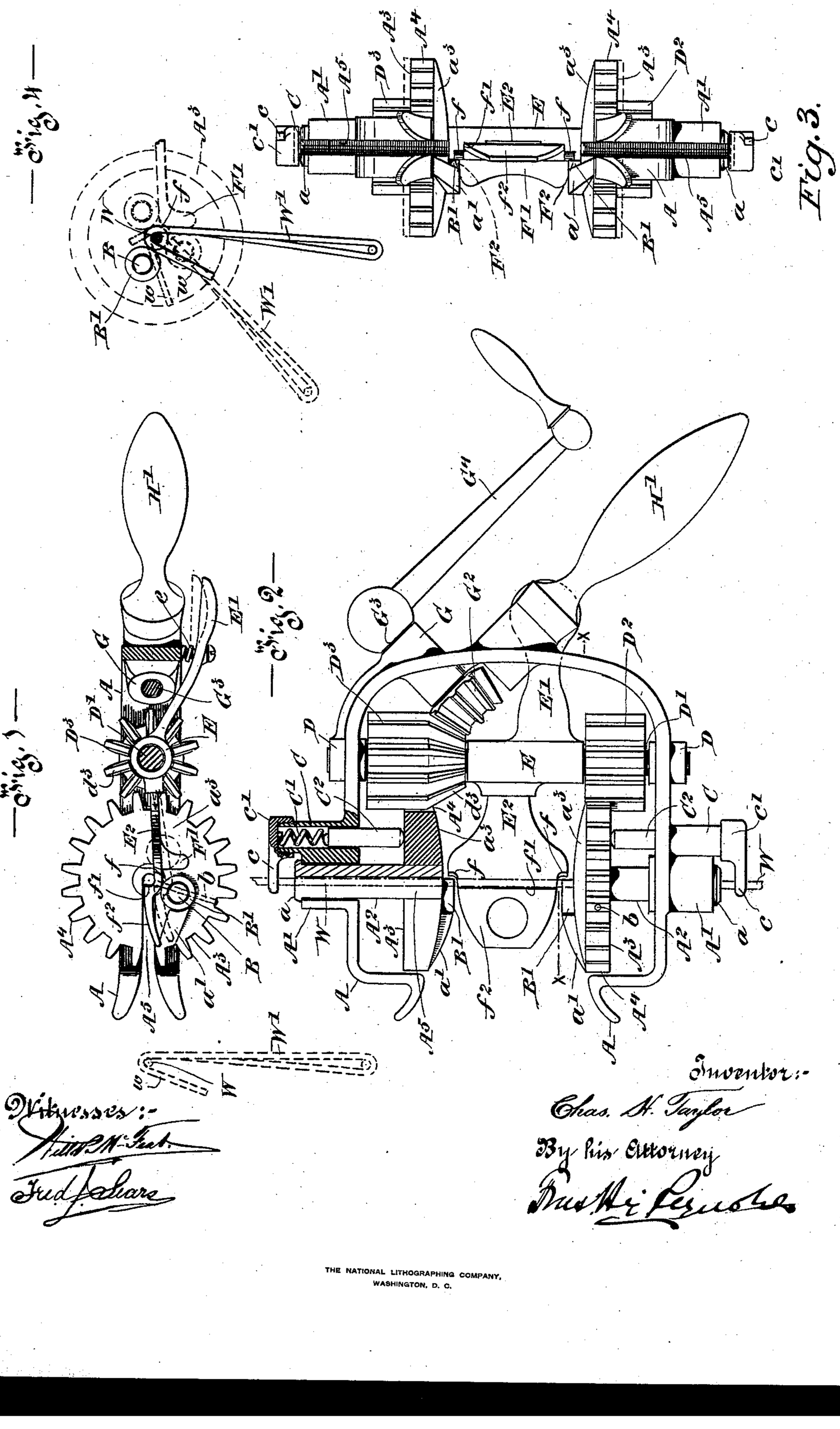
(No Model.)

C. H. TAYLOR.

WIRE ATTACHING DEVICE.

No. 508,997. Patented Nov. 21, 1893.



Witnesses:-
Fred. Fehare

Inventor:-
Chas. H. Taylor
By his Attorney
Duell & Lemon

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES HAVELOCK TAYLOR, OF MONTREAL, CANADA, ASSIGNOR TO R. L. F. STRATHY & CO., OF SAME PLACE.

WIRE-ATTACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 508,997, dated November 21, 1893.

Application filed February 14, 1893. Serial No. 462,352. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HAVELOCK TAYLOR, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in Wire-Attaching Devices; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of my invention is to provide a wire attaching device more especially applicable for use in attaching transverse stay guards to wire fencing, usually consisting of a series of longitudinal strands, with greater uniformity and more rapidly than heretofore and without leaving any projecting points.

My invention broadly speaking embraces the use of a rotatable coiler or finger in combination with suitable means for holding the main longitudinal strand and the transverse wire to be attached, so that such coiler or finger can be rotated about said main strand while bearing upon the free end of the wire to be attached, the said coiler or finger being mounted so as to leave one of its sides or faces free and facing the holding mechanism and also being adapted to have a yielding pressure toward said holding mechanism, an open slot or groove, extending laterally or sideward into the common axis of both coiler and its axial mounting, being provided so that such main strand can be located in such axis. For full comprehension however of my invention, reference must be had to the annexed drawings forming part of this specification, in which like symbols indicate the same parts and wherein—

Figure 1 is a section on line *x*—*x*, Fig. 2, showing all the parts of the device in their normal position, with a main wire and one to be attached thereto by coiling shown in dotted lines. Fig. 2 is a plan or top view of my invention, with one disk in section and a portion of the frame broken away. Fig. 3 is a face view; and Fig. 4 is a detail of one of the disks showing the operation of the eccentric bearer and gripping edges of the holder.

The construction of the device is as follows: The frame A has a number of sleeves cast in one with it and lettered respectively A′ A′, C C, D D and G. The sleeves A′ A′ form bearings for axles or spindles A^2 A^2 with heads *a* *a* cast thereon at one end while on the opposite ends of such axles are rigidly mounted disks A^3 A^3 with convex faces a^3 a^3 carrying guides *a′* *a′* cast in one therewith and eccentric bearing finger projections in the form of studs B B with rollers B′ B′ loosely mounted on them. The peripheries of these disks are toothed as at A^4 to intermesh with pinions D^2 and D^3. The spindle A^2, disk A^3 and stud B in each case are secured rigidly together by means of pins *b* *b* as shown in dotted lines in Fig. 1.

The sleeves C C carry yielding pressure devices in the form of coiled springs C′ C′ which bear through bolts C^2 C^2 on the flat sides of the disks A^3 A^3 and act to press them in toward the holding mechanism (to be hereinafter described) located in the center of the device, the heads *a* *a* on the outer ends of the spindles A^2 A^2 bearing against the ends of the sleeves A′ A′ and limiting the extent of inward movement of the disks.

The sleeves D D form bearings for a shaft D′ carrying pinions D^2 D^3 rigidly mounted thereon and sleeve E loosely mounted thereon. The pinion D^3 is partly beveled as at d^3 to mesh with bevel gear G^2 and this latter is mounted on the inner end of a spindle G^3 carried in sleeve G on the outer end of which spindle a suitable crank handle G^4 is secured for effecting the rotation of the disks A^3 A^3 as will be more particularly described. The holding mechanism for the wires, which may be thus described, embraces the sleeve E which is cast with two arms E′ E^2 constituting with such arms a pivoted holder, the arm E′ projecting slightly over the handle proper H′, of the device attached to the frame A, for the purpose of allowing the opposite arm E^2 of the holder to be conveniently operated by the finger of the hand holding the device.

The arm E^2 is broadened horizontally in the vicinity of the axis of the two disks A^3 A^3 and has an abrupt upward bend as at *f′* which bend is located a sufficient distance from such axis to avoid interference with the insertion

of the main strand although serving when same is in place to prevent its lateral movement therefrom. To hold the transverse wires in place the arm E^2 is provided with edges or notches *f f* cut on each side thereof to receive the transverse wires while a downward projection or guard F′ (on the under side of the arm E^2) serves to hold the main portions of the transverse wire W′ to be attached, and prevents same from being bent back as would be the case if either of the bearing fingers B B was to come in contact with them. The ends F^2 F^2 of this guard F′ are beveled to form guides which force the bearing fingers B B as they are rotated, and consequently the disks A^3 A^3, against the yielding pressure devices C′ C′ outward from the holding mechanism. An open slot A^5 extends sidewardly into the common center or axis of the axles A^2 A^2 and through the frame A and the several parts mounted on or encircling such axles as well as through the disks A^3 A^3 to allow of the admission and location of the main strand W in such axis.

The operation of my invention in attaching a transverse wire to the main strand is as follows: The device is held by the handle H′ and pushed toward the main strand or wire W and the piece W′ to be attached, the main wire W entering the slot A^5 bearing upon and forcing down the outer curved portion f^2 of the arm E^2 of the pivoted holder, which is fulcrumed in sleeve E, against coiled spring *e* to the dotted position shown in Fig. 1, past the retaining notch *f′* in same to the axis of the axles A^2 A^2 when the pivoted guard springs back again to its normal position and locks the strand against lateral horizontal displacement, it being at the same time secured against lateral vertical displacement by means of guards *c*, *c*, cast in one with caps *c′* *c′* screwed on the ends of sleeves C, C, and as the wire W runs through the common axis of spindles A^2 A^2 they together with eccentric bearers or disks A^3 A^3 and rollers B′ B′ mounted thereon are free to rotate around it. Meanwhile the wire W′ being hooked over the main strand has been drawn by such main strand W as it enters slot A^5 to the position shown in dotted lines in Fig. 4, after which by the initial partial movement of the rollers B′ B′ it is forced to the position shown in full lines in such figure, with its main portions W′ against the guards F′, the guides *a′* *a′* serving to keep the main portion of wire W′ from catching on or interfering in any way with rollers B′ B′. The free portions *w* *w* of wire W′, are now in position to be coiled round the main strand W which is done in this manner—by turning crank G^4, which through bevel gear G^2, pinion D^3, axle D′ and pinion D^2 rotates disks A^3 A^3 and with them the eccentrically mounted rollers or finger bearers B′ B′ and these rollers, as will be seen by Fig. 4, bearing always on the free portions *w* *w* of the wire W′ coil it round the main strand W and as the coils extend out sidewise the necessary space is provided by the yielding resistances C′ C′ which, when the wires are removed throw the disks A^3 A^3 back into their normal position. As will be seen in Fig. 4 the first movement of rollers B′ B′ presses the piece W′ against the edges *f f* and they grip the wire and prevent it being drawn up and coiled on the main strand W.

To disengage the device from the wires, after the operation is complete, all that is necessary is to press arm E′ which will cause the holder to assume the dotted position shown in Fig. 1 and thereby release the main strand and allow the device to be withdrawn.

It will readily be seen that while the transverse wire is being coiled round the main, the latter is held perfectly straight without any direct strain on it, while the former is rigidly held against being drawn up so that none but the required portion will be coiled upon the main wire.

What I claim is as follows:

1. In a wire attaching device, mechanism for holding a main strand of wire against lateral movement and for holding in place, relatively to said main strand, the main portion of a secondary wire having a free end to be connected with or attached to such main strand; a rotatable coiler mounted on a stud axle and rotating eccentrically to the axis of said axle and having a yielding pressure toward said holding mechanism; an open slot or groove extending laterally inward to the common axis of both eccentric and axle and for the full combined longitudinal length of said axle and eccentric; and means for rotating said eccentric or bearing finger.

2. In a wire attaching device, a clip or holder adapted to receive a main strand of wire; a rotatable disk or gear wheel mounted on a stud axle so as to leave one of its faces free and having a yielding pressure toward said holder; an open slot or groove extending laterally inward to the common axis of said axle and disk or wheel to allow of the insertion of said main strand therein; said clip or holder comprising means for retaining said main strand within said axis and means for holding in place the main portion of a transverse wire the end of which is to be connected with the main strand; a projection from the free face of the rotatable disk, located eccentrically to its axis and adapted upon the rotation of said gear wheel to revolve about and coil the end of said transverse wire around said main strand, with means for rotating said gear wheel, as set forth.

3. In a wire attaching device, the combination of a clip or holder adapted to be fitted on a main strand of wire; a pair of rotatable disks or gear wheels mounted on stud axles having a yielding pressure toward said holder and each gear having an open slot or groove extending laterally inward to the common axis of said axles and disks or wheels to al-

low of the insertion of said main strand of wire therein; a projection from each of the free faces of the gears located eccentrically of the axes of the same and adapted upon the rotation of said gear wheels to revolve about and coil the ends of wires, placed transversely to said main strand, around the same, with means for rotating said gear wheels, as set forth.

Montreal, January 16, 1893.

CHARLES HAVELOCK TAYLOR.

In presence of—

WILLIS MCFEAT,

FRED. J. SEARS.