(No Model.) 2 Sheets—Sheet 1.

H. H. FELDMANN.

FENCE MACHINE.

No. 554,338. Patented Feb. 11, 1896.

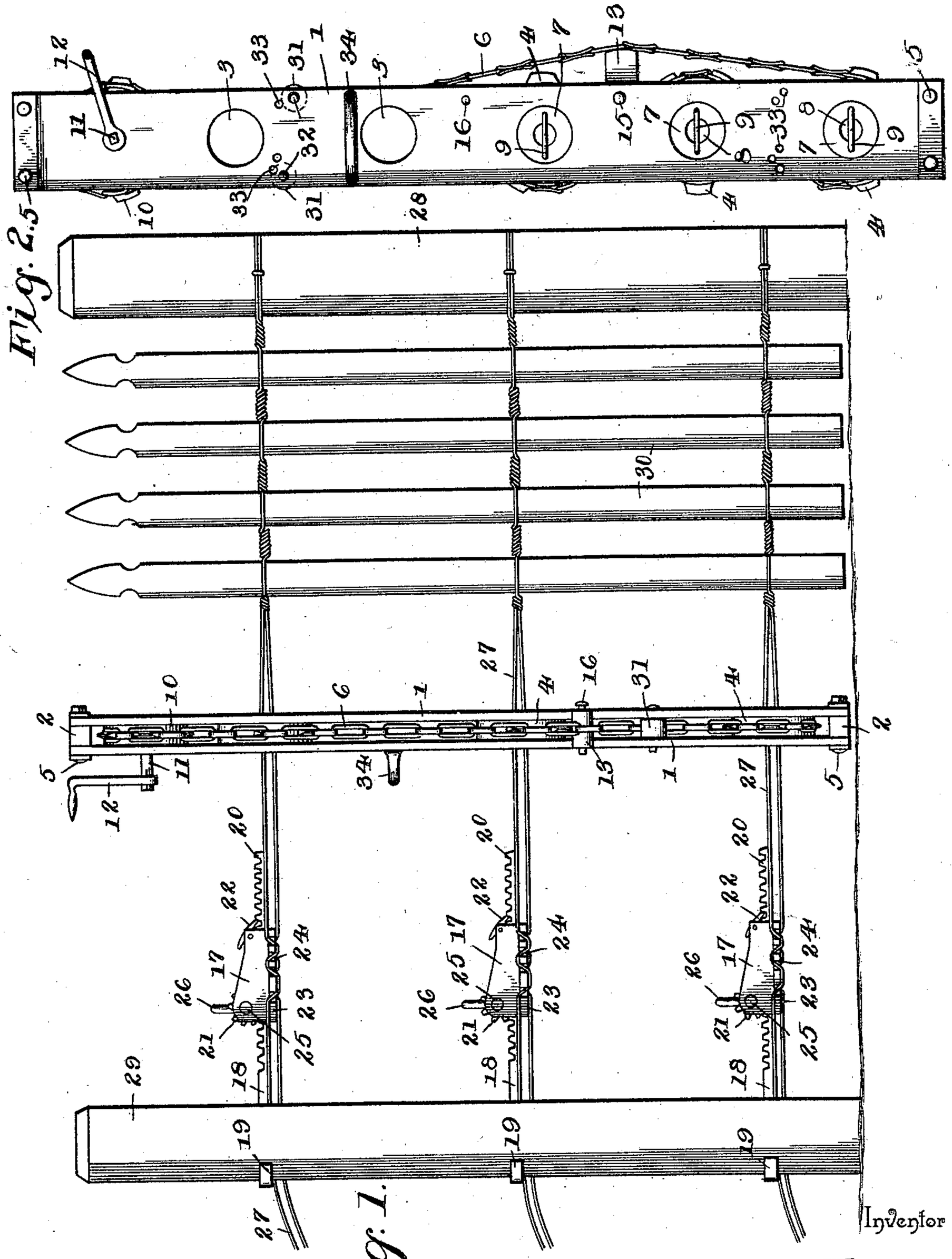

Fig. 2.

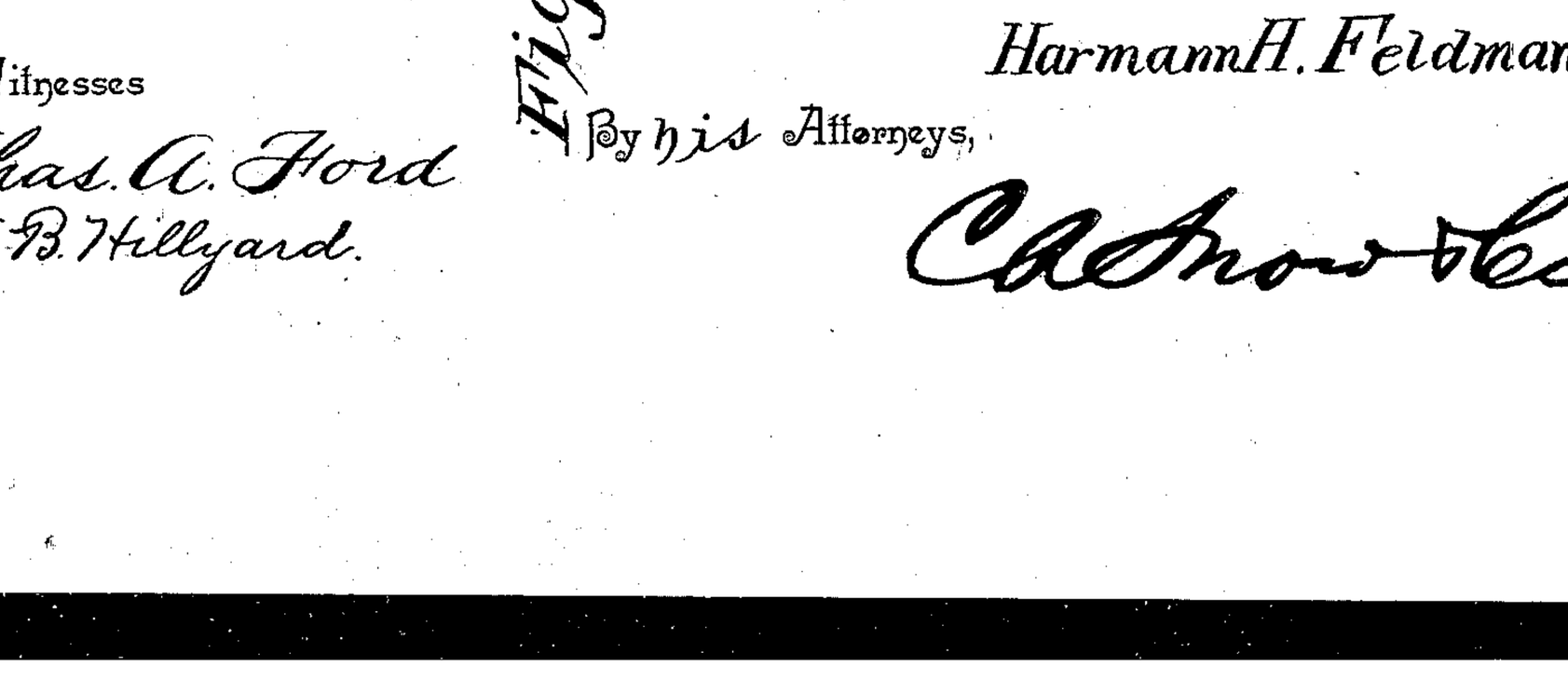

Fig. 1.

Witnesses

Chas. A. Ford

V. B. Hillyard.

Inventor

Harmann H. Feldmann

By his Attorneys,

C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

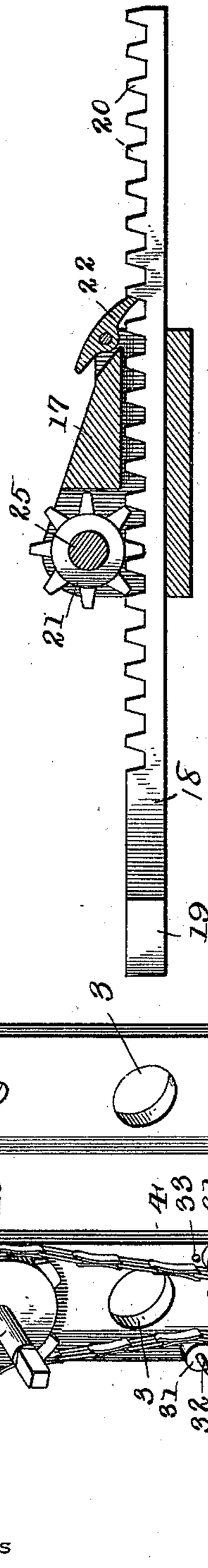


Fig. 4.

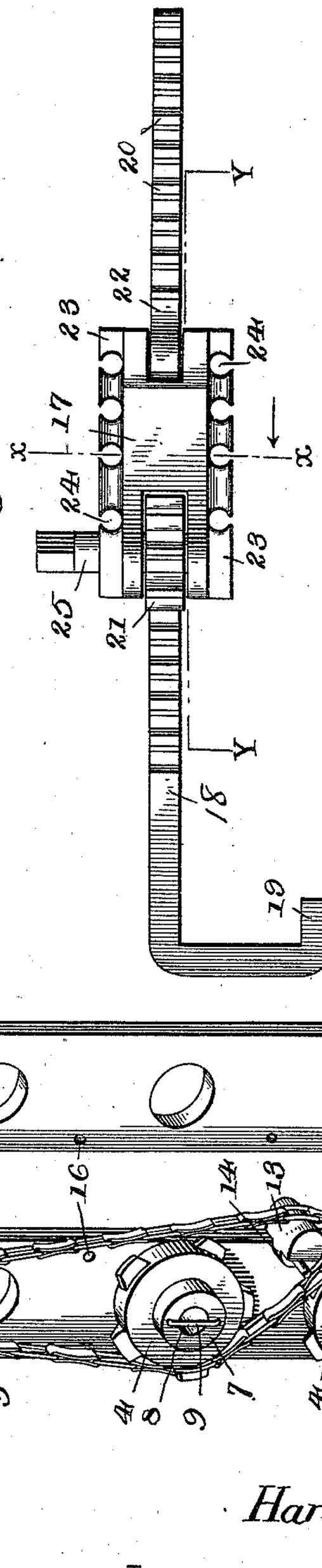


Fig. 7.

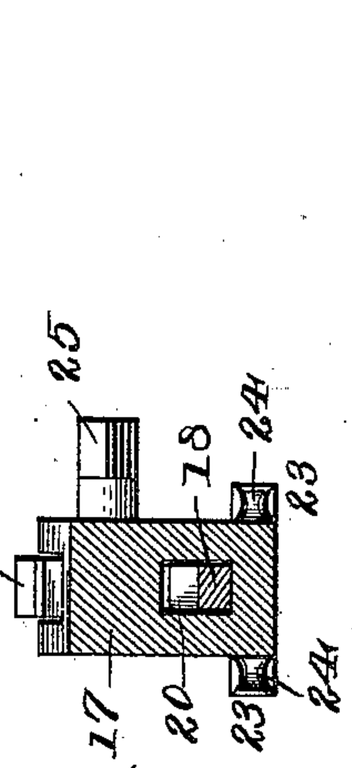


Fig. 6.

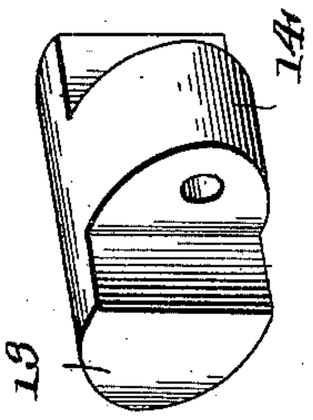
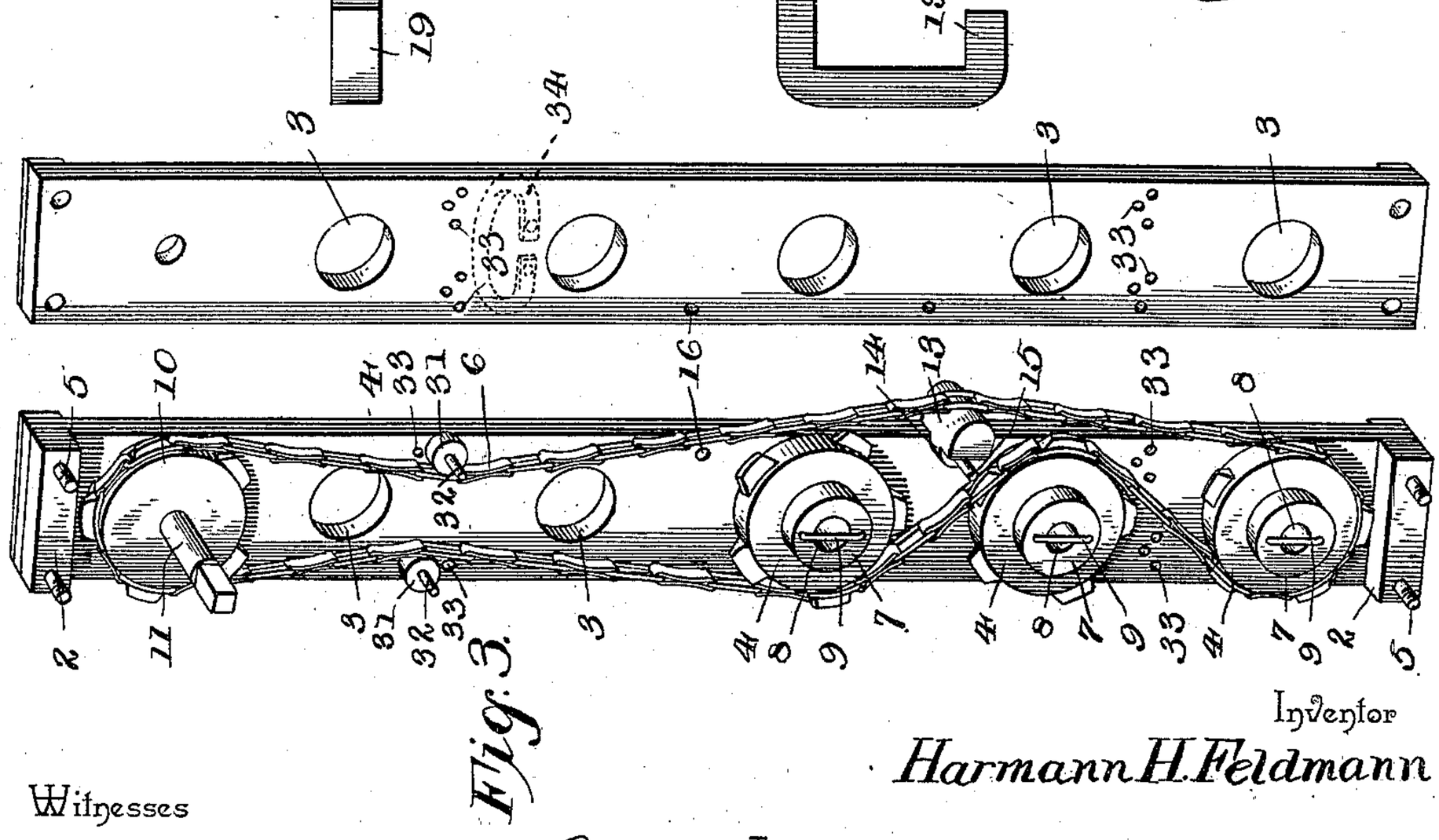


Fig. 3.



Witnesses

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Cachow & Co.

UNITED STATES PATENT OFFICE.

HARMANN HENRY FELDMANN, OF ST. CLEMENT, MISSOURI.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 554,338, dated February 11, 1896.

Application filed September 12, 1895. Serial No. 562,303. (No model.)

To all whom it may concern:

Be it known that I, HARMANN HENRY FELDMANN, a citizen of the United States, residing at St. Clement, in the county of Pike and State of Missouri, have invented a new and useful Fence-Machine, of which the following is a specification.

This invention aims to provide an improved machine for twisting the fence-wires about the pickets in the construction of wire-and-picket fencing and which will admit of the relative position of the wire-twisting wheels being changed to correspond approximately to the location of the different longitudinal fence-wires.

The invention also aims to provide an improved tension device whereby the required tension upon the wires in the construction of the fencing can be attained and which will allow for the splicing of a fence-wire in the event of a breakage or the paying out of the same.

Further objects and advantages are contemplated and will appear as the nature of the invention is unfolded in the following description; and to these ends the improvement consists essentially of the novel features and peculiar combination of the parts which hereinafter will be more particularly set forth and claimed, and which are illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a section of fencing in course of construction, showing the application of the invention. Fig. 2 is a side elevation of the machine for twisting the fence-wires about the pickets, the twisting-wheels and tension-rollers being differently related. Fig. 3 is a detail view of the machine, showing one side of the frame removed. Fig. 4 is a top plan view of the tension device. Fig. 5 is a longitudinal section thereof on the line Y Y of Fig. 4. Fig. 6 is a detail view of the block for holding the return portion of the sprocket-chain out of the path of the sprocket-teeth of the wire-twisting wheels. Fig. 7 is a cross-section on the line *x x* of Fig. 4, looking to the left as indicated by the arrow.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

The machine comprises similar side bars 1, which are arranged in parallel relation and are held apart the proper distance by spacing-blocks 2 located at their ends, and these side bars are provided at intervals in their length with a series of openings 3 in transverse alignment and which are designed to receive the hub portions of the wire-twisting wheels 4 and provide bearings therefor. The side bars are held together in any convenient manner which will admit of their ready separation, so as to change the position of the wire-twisting wheels to adapt them to the location of the wires to be twisted about the pickets, and, as shown, the said side bars are secured together by means of bolts 5, which pass through openings in the spacing-blocks 2 and hold the latter in position.

The wire-twisting wheels 4 are of similar construction and have sprocket-teeth which are engaged by the links of the sprocket-chain 6, by means of which the said twisting-wheels are operated when twisting the wires about the pickets, and these wire-twisting wheels have hub portions 7, which are adapted to enter and obtain bearings in the openings 3, and these twisting-wheels are further provided with centrally-disposed openings 8, through which pass the wires to be twisted.

A bar 9 extends diametrically across the opening 8 of each twisting-wheel, and its purpose is to separate the adjacent parallel fence-wires and to cause a twisting thereof in the rotation of the twisting-wheels, and this bar is secured in place in any desired manner, preferably by having its end portions bent and forced into openings provided in a side of the twisting-wheels.

A drive-wheel 10 is of like formation to the twisting-wheels and is mounted upon a short shaft 11, which is journaled near the upper ends of the side bars 1, and this shaft is rotated by means of a crank 12, fitted to one of its projecting ends. The sprocket-chain 6 is supported at one end upon the drive-wheel 10 and has motion imparted thereto from the said drive-wheel.

A block 13 is removably and adjustably fitted to the frame of the machine, and its outer portion is rounded so as to obviate catching thereon of the outer portion of the sprocket-chain when the latter is moving thereover. This block has a shank portion 14, which is adapted to be fitted between the

side bars 1 and which is transversely apertured for the reception of a pin 15, by means of which the said block is held in the located position against accidental displacement. A series of openings 16 will be provided along one edge of the side bars 1 for the passage of the pin 15, so as to secure the block 13 in the adjusted location.

The tension device for the fence-wires consists of a frame 17, an anchoring-bar 18, formed with a hook 19 at one end and having cog-teeth 20 in one side, a pinion 21, journaled in the frame and meshing with the cog-teeth 20 of the anchoring-bar, and a detent 22 for engagement with the cog-teeth 20, so as to secure the frame 17 in the desired position upon the anchoring-bar 18. Longitudinal flanges 23 project laterally from the opposite sides of the frame 17 and are formed at intervals in their length with a series of vertical openings 24, which extend through the outer edges of the flanges, so as to facilitate the insertion of the fence-wires into the said openings 24 when assembling and arranging the parts for the proper construction of the tension. The top and bottom sides of the flanges 23 are depressed, so as to prevent the accidental displacement of the fence-wires, and the corners or edges of the openings 24 are beveled, so as to obviate injurious contact with the fence-wires as the latter slip through the openings 24 during the twisting of the wires about the pickets. The pinion 21 is mounted upon a short shaft 25, which latter is journaled in the frame 17, and a crank 26 is removably fitted to one end of the shaft 25, so as to rotate the latter when it is required to move the frame 17 upon the anchoring-bar 18. The detent 22 is located at the opposite end of the frame to that at which the pinion is arranged and is intended to engage with the cog-teeth 20, so as to prevent the outward movement of the frame thereupon.

When constructing a wire-and-picket fencing by means of appliances constructed in accordance with the present invention, the fence-wires 27 are secured at one end to a fence post or support 28 in any of the usual ways, and the said fence-wires are applied to the tension devices which are secured to the next fence-post along the prescribed line of the fencing by being passed alternately from one side to the other of the flanges 23 by means of the openings 24, the said wires being thus deflected as many times as may be necessary to attain a proper tension thereon. The tension devices are secured to the fence-post 29 by means of the hooked ends 19 of the anchoring-bars 18. Should a fence-wire break or run short during the construction of the fencing the same can be spliced, and provision is had to clear the splice by moving the frame 17 upon the anchoring-bar in the manner previously set forth. The fence-machine is fitted upon the wires by passing the latter through the openings 8 of the wire-twisting wheels, care being taken to have the adjacent parallel wires come upon opposite sides of the bars 9. In the event of the position of the wire-twisting wheels not corresponding with the relative location of the fence-wires it will be necessary to remove one of the side bars and to shift the said wire-twisting wheels to cause them to coincide with the relative disposition of the fence-wires of the completed tension. This can be accomplished by removing the bolts 5 or the nuts therefrom as found most convenient. The block 13 is disposed so as to hold the outer or returning portion of the sprocket-chain away from the intermediate wire-twisting wheels so as not to interfere with the free operation thereof.

When changing the wire-twisting wheels from one position to another more or less slack will be occasioned in the sprocket-chain 6, and in order to make provision for taking up this slack and maintaining and securing a proper tension upon the sprocket-chain it has been found expedient to provide compensating and tightening means, which, in the present instance and in the simplest form, consist of rollers 31 which are mounted upon pins 32, supported at their ends in corresponding openings 33, provided in the side bars 1 of the machine. There will be a series of these openings 33, and they will be disposed at proper intervals in the length of the side bars for the proper positioning of the pins 32 to attain the desired end. Usually the rollers 31 will be provided in pairs, and one will be arranged to engage with each side portion of the sprocket-chain, as shown most clearly in Fig. 3.

A handle 34 will be affixed to a side bar of the frame to facilitate the manipulation of the machine when in operation and the carrying thereof when not performing efficient service. The side bars may be either metal plates or wooden strips, according to the style and cost of the machine.

The parts being assembled substantially as shown in Fig. 1, the pickets 30 are fed one at a time between the adjacent fence-wires, and the latter are twisted therearound by turning the crank 12. This operation is repeated until the required length of fencing is attained. The crank 12 is operated alternately in reverse directions in the usual manner so as to prevent the entangling and twisting of those parts of the fence-wires yet to be twisted about the pickets, as will be readily understood.

In the constructing and adapting of the invention for special purposes it is to be understood that various changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. A machine for twisting the wires about pickets in the construction of picket-fencing, the same consisting of similar side bars arranged in parallel relation, spaced the proper distance apart and detachably secured to-

gether and having a series of openings at intervals in their length, wire-twisting wheels having hub portions upon their opposite sides and adapted to be interchangeably and adjustably mounted in the said openings, a drive-wheel located at one end of and obtaining bearings in the said side bars, a drive-chain operated by the drive-wheel, and having engagement with the wire-twisting wheels, a block detachably and adjustably fitted to the side bars and adapted to hold the outer or returning portion of the drive-chain out of engagement with the intermediate wire-twisting wheels, and tension provisions for the drive-chain, substantially as and for the purpose set forth.

2. A tension device for the construction of wire-fencing, comprising an anchoring-bar having cog-teeth on one side, a frame movable upon the anchoring-bar and having longitudinal flanges projecting outwardly from its opposite sides, and formed at intervals in their length with a series of openings through which the fence-wires are passed alternately from one side to the other of the flanges, a pinion mounted in the frame and meshing with the cog-teeth of the anchoring-bar, and a detent for securing the frame to the required position upon the anchoring-bar, substantially as set forth.

3. The herein-specified tension device for the purposes set forth, comprising an anchoring-bar having a hook at one end, and having a series of cog-teeth on one side, a frame movable upon the anchoring-bar and having flanges at its opposite side formed at intervals in their length with a series of openings which extend through the outer edges of said flanges, and the latter being depressed at their top and bottom sides, a pinion journaled in the frame and adapted to mesh with the cog-teeth of the anchoring-bar, and a detent for securing the frame in the located position, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HARMANN HENRY FELDMANN.

Witnesses:
CHAMP CLARK,
ZOULA OMOHUNDRO.