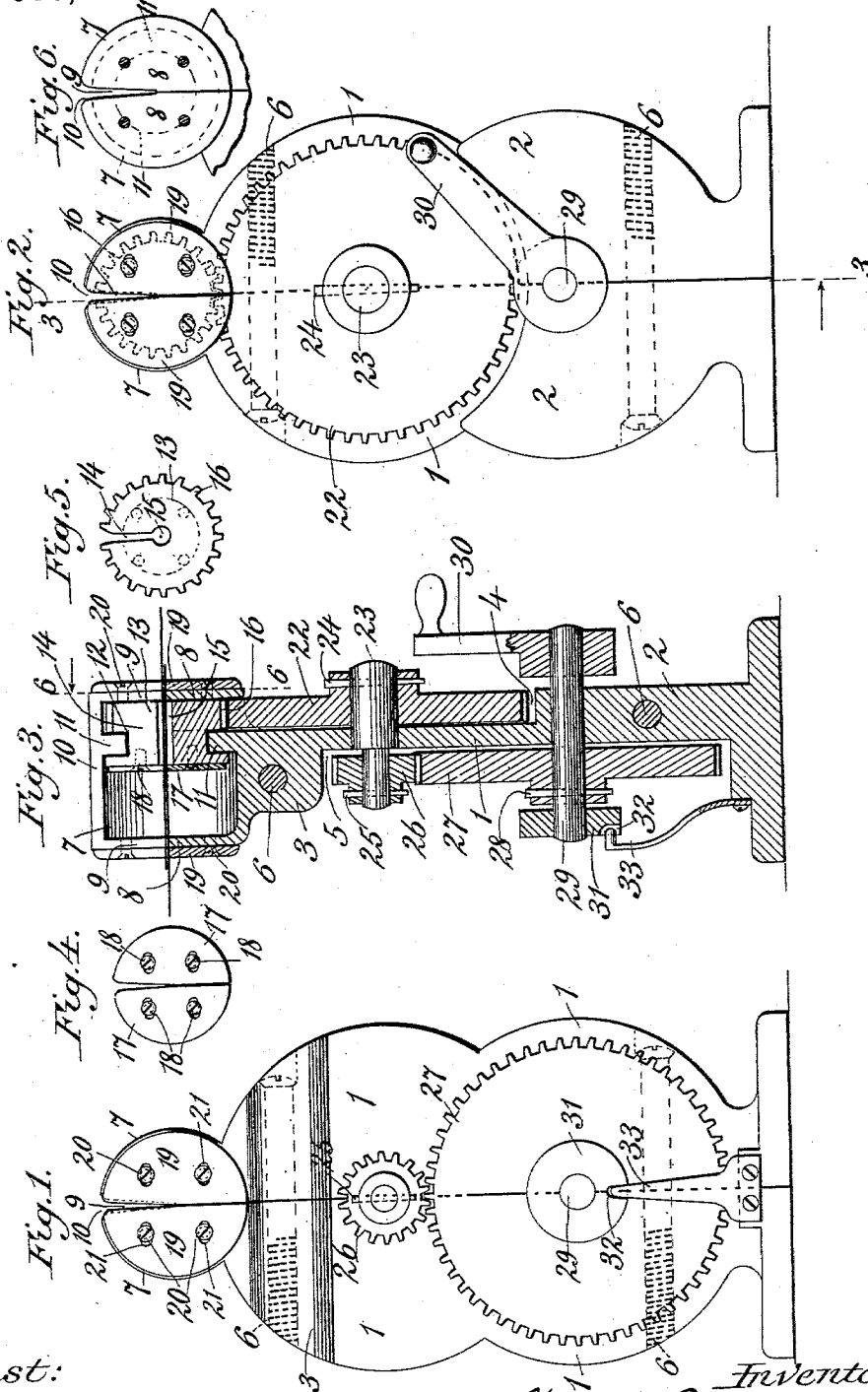


(No Model.)

W. F. KINTZING.
WIRE SPLICING MACHINE.

No. 566,688

Patented Aug. 25, 1896.



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UNITED STATES PATENT OFFICE

WILLIAM F. KINTZING, OF GLEN ROCK, PENNSYLVANIA.

WIRE-SPLICING MACHINE.

SPECIFICATION forming part of Letters Patent No. 566,688, dated August 25, 1896.

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To all whom it may concern:

Be it known that I, WILLIAM F. KINTZING, a citizen of the United States, residing at Glen Rock, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Wire-Twisting Machines; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to a wire splicing or twisting machine, and is designed more particularly for joining together the ends of wires employed in weaving wire-cloth and the like.

It has for its object to provide for a machine of few parts, simple in construction, which can be readily put together and taken apart, and in which the parts will be arranged to give most satisfactory results.

To the accomplishment of the foregoing and such other objects as may hereinafter appear the invention consists in the construction and combination of parts hereinafter particularly described, and then sought to be specifically defined by the claims, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is a side elevation of the machine. Fig. 2 is a similar view from the opposite side of the machine. Fig. 3 is a vertical section through the same on the line 3 3 of Fig. 2. Fig. 4 is a detail view of the adjustable plates secured to the twisting-wheel. Fig. 5 is a side view of the twisting-wheel and Fig. 6 is a side view of the hood on the line 6 6 of Fig. 3 and looking in the direction of the arrow.

In the drawings the numeral 1 designates the frame of the machine, which is made in two parts in vertical section, each of corresponding form, so that when the parts are brought together and bolted the complete frame will be formed. I form the lower portion of each part of the frame with an offset 2 on one side and the upper portion with an offset 3 on the opposite side, so as to give the necessary strength and leave the recesses 4 and 5 above and beneath the respective offsets to receive the cog-wheels hereinafter described, thus economizing material without sacrifice of strength and at the same time

causing said cog-wheels to occupy as little space as possible, thus making the machine compact and strong. The two sections of the frame are secured together by screws or bolts 6, one passed through the lower sections of the frame and the other through the upper sections, at the points where the offsets are formed, as illustrated. Each section is formed at its upper part with a segmental hood 7, both of corresponding form, so that when brought together the two will form a casing or hood which will contain the twisting-wheel. The adjacent edges of the opposite sides 8 of the two parts of the hood are cut away for a portion of their length from the top of the hood downwardly, so as to form slots 9, through which the ends of the wires may be passed, the adjacent edges of the top of the two sections of the hood being likewise cut away, so as to form a transverse slot 10, through which the wires may be passed from above in order to enter the vertical slots 9 in the sides of the hood.

Each section of the hood is formed on its inside with a flange or projection 11, designed to enter a groove 12, formed in the periphery of the twisting-wheel 13, so as to hold the wheel in place and guide it in its rotation. This twisting-wheel is formed with a transverse slot 14, extending from its periphery to its center, where it communicates with a central opening 15 through the wheel, so that the ends of the wire may be passed from the periphery of the wheel to the central opening therein. The periphery of the wheel is also formed with cog-teeth 16, with which will mesh the teeth of a cog-wheel hereinafter to be described, so as to rotate said wheel.

To the inside face of the wheel are secured correspondingly-shaped plates 17, the same being secured to the wheel by screws 18, which pass through slots in the plates and into the wheel, the purpose of the slots being to admit of lateral adjustment of the plates, so as to vary the width of the space between the plates according to the thickness of the wires that may pass between the plates. The adjacent edges of the upper portion of these plates are preferably beveled or cut away, as shown, so as to form a tapering or V-shaped slot between the same. The width of this slot is such that one wire will be caused to lie on top of the other, so that the wire may be more effectively twisted. To the outside faces or

sides of the hood are secured sectional plates 19, there being two sections on each side of the hood. These sectional plates are secured to the sides of the hood by means of screws 20, passed through slots 21 in the plates and into the sides of the hood, the slots being for the purpose of permitting the plates on each side to be adjusted so as to vary the width of the space or slot between the parts of the plate according to the thickness of the wires to be twisted together. The upper portions of the adjacent edges of the two parts of each plate are cut away or beveled so as to form a slot for the passage of the wire, said slots corresponding or registering with the slots in the twisting-wheel, as shown. I prefer to form these slotted plates in two parts for the purposes stated, but the same may be otherwise formed without departing from other features of the invention.

In the space or recess 4 of the frame is placed a cog-wheel 22, whose teeth mesh with those of the twisting-wheel 13, so as to rotate the wheel. The cog-wheel 22 is secured to the frame by a spindle 23, which is secured by a pin 24, or otherwise, to the wheel, and the spindle passes through the frame and has secured to it by a pin 25, or otherwise, a pinion 26, with which meshes the teeth of a drive cog-wheel 27, that fits in the recess 5 of the frame, and which is secured by a pin 28, or otherwise, to a shaft 29, passing through the frame. This shaft 29 has a crank-arm 30 secured thereto, by which it may be turned so as to rotate the cog-wheel 27, in order that power may be transmitted through the pinion and other cog-wheel to the twisting-wheel. To the other end of the shaft 29 is attached a disk or collar 31, which has formed in its outside face a depression 32, into which will fit the end of a spring-finger 33, so that every time the collar 31 makes a complete revolution the finger 33 will enter the depression 32 therein and thus indicate to the operator that the slot in the twisting-wheel is in register with the slot in the opposite sides of the hood and in position to insert or withdraw the wires whose ends are to be twisted or spliced together.

Under the construction described the parts of the device can be readily put together, and can be compactly packed for transportation, and when assembled a strong and compact machine is formed which will occupy comparatively little space. The twisting-wheel is entirely inclosed and thus protected against accumulation of dust or dirt, and consequently is rendered more satisfactory in operation than otherwise. The slots to receive the wires can also be adjusted in size so as to be readily adapted to wires of different thicknesses. The machine is operated with the expenditure of little power, and its several parts are efficient in the discharge of their respective functions.

I have described with particularity what I consider to be the preferred construction of

each of the parts, but it is obvious that changes can be made in the details of each or all the parts without departing from the essential features of the invention.

In operation the two ends of the wires are passed through the slots in the opposite sides of the hood from the top and into the slot in the twisting-wheel until the wires lie in the central opening in the wheel. The wires lie one on top of the other in the slots formed by the plates on the sides of the hood, and also of the plates on the inside face of the twisting-wheel, and are gripped or held at those points so that when the twisting-wheel is rotated the ends of the wires will be twisted together within the hood between its opposite sides and are thus effectively spliced and ready for use as if the wire were one continuous piece.

Having described my invention and set forth its merits, what I claim is—

1. In a wire-twisting machine, the frame composed of the two corresponding parts bolted together and capable of vertical separation and provided with a hood at the top, a twisting-wheel rotatable in said hood, and mechanism for rotating said wheel, the said wheel and opposite sides of the hood being slotted to receive the ends of a wire, substantially as and for the purposes described.

2. In a wire-twisting machine, the combination with the frame and the slotted twisting-wheel rotatably supported thereon, of the two-part plate secured to the face of the twisting-wheel, and means for adjusting the parts of the plates relatively to each other to vary the width of the slot or space between the plates, substantially as and for the purposes described.

3. In a wire-twisting machine, the combination with the frame, and the slotted twisting-wheel rotatably supported thereon, of the plates supported by the frame on opposite sides of the twisting-wheel, said plates being each made in separate parts, and means for adjusting the parts of each of the plates relatively to each other so as to regulate the slot or space between the two parts of each plate, substantially as and for the purposes described.

4. In a wire-twisting machine, the combination of the frame, the rotatable slotted twisting-wheel supported thereon, the cog-wheel on one side of the frame meshing with the twisting-wheel, the shaft supporting said cog-wheel and having a pinion at its opposite end, the cog-wheel on the same side of the frame as said pinion, and means for rotating said wheel, substantially as and for the purposes described.

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

WILLIAM F. KINTZING.

Witnesses:

J. B. SWEITZER,
I. J. YOUNG.