improved machine, the stay rods C C are secured to the wires a little farther apart than the distance desired between the stay wires. The machine is then lengthened or shortened to lay the stay wires at the proper distance apart and is then made to engage the top fence wire between the stay rods C C and coil the stay wires about it. It is then drawn down to the second wire and so on until the bottom wire is reached where the stay wires are cut and the machine and stay rods are removed to another part of the fence.

In lowering the machine from one wire of the fence to the next, it will be found very advantageous to have the rear face of the end blocks D beveled as described and shown (see particularly Fig. 4) for it will be seen that as the machine is drawn down the inclined portions allow the machine to be pressed rapidly rearward thereby bringing the fence wire in position to draw the stay wires over the initial delivery point, when they will render much more freely than over the delivery recess  $f^5$ .

In Figs. 10 to 14 inclusive, I have shown a modified form of my machine adapted for putting on a single stay wire instead of two simultaneously, as it may be desirable in some cases, as where pickets are used, to apply a single wire only. In these figures G represents the main body of the device which is provided at one end with a delivery plate H constructed in all respects like the plate F of the device previously described and having an arm  $h^3$  provided with a notch  $h^4$  for engaging the fence wire B' as shown in Fig. 12. At the other end the body G is provided with a hooked or recessed plate H' for engaging the fence wire B' having a recess  $h^5$  in line with the recess  $h^4$  of the delivery plate. In order to hold the device upon the fence



wire I provide it with a bracket  $h^7$  which engages the wire and holds it out of a straight line as indicated in Figs. 11 and 14. The wire is drawn in a direction to hold it in the plates H and H' in order to slip it over the bracket  $h^7$  and the wire is thus held firmly in the device while the stay wire is coiled upon it. Upon the main body G is mounted a spool I for carrying the wire and said spool is provided with a tension arm  $i$  and adjusting nut  $i'$  to give it the desired tension. The operation of the device will be the same as the operation of one end of the device previously described. I may provide the main body G with suitable handles as indicated in dotted lines in Fig. 10, if preferred, in order to facilitate the handling of the device.

What I claim, and desire to secure by Letters Patent, is—

1. A device for attaching stay wires to wire fences, comprising among its members, two wire distributing devices, and adjustable connections between said distributing devices, whereby two stay wires may be applied at variable distances apart, substantially as described.

2. A device for attaching stay wires to wire fences comprising among its members, two wire distributing devices, arms rigidly connected with each of said devices, handles for engaging said arms provided with adjusting devices, whereby said distributing devices can be arranged at different distances apart, substantially as described.

3. A device for attaching stay wires to wire fences comprising among its members, a wire delivery plate having a delivery eye, and adjacent thereto a projection for engaging the wire between said delivery eye and the fence wire, said projection having an inclined face adapted to engage the wire as the device is rotated, to lay the first coil at a greater distance from the said plate than subsequent coils, substantially as described.

4. A device for applying stay wires to wire fences comprising among its members a wire delivery spool, and a delivery plate having a delivery eye and adjacent thereto a wire engaging portion for engaging the wire after it leaves said delivery eye, said wire engaging portion of said plate having an initial delivery recess in line with the natural curvature of the wire in leaving the spool, through which the wire is delivered when moving the device from one wire to another, and a main delivery recess out of the line of curvature of the wire, through which the wire is fed in coiling the same upon the fence wire, whereby the tension of said wire is increased during the operation of coiling, substantially as described.

5. A device for attaching stay wires to wire fences, comprising among its members a delivery spool and a delivery plate provided

with an initial delivery point in line with the normal curvature of the wire in leaving the spool, a delivery recess out of the line of curvature of said wire, and a projection located between said initial delivery point and said delivery recess for engaging the wire as the device is rotated, to lay the first coil at a greater distance from the delivery plate than subsequent coils, substantially as described.

6. A device for attaching stay wires to wire fences, comprising among its members a delivery spool and a delivery plate provided with a delivery eye, and a rib provided with an initial delivery point in line with the normal curvature of the wire in leaving the spool, a delivery recess out of the line of curvature of the wire, and a projection located between said recess and said initial delivery point for engaging the wire as the device is rotated to lay the first coil at a greater distance from the said delivery plate than subsequent coils, substantially as described.

7. A device for attaching stay wires to wire fences, comprising among its members the end blocks adjustable toward and from each other, each of said blocks being provided with a wire delivery spool, a wire guide, and a delivery plate provided with an arm for engaging the fence wire, a delivery eye, and a delivery recess out of the normal line of curvature of the wire in leaving the spool, substantially as described.

8. A device for attaching stay wires to wire fences, comprising among its members the end blocks, provided with rigid adjusting arms, spools secured to said blocks, and the delivery plates, and handles engaging the adjusting arms of both end blocks, and means for adjustably securing said arms together, substantially as described.

9. A device for attaching stay wires to wire fences, comprising among its members the end blocks having inclined wire engaging faces enabling the device to be readily removed from the fence wires, said blocks being provided with wire supplying spools, arms for engaging the fence wire, and delivery plates for delivering the wire from said spools, substantially as described.

10. A device for attaching stay wires to wire fences comprising among its members, the end blocks, the delivery plate secured to each block, having a delivery eye located at one side of said block, a wire supplying spool, and an inclined supporting axis for engaging the spool, to facilitate the delivery of wire from said spool, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY C. PRATT.

Witnesses:

WALTER H. KNAPP,  
JENNIE G. SMITH.