

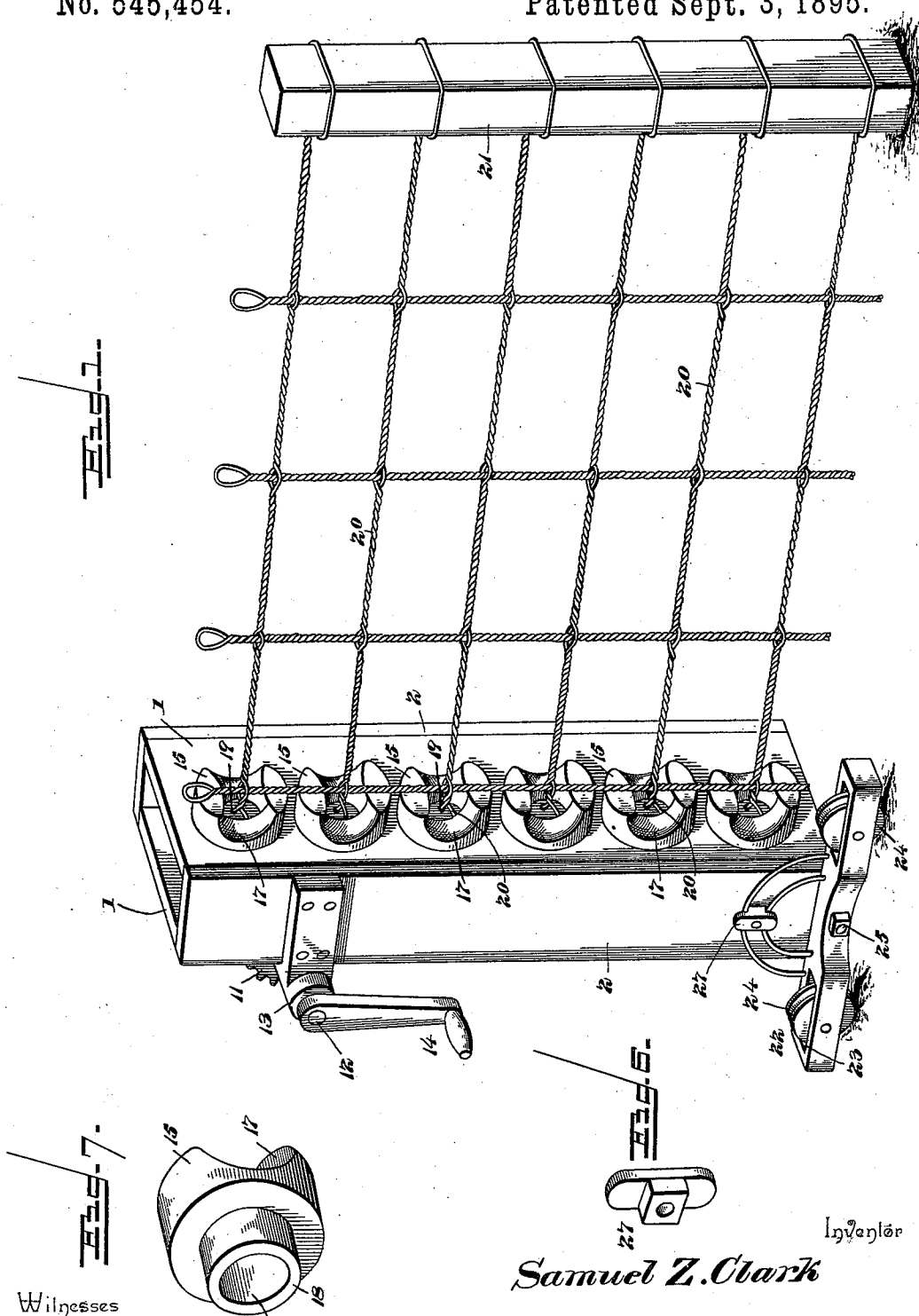
(No Model.)

2 Sheets—Sheet 1.

S. Z. CLARK.
WIRE FENCE MACHINE.

No. 545,454.

Patented Sept. 3, 1895.



Inventor

Samuel Z. Clark

Witnesses

E. H. Stewart,
R. M. Smith.

By his Attorneys.

Chas. Snow & Co.

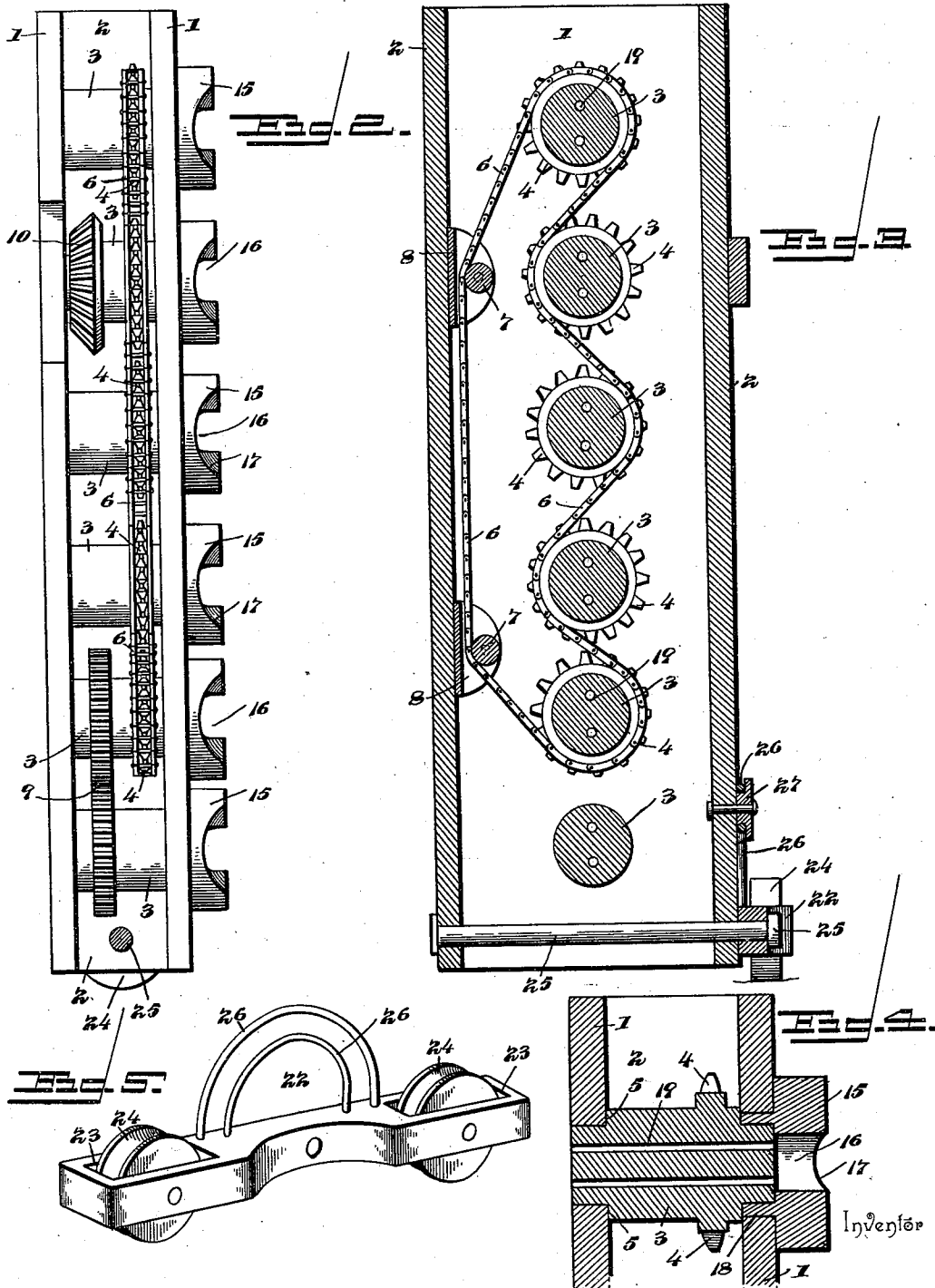
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UNITED STATES PATENT OFFICE.

SAMUEL Z. CLARK, OF RUSHVILLE, ILLINOIS.

WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 545,454, dated September 3, 1895.

Application filed May 28, 1895. Serial No. 550,989. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL Z. CLARK, a citizen of the United States, residing at Rushville, in the county of Schuyler and State of Illinois, have invented a new and useful Wire-Fence Machine, of which the following is a specification.

This invention relates to an improvement in machines for constructing wire fences, and has for its object to simplify and improve devices of the nature referred to with a view to providing superior means for supporting and mounting the journals of the twisting-wheels and with a view, also, to provide a novel form of pivoted carriage, upon which the machine-frame is mounted and capable of being adjusted to any desired angle to compensate for any unevenness or irregularity in the surface of the ground.

To accomplish the objects above mentioned the invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally embodied in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a wire-fence machine constructed in accordance with this invention and showing, also, a portion of a fence in the process of construction. Fig. 2 is a front elevation of the frame in which the twisting-wheels are journaled, the front side thereof being removed to show the arrangement of the actuating-gearing. Fig. 3 is a transverse vertical section through the supporting frame or housing, showing the interior arrangement of the twisting-wheels and the manner in which the integrally-formed gears thereon are driven. Fig. 4 is an enlarged detail section through a portion of the casing and one of the bumpers or spacing-blocks, showing the manner in which the latter is adapted to form a bearing for the hub or axle of the twister-wheel. Fig. 5 is a detail perspective view of the improved carriage. Fig. 6 is a similar view of the clamping-button for holding the carriage at the desired angle to the frame of the machine. Fig. 7 is a detail view of the bumper or spacing-block.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, a suitable frame is formed by means of vertically-extending side plates 1 and end plates 2, arranged, as shown, to form a suitable casing or housing, which is substantially rectangular in horizontal section, the several plates from which said housing is formed being bolted or secured together in any usual or preferred manner. Arranged within said housing or frame and in vertical alignment is a series of twisting-wheels, each of which comprises, essentially, an enlarged central hub or shaft 3 and a series of sprocket-teeth disposed around said hub or shaft, as indicated at 4. The opposite side plates 1 are perforated to receive and form bearings for the opposite reduced ends of the shafts or hubs of the twisting-wheels. By reducing the diameter of the ends of the twisting-wheel shafts or hubs, shoulders 5 are formed which abut against the inner adjacent faces of the side plates 1, serving to hold the wheels in proper operative position and relation to each other.

6 designates an endless chain, which passes around or partially around the sprocket-teeth 4 of each twisting-wheel for imparting motion thereto. Said chain extends around the teeth on one side of one of the twisting-wheels and around the teeth on the opposite side of the next or adjacent twisting-wheel. Such arrangement is continued throughout the entire series of twisting-wheels, of which there may be any preferred number, and motion is thus imparted to said wheels, each wheel being driven in a direction opposite to that in which the wheels immediately above and below it are driven. After the chain 6 passes around the upper and lower twisting-wheels it passes over suitable pulleys 7, located at or near the top and bottom of the frame or housing, said pulleys serving to carry the chain away from and prevent its interference with the sprocket-teeth in a manner and for a purpose that will be readily understood. The pulleys 7 are shown mounted between the forwardly-extending parallel ears of a pair of brackets 8, secured to the rear wall of the frame or housing.

Where the number of twisting-wheels employed is even it will be necessary to employ other means than the chain for driving the upper or lower wheel of the series. This I

accomplish by forming a series of spur gear-teeth around one of the hubs of the twister-wheels, preferably the second one from the bottom, and also by providing the hub of the lower wheel with corresponding teeth intermeshing with those of the second wheel, as shown at 9. This will also serve to drive the lower wheel in a direction opposite to that in which the adjacent wheel is driven. One of the twisting-wheels has mounted thereon or formed integrally therewith a beveled gear-wheel 10, which meshes with a similar beveled gear-wheel 11, mounted on a short shaft 12, extending at right angles to the axis of said twister-wheel. The shaft 12 is mounted and has its bearing in an enlarged boss 13, formed upon or secured to the front side of the frame or housing and has rigidly secured thereto a crank 14, by means of which the shaft 12 and its gear 11 are driven. Motion is thus imparted to the train of twisting-wheels from the front side of the frame.

15 represents a series of bumpers or spacing-blocks, the number of which corresponds to the number of twisting-wheels. Each bumper or spacing-block is provided with a central perforation 16, through which the fence-wires pass, and is substantially circular in form. It is further provided with notches or depressions 17, which serve to render the same lighter, it being constructed of cast-iron, and at the same time providing for the reception of the heads or nuts of the bolts which secure the bumper or spacing-block in place. The upper and lower portions of the spacing-block are made of a thickness corresponding to the distance which it is desired to leave between the pickets or vertical wires of the fence. Each bumper is further provided upon its side adjacent to the plate 1, to which it is secured, with an annular flange or sleeve 18, which extends through the contiguous side plate 1 and forms a bearing for the shaft of the corresponding twisting-wheel.

The hub or shaft of each twisting-wheel is provided with an oppositely-disposed pair of longitudinally-extending perforations 19, passing entirely through the same and adapted to receive the longitudinal wires or strands 20, which form the longitudinal cables of the fence. It will be understood that the longitudinal wires or strands from which the fence is to be constructed are securely attached at one end to a post 21, whence they are extended horizontally in parallel relation and the pairs or groups passed through the longitudinal perforations 19 in the twisting-wheels. The opposite ends of the wires are then secured to a similar post or to a suitable tension device in a manner that will be readily understood by those familiar with the state of the art to which this invention appertains. It will be understood that in operation the twisting-wheels are turned for twisting the wires a short distance. A picket is then forced between the wires of each pair and against the bumpers or spacing-blocks. The wheels are

operated in a reverse direction and the wires now given another twist, after which the machine-frame is moved slightly and another picket inserted. This operation is continued until a sufficient amount of work has been done to complete a panel, after which the horizontal wires or cables are fastened to the post by means of staples or in any usual or preferred manner.

It very frequently happens that it becomes necessary to operate the machine on ground which has an uneven and irregular surface. In order to enable the machine to be operated effectively under such circumstances, I provide a carrier, which comprises a longitudinally-extending frame-bar 22, provided at each end with elongated slots or openings 23, adapted to receive suitable wheels or pulleys 24, mounted on transversely-extending horizontal shafts. The carrier-frame 22 is pivotally mounted upon the forward end of a through bolt 25, passing through the opposite end plates 2 of the machine-frame, and said carrier-frame is further provided with a pair of semicircular wires or bars 26, which are concentric with each other but described on different arcs, so as to leave a space between them, as shown. The rods or wires 26 may be riveted or otherwise secured within perforations in the frame-bar 22, and are arranged to operate in contact with the forward face of the frame or housing. 27 designates a clamping-button, which is centrally pivoted and lies between the wires or bars 26. The button 27 is connected directly to the frame or housing of the machine, and is notched or recessed at each end or in each wing, adapting said ends or wings to pass over in front of and embrace the wires or rods 26. By means of this construction, it will be seen that the button 27 may be turned for releasing the wires or rods 26 and allowing the machine-frame to be tilted and made plumb, after which the button may again be turned for clamping against the rods or wires 26 and holding the carrier and machine-frame in fixed relative position.

It will be understood that the object in employing the lower spur-gear 9 is to obtain a lower group of wires, and that two or more groups of longitudinal wires may be added to the fence in this manner. The brackets 8, above described, are also made adjustable vertically, for the purpose of taking up slack in the drive-chain 6.

It will be apparent that a greater or smaller number of twister-wheels may be employed, according to the number of longitudinal groups desired in the complete fence, and also that other changes in the form, proportion, and minor details may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a wire fence machine, the combination

with the frame or housing in which the twisting wheels are journaled, of a bumper or spacing block comprising an annular casting provided with a central aperture and with oppositely disposed notches for the reception of the bolt heads or nuts by means of which said bumper or spacing block is secured to the frame or housing, and an inwardly projecting annular flange or sleeve formed integrally with said bumper or spacing block and extending through the wall of the frame or housing, said sleeve forming a bearing for the hub of the twisting wheel, substantially as described.

2. In a machine for constructing wire fences, the combination with the frame or housing in which the twisting wheels are mounted, of a

carrier having a pivotal connection with the base of said frame or housing, a pair of semi-circular concentric wires or rods carried by said carrier and bearing against the face of the frame or housing, and a notched and pivoted button secured to the frame or housing and adapted to co-operate with said concentric wires or rods for adjusting the angle of the machine frame with relation to the carrier, substantially as specified.

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

SAMUEL Z. CLARK.

Witnesses:

HIRAM B. GRAFF,
JOHN L. SWEENEY.