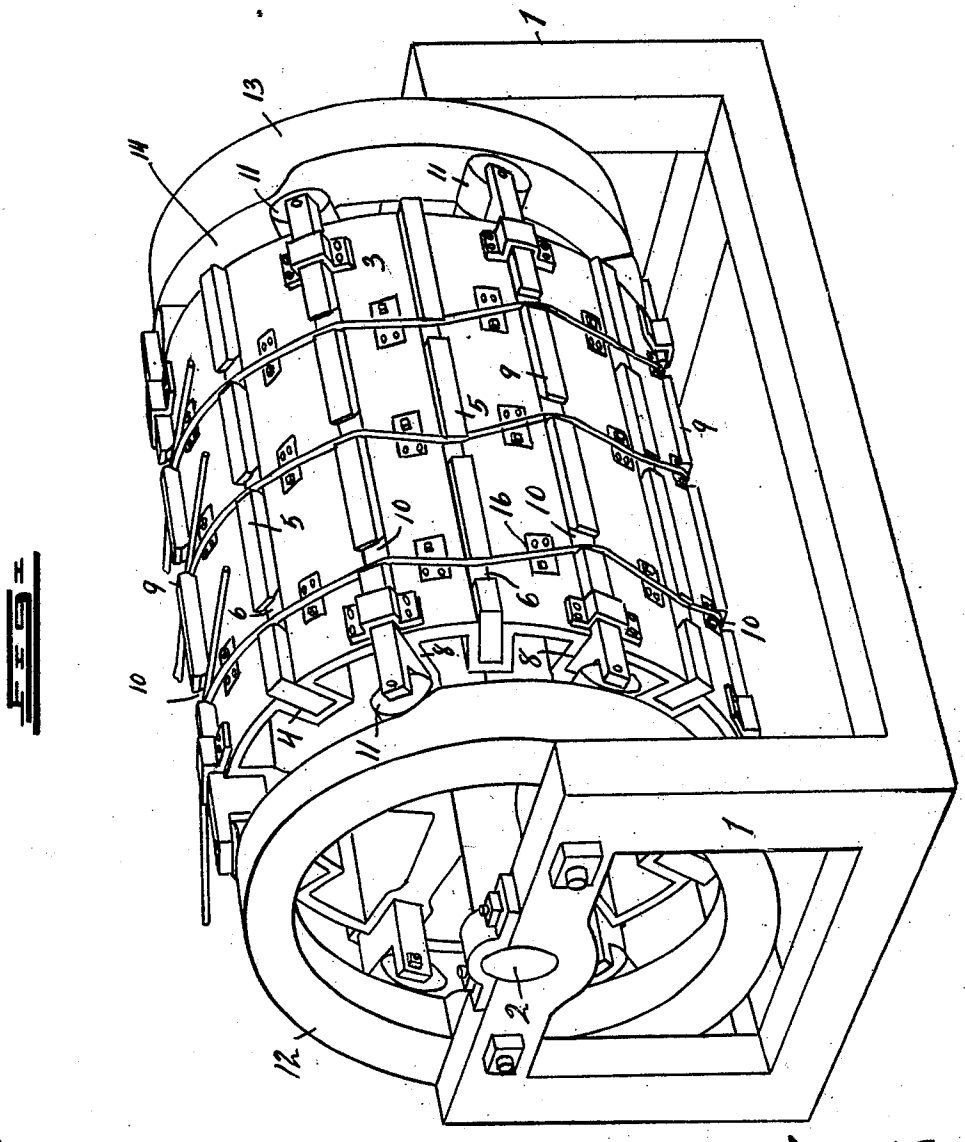
No. 755,006. PATENTED MAR. 22, 1904.

G. L. HOXIE.

WIRE CLAMPING DEVICE.

APPLICATION FILED MAY 20, 1903.

NO MODEL. 2 SHEETS—SHEET 1.



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Fig 3.

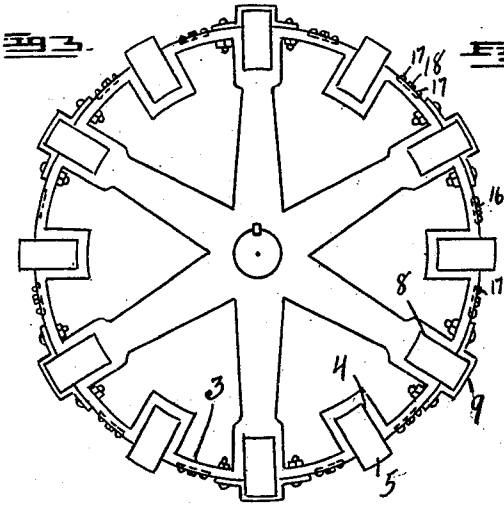


Fig 2.

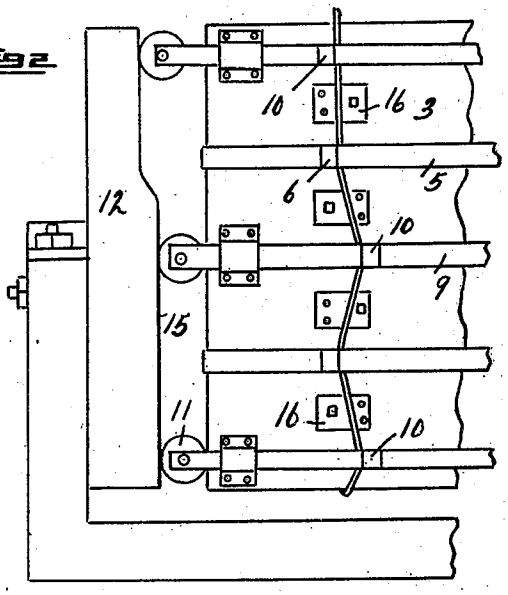
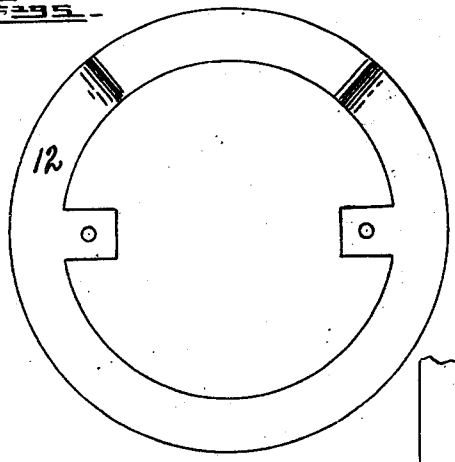


Fig 5.



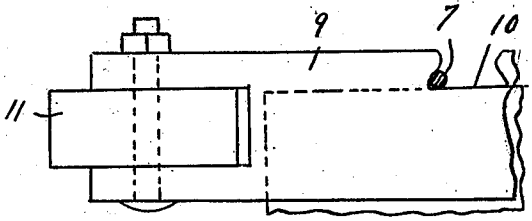


Fig 6.

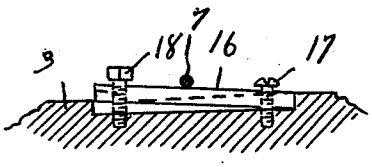


Fig 7.

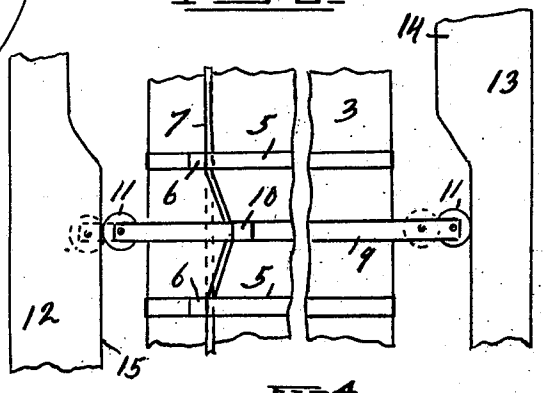


Fig 4.

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No. 755,006. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

GEORGE L. HOXIE, OF ADRIAN, MICHIGAN, ASSIGNOR OF ONE-HALF TO ALFRED W. SMITH, OF ADRIAN, MICHIGAN.

WIRE-CLAMPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 755,006, dated March 22, 1904.

Application filed May 20, 1903. Serial No. 157,913. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. HOXIE, a citizen of the United States, residing at Adrian, in the county of Lenawee, State of Michigan, have invented certain new and useful Improvements in Wire-Clamping Devices; 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.

This invention relates to a wire-clamping device designed for feeding the longitudinal wires into a machine for forming or weaving wire fabric, especially wire fencing; and it consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide means for feeding the longitudinal wires into any suitable machine for forming them into a wire fabric in such manner as to prevent the longitudinal slipping of the wires and causing all of the wires which are fed into the machine to be of uniform length, the arrangement being such as to enable wires of different diameters to be simultaneously fed into the machine and maintained at a uniform length.

The above object is attained by the structure illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the cylinder around which the wire strands are adapted to pass before entering the machine, said cylinder carrying the movable clamping-bars by means of which the wires are clamped and securely held against slipping. Fig. 2 is an elevation of one end of said cylinder. Fig. 3 is an end elevation of the cylinder removed from its supporting-frame. Fig. 4 is a fragmentary view in detail elevation, illustrating the shifting of the clamp-bars for the purpose of kinking the wire and preventing it from slipping as it is wrapped around the cylinder. Fig. 5 is an elevation of one of the cam-rings. Fig. 6 is an enlarged elevation of one end of one of the movable clamp-bars. Fig. 7 is a fragmentary view in section, showing one of the adjustable plates seated in the periphery of the cylinder for the purpose of varying the circumference thereof to compensate for any variation in the diameter of the wires.

Referring to the characters of reference, 1 designates a suitable frame in which is journaled the shaft 2, carrying the rotary cylinder 3. The length of this cylinder is sufficient to accommodate the number of wires it is desired to feed into the machine, and formed longitudinally of the periphery of the cylinder are channels 4, in which are seated the fixed bars 5. These bars are provided at suitable intervals with the undercut notches 6, in which the wire strands 7 are adapted to lie and which retain said wires as they are wrapped around said cylinder.

Interposed between the fixed bars 5 and seated to slide in channels 8 in the periphery of the cylinder are the clamp-bars 9, having the undercut notches 10 therein, which normally register in the notches 6 in the fixed bars 5. Journaled at each end of each of the bars 9 is an antifriction-roller 11.

Fixed to the frame 1 at opposite ends of the machine are the cam-rings 12 and 13, the high face of the cam-ring 13 being opposed to the low face of the cam-ring 12, and vice versa.

The wire strands will be wound upon suitable wheels (not shown) and will be fed onto the drum or cylinder, as illustrated in Fig. 1, each strand passing once around the drum and paying off from the upper side thereof into the machine. (Not shown.) As each of the sliding bars 9 in the rotation of the cylinder traverses the upper arc of the circle described by the cylinder in its rotation the notches 10 therein stand in alinement with the notches 6 in the fixed bars on each side, allowing the wire as it winds onto the drum to fall into said notches which stand in circumferential alinement. As the cylinder continues to rotate, the roller 11 in each bar 9 engages the high face of the cam-ring 12 at the time the roller in the opposite end of said bar is passing from the high face of the cam-ring 13 to the lower face thereof, whereby the bar 9 is shifted longitudinally, so as to carry the

notch 10 therein out of alinement with the notches 6 in the fixed bars 5, thereby kinking or crimping the wires 7, whereby they become firmly gripped and are securely held against slipping upon the surface of the cylinder. This position of the clamp-bars 5 continues during the greater portion of the rotation of the cylinder, said bars being released only when the clamp-bars approach the upper arc of the circle of the cylinder upon the return side, and the rollers in the ends of said bars 9 encounter the high face 14 of the cam-ring 13, at which time the rollers at the opposite ends of said bars pass from the high face 15 of the cam-ring 12, causing a shifting of the bars 9 longitudinally, so as to bring them back to the normal position and carry the notches 10 therein back into alinement with the notches 6 of the fixed bars, whereby the wires are disengaged, so as to enable them to feed from the cylinder into the machine, and said movable bars are so positioned as to enable the wires to feed into the notches therein.

It will be understood that by wrapping the strands of wire around the cylinder in the manner shown and described and crimping said wires laterally by the shifting of the clamp-bars 9, said wires become firmly gripped and are securely held from slipping.

The cylinder is rotated only by the drawing of the wires therefrom as they are carried into the machine, so that said wires being wrapped around said cylinder and gripped by the clamp-bars are, in effect, measured by said cylinder's rotation and are fed therefrom into the machine in equal lengths, obviating the possibility of any variation in the length of the longitudinal wires of the fabric.

In the weaving of wire fencing it is often necessary to employ wires of different sizes. The top wire, for instance, is usually larger than the other wires of the fence. To provide for increasing the circumference of the cylinder in order to make up the difference in the diameters of the wires which are fed into the machine, there are seated in the face of the cylinder between the bars 5 and 9 the adjustable plates 16, over which the wires pass and which are held down by the screws 17 (see Fig. 7) and are threaded on the screw-bolts 18, which pass therethrough and bear upon the base of the socket in which the plate is seated. By loosening the screws 17 and turning the screw-bolts 18 the plates 16 may be raised, so as to increase the circumference of the cylinder at the point where the similar wire strand is wound, whereby said similar strand may be made to feed into the machine evenly with the larger strand. These adjustable plates also serve the purpose of compensating for any wear in the periphery of the cylinder due to the contact of the wire therewith, so that at all times and under all conditions the wires may be fed evenly into the machine, in which they are formed into a fabric.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a wire-clamping device, the combination of the movable agent, fixed shoulders mounted thereon, against which the strand of wire is adapted to lie, movable members interposed between said fixed shoulders adapted to engage and carry the wire out of alinement therewith, whereby the wire becomes crimped between the fixed shoulders and is locked against slipping.

2. In a device for the purpose set forth, the combination of the rotary agent having fixed engaging shoulders at intervals thereon, movable members interposed between said fixed shoulders having means for engaging the wire and carrying said wire by the movement thereof out of circumferential alinement with the fixed shoulders and means for actuating said movable members simultaneously with the rotation of said rotary agent.

3. In a device for the purpose set forth, the combination of the rotary agent around which the wire is adapted to be wound, engaging shoulders on said rotary agent against which the wire is adapted to lie, means for shifting said engaging shoulders to place them out of circumferential alinement and thereby cramp the wire between them to securely clamp the wire to said agent as it is wound thereon.

4. In a device for the purpose set forth, the combination of a rotary agent around which the wire is adapted to be wound, said agent having fixed shoulders adapted to engage the wire, longitudinally-movable members mounted on the rotary agent between said fixed shoulders having means of engaging the wire and means for shifting said longitudinally-movable members to cramp the wire between said fixed shoulders, and means for returning said movable members to the normal position to release said wires.

5. In a device for the purpose set forth, the combination of the rotary cylinder, the fixed shoulders thereon adapted to engage the wire, the longitudinally-movable bars interposed between said fixed shoulders also having shoulders adapted to engage the wire, antifriction-rollers at the ends of said movable bars and cam-rings at the ends of the cylinder adapted to engage said rollers to shift the bars longitudinally and clamp the wire between the shoulders carried thereby and the fixed shoulders.

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

GEORGE L. HOXIE.

Witnesses:
R. B. ROBBINS,
A. W. SMITH.