

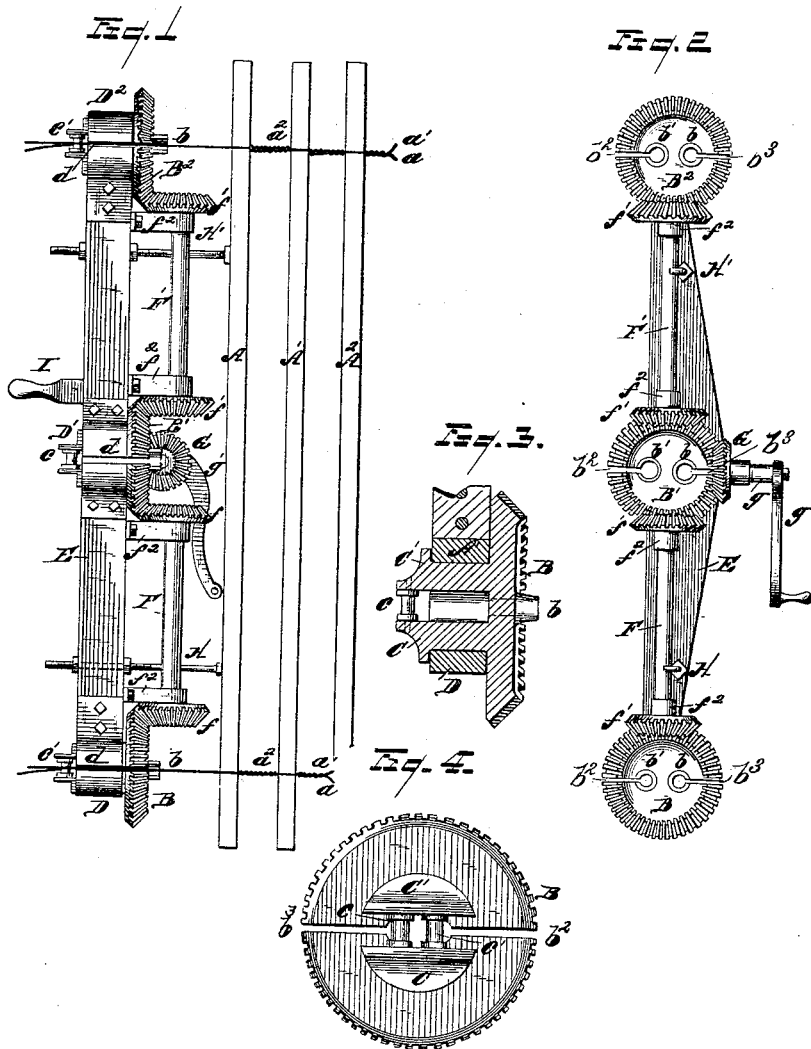
(No Model.)

J. HELD.

WIRE TWISTING MACHINE.

No. 344,274.

Patented June 22, 1886.



WITNESSES

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UNITED STATES PATENT OFFICE.

JACOB HELD, OF HOWELL, MICHIGAN.

WIRE-TWISTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 344,274, dated June 22, 1886.

Application filed March 16, 1886. Serial No. 195,386. (No model.)

To all whom it may concern:

Be it known that I, JACOB HELD, of Howell, county of Livingston, State of Michigan, have invented a new and useful Improvement in Wire-Twisting Machines; and I 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 pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful devices for twisting wire, and has more particularly for its object to facilitate the twisting of wire in fencing constructed of pickets supported and held in place by wires twisted at each side of the picket toward its upper and lower ends, or intermediate thereof.

It is the purpose of my invention to provide a machine for this purpose which shall be inexpensive, simple, and efficient in its operation.

My invention consists of the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

I carry out my invention as follows:

In the drawings, Figure 1 is a side elevation of a device embodying my invention. Fig. 2 is a front view; Fig. 3, a section of one of the gears, and Fig. 4 a rear view of the same.

A A' A², &c., represent a series of pickets entering into a fence.

a a' represent two wires by which the pickets are held in place, a similar series of wires being engaged with the opposite end of the pickets, said wires being twisted between the pickets, as shown at a², and also intermediate thereof, if desired.

My device for twisting said wires, which forms my present invention, is as follows: B and B' B² represent gears constructed with orifices b b', through which the wires may pass, said orifices preferably elongated to form slots, communicating with the exterior of the periphery of said gears, as shown at b² b³, so that the wires may be engaged in said orifices without having to be strung through, as this construction facilitates the engagement of said gears upon the wires. The gears are constructed with rearwardly-extended shanks C C', provided with intermediate rollers, c c', to guide the wire and facilitate the movement of the

machine to and fro thereon in setting it for making different twists as the pickets are added, and limiting the friction in moving the machine. The forward ends of said orifices are preferably extended beyond the face of the gear, as shown more particularly in Figs. 1 and 3. D D' D² represent bearings in which said gears are journaled, said bearings preferably constructed with an open slot upon one face, as shown at d, to facilitate the engagement of the wire in the orifices of the gear. By locating these openings, as shown, in the said bearing, it is evident that when the gears rotate, so that either of the slots b² b³ come into juxtaposition with said opening d, a wire may be engaged therein. By rotating the gear half-way the other wire may be engaged in the opposite orifice of the gear in the same manner. By this means the machine may be readily located in place or removed whenever desired. E represents a bar upon which said bearings are mounted. At the top and bottom the bearings may conveniently be located over the ends of the bar. Intermediate of their ends the bearing, if employed, will conveniently be located to one side, the bar being preferably cut away somewhat to receive it and bring it in line with the two bearings at the ends. F F' represent shafts provided with pinions f f', meshing with said gears, respectively, said shafts being journaled upon said bar E in any proper manner, as by means of the brackets f². G is a driving-pinion, preferably meshing with one of said gears, although it might mesh with one of the pinions, said driving-shaft being journaled upon the bar E in any suitable way, and provided with a crank-arm, g, and crank g', for rotating the twisting-gears. By this construction it is evident that by turning said crank the driving-shaft will rotate said twisting-gears simultaneously, thereby twisting the wire, and the mechanism may be moved back and forth in the operation of adding pickets to the fence. It is obvious that by first turning said gears to form one twist in one direction, and reversing the direction of said gears in forming the succeeding twist, the wires will be kept from tangling in the rear of the device. Moreover, each of the series of wires is twisted simultaneously and with great firmness, and may be twisted any desired number of times.

In the drawings I have shown three sets of twisting-gears and mechanisms for rotating the same; but I would have it understood that I do not limit myself to the use of three, as two of said twisting-gears may alone be employed located toward each end of the pickets, with mechanism for rotating the same, in which case the intermediate gear might be dispensed with, the shaft upon which the pinions are mounted being made continuous, and provided with a single pinion intermediate of its ends, to mesh with the driving-pinion.

It may be sometimes desirable to construct the fence with more than two series of wires twisted toward the ends of the pickets, as shown in Fig. 1, and it is evident that the mechanism illustrated in the drawings may be made to twist an additional set intermediate the ends of the picket, if desired; or additional twisting-gears and rotating mechanism for twisting any desired number of wires may be used without departing from the principle of my invention.

H H' represent gages made adjustable with the bar E, to regulate the distance of the pickets from each other, so as to make the distance uniform. It is evident that by locating said gages adjacent to the picket newly inserted the length of the twist between the pickets will be governed by the length of the gage forward of the cross-bar. This makes a very convenient and efficient device for the construction of fences of this class.

The bar E may be provided with an operating-handle, I, for convenience in handling.

What I claim is,—

1. A wire-twisting gear having orifices that

communicate with the periphery of the gear, and provided with a shank having rollers mounted thereon, substantially as described. 40

2. In a fence-machine, the combination, with a bar, E, having bearings D D' D², provided with lateral openings *d*, of wire-twisting gears having orifices *b b'*, communicating with the periphery of said gears, and provided with shanks C C', carrying rollers *c c'*, to guide the wire and facilitate the movement of the machine thereon, substantially as described. 45

3. In a fence-machine, the combination of the bar E, having gear-bearings D D' D² and shaft bearings or brackets *f²*, the wire-twisting gears B B' B², having shafts C C', carrying rollers *c c'*, the shafts F F', having pinions *f f'*, meshing with said twisting-gears, and the driving-pinion G, mounted upon a cranked driving-shaft journaled in the bar E, substantially as described. 50 55

4. A wire-fence machine composed of a bar, E, having a series of gear-bearings provided with lateral openings *d d*, wire-twisting gears journaled in said bearings, and having orifices *b b'*, that communicate with the peripheries of the gears, said gears being provided with shanks C C', having rollers *c c'* mounted thereon, a driving-gear, pinions, and intermediate shafts for actuating said twisting-gears, and the adjustable gages H H', substantially as described. 60 65

In testimony whereof I sign this specification in the presence of two witnesses.

JACOB HELD.

Witnesses:

M. B. O'DOHERTY,
JNO. E. WILES.