M. A. MOSS.

WIRE FENCE BUILDING MACHINE.

APPLICATION FILED MAR. 27, 1908.

906,547.

Patented Dec. 15, 1908

3 SHEETS—SHEET 1.

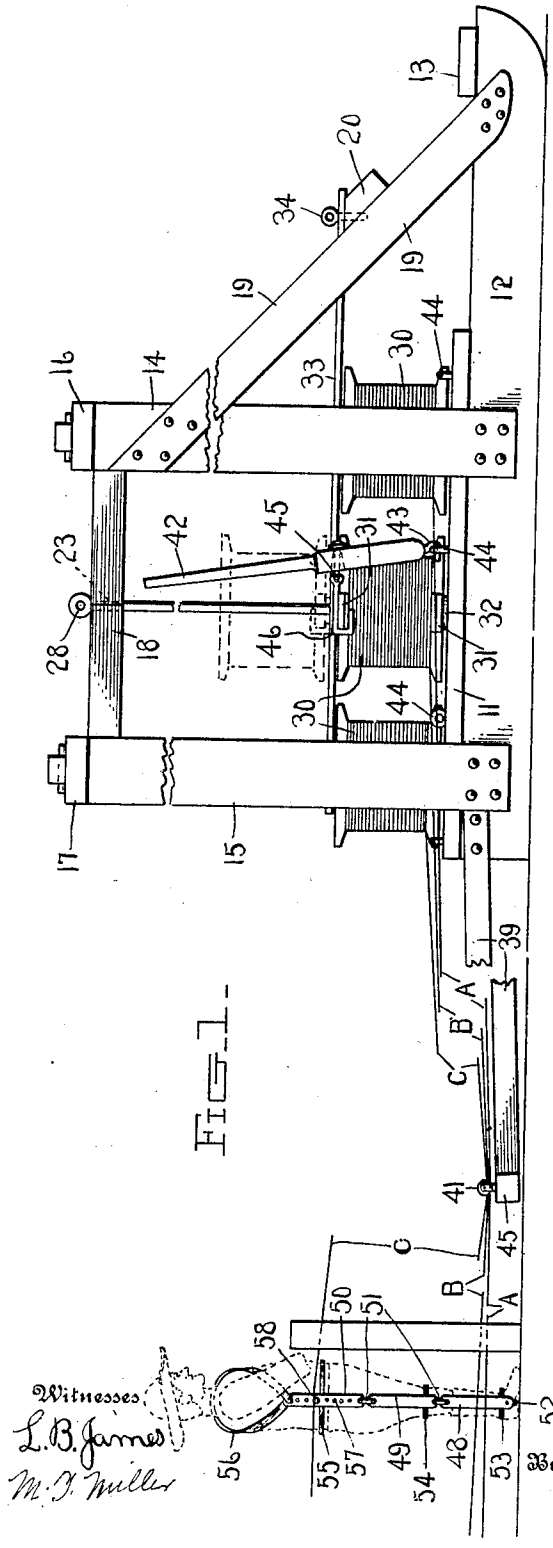


FIG. 1.

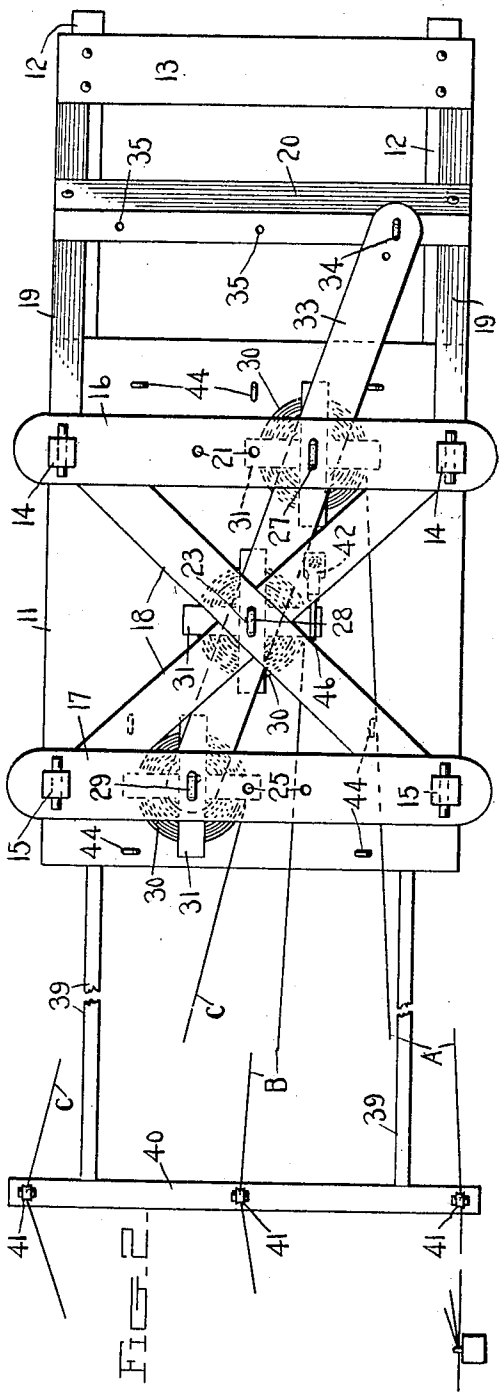


FIG. 2.

Witnesses

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3 SHEETS—SHEET 2.

Fig. 3.

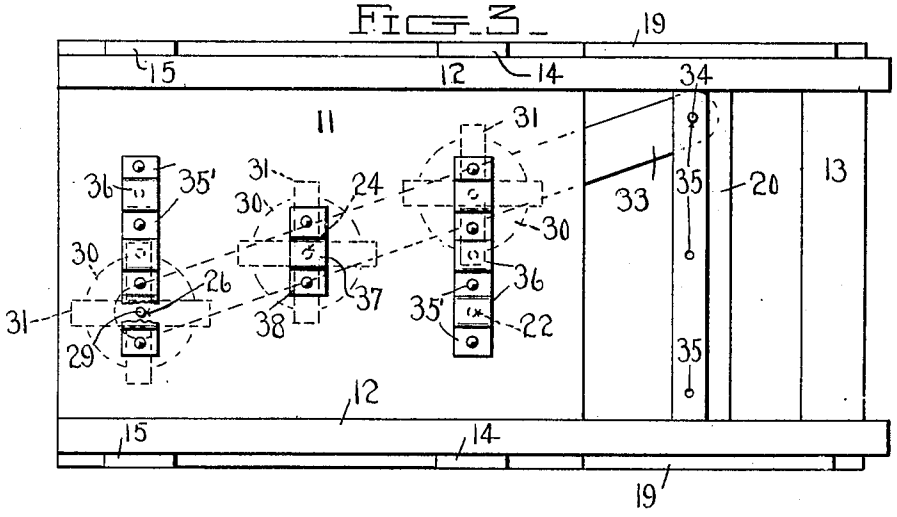


Fig. 4.

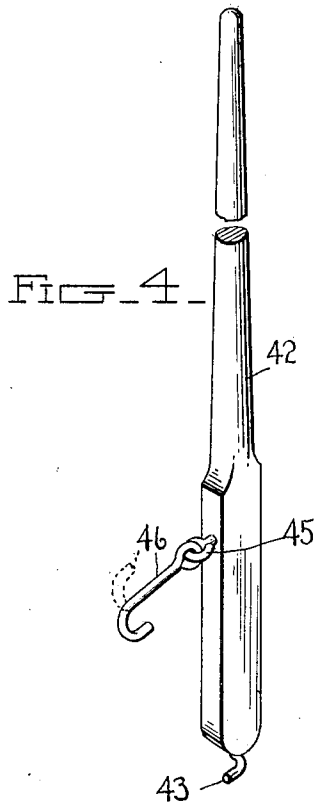


Fig. 6.

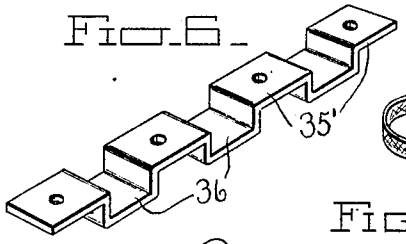


Fig. 5.

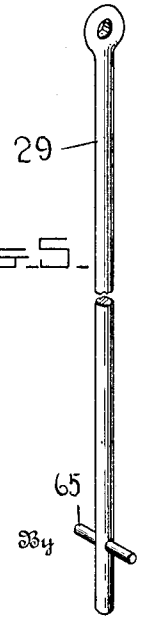
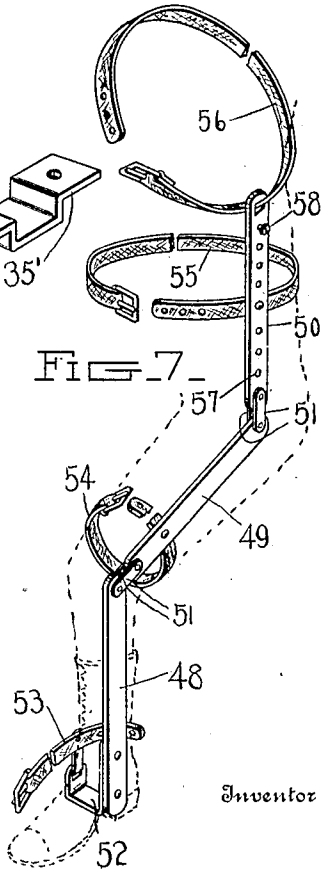


Fig. 7.



Witnesses

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3 SHEETS—SHEET 3.

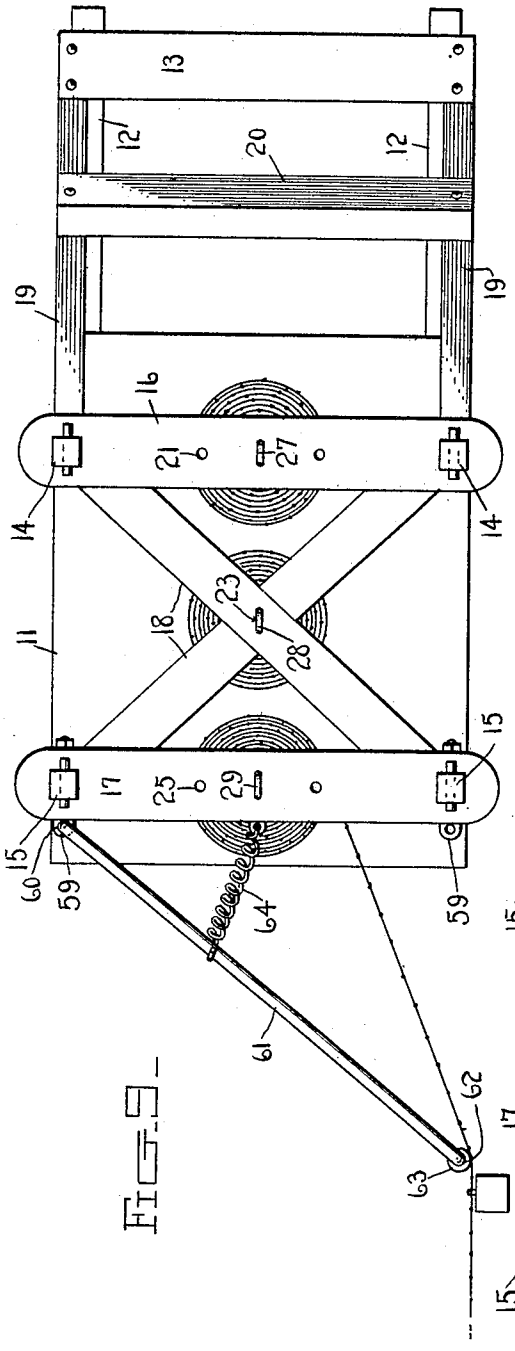


FIG. 9.

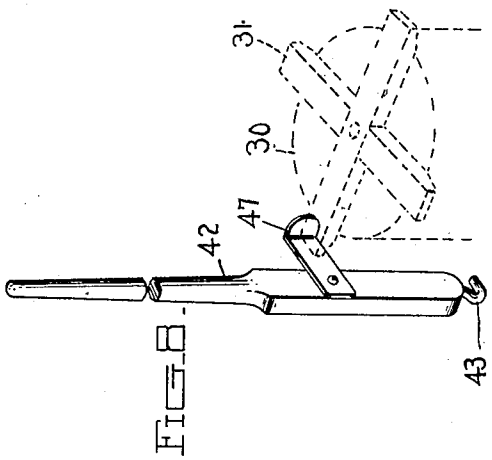


FIG. 8.

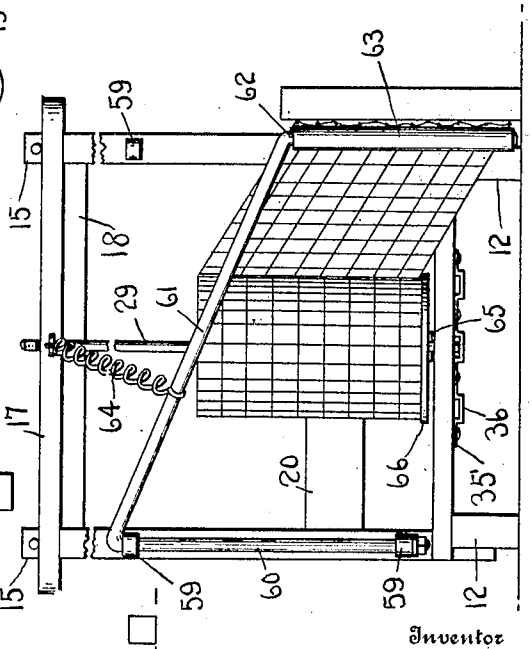


FIG. 10.

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UNITED STATES PATENT OFFICE.

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WIRE-FENCE-BUILDING MACHINE.

No. 906,547. Specification of Letters Patent. Patented Dec. 15, 1908.

Application filed March 27, 1908. Serial No. 423,763.

To all whom it may concern:

Be it known that I, MARSHAL A. MOSS, a citizen of the United States, residing at Chillicothe, in the county of Livingston, State of Missouri, have invented certain new and useful Improvements in Wire-Fence-Building Machines; and I do hereby 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.

This invention relates to wire fence building machines and more particularly to a machine which is designed to be drawn along the line of posts upon which the wire fence material is to be stretched and fastened and which carries not only spools for drawing the wire fence material to be used but it also includes means whereby the wire fence material may be stretched at the time of its application to the posts. In carrying out my invention, I have in view the provision of a machine of this class which may be used in building either single wire fences or woven wire fences and in which a quantity of wire may be stored for use in building the fence thus obviating repeated trips for more wire fence material.

In my machine, the wire storing spools are mounted upon rods, and these rods may be arranged in the frame of the machine to extend in alinement diagonally of the frame in either direction so that the wire upon the spools may be unwound next to the posts and I provide in conjunction with the spools, a novel form of wire guide through which the single wires, provided such material is used, are trained, the guides serving to prevent twisting of the several wires together.

In using the machine for the purpose of building a woven wire fence, the reel or bale of woven wire fence material is mounted for rotation upon a single rod and is passed around a spring controlled guide mounted at the rear end of the frame, the guide serving to hold the wire in the direction of the posts to which it is being secured.

In the accompanying drawings, Figure 1 is a side elevation of the machine as adapted for building a fence of single or line wires, Fig. 2 is a top plan view of the machine when so employed, Fig. 3 is a bottom plan view thereof, Fig. 4 is a detail perspective view of one of the levers for rotating the wire spools, Fig. 5 is a similar view of one of the rods upon which the spools are mounted, Fig. 6 is a similar view of one of the step bearings for the rod, Fig. 7 is a similar view showing the wire gage device, Fig. 8 is a detail perspective view of a slightly modified form of lever for rotating the wire spools, Fig. 9 is a top plan view of the machine showing it arranged for building a woven wire fence, and, Fig. 10 is a rear end view of the machine arranged for this purpose.

As shown in the drawings, the machine comprises a floor 11 which is supported upon runners 12, these runners being connected and braced by the floor and also by a front cross piece 13. Front and rear pairs of uprights 14 and 15 respectively project upwardly above the floor and the uprights of the front and rear pairs are connected by means of upper cross pieces 16 and 17 respectively, the two pairs of uprights being braced by means of cross braces 18 which intersect each other. Diagonal braces 19 are secured at their upper ends to the uprights of the forward pair 14 and at their lower ends to the runners 12 of the machine adjacent the forward end thereof and these diagonal braces are connected and braced by means of a cross piece 20, the upper edge of which is beveled so as to lie in a horizontal plane. The upper cross piece 16 is formed with a set of three openings 21 and at corresponding points, similar openings 22 are formed in the floor 11 of the machine. The braces, at their point of intersection, are formed with an opening 23 and the floor is formed with an opening 24 at a point directly below this opening 23. The rear cross piece 17, as in the case of the cross piece 16, is formed with a set of three openings 25 and the floor is formed at corresponding points with openings 26. Engaged vertically through corresponding ones of the openings 21 and 22, the openings 23 and 24, and corresponding ones of the openings 25 and 26 are rods 27, 28 and 29 respectively and it is upon these rods that the wire fence material spools or reels are mounted for rotation. The rods are arranged in alinement extending diagonally across the floor or frame of the machine and owing to the fact that a set of three openings is formed in each of the upper cross pieces 16 and 17 and in the floor, a rod may extend in alinement diagonally in either direction across the frame of the machine or in alinement directly from front to rear. When the machine is to be used in the building of a fence of single line wire, I employ reels or spools 30 the heads of which are comprised of

cross pieces 31 the ends of which project beyond the circumference of the body of the spools and the wire wound thereon, washers 32 being engaged upon the rods beneath each of the spools.

A plate 33 is formed with openings through which the rods are also passed and this plate rests upon the upper ends of the spools and has its forward end extended forwardly above the cross piece 20, there being a pin 34 passed through the said forward end of the plate and inserted in one of a set of three openings or seats 35 formed in the upper face of the said cross piece. By providing this plate, two spools of wire material may be supported upon each of the vertical rods, if desired, the said plate preventing frictional contact of the ends of the upper and lower spools. The lower ends of the rods heretofore mentioned rest upon bearing strips secured upon the under side of the floor of the machine, the strips for supporting the rods at the front and rear ends of the machine being of such length as to extend beneath all of the openings in the floor at the side ends thereof and being bent to form attaching portions 35′ and intermediate step bearings 36, the said bearings being located directly beneath the openings in the floor.

The bearing for the middle rod is indicated by the numeral 37 and includes but a single bearing portion and two attaching portions or ends 38.

Secured to the runners 12 at their rear ends are sills 39 which extend rearwardly beyond the frame of the machine and are connected at their rear ends by means of a cross sill 40 upon the upper face of which are mounted grooved rollers or pulleys 41, these pulleys or rollers being three in number.

When the machine is drawn along a line of posts upon which the wire is to be strung, and to the left of the said posts, the spools of wire are so placed upon the rods that the wire is unwound toward the right, the wire from the forward spool being indicated by the reference character A, the wire from the middle spool by the reference character B and the wire from the rear spool by the reference character C, these wires being trained beneath the rollers 41 upon the rear cross sill 40 in the order mentioned from right to left and being thence led over in the direction of the posts. When the machine is drawn along the right of posts, the spools are inverted and their line of extent reversed so that the wire from the forward spool will pass through the end roller 41 to the left hand side of the sill 40 and etc.

In order that the several strands A, B and C of the wire may be stretched, I have provided means whereby the spools or reels may be rotated in a direction opposite to their direction of rotation to unwind the wires therefrom and this means is embodied in a lever which is indicated by the numeral 42 and is provided at its lower end with a hook 43 which is engageable in suitable eyes or staples 44 upon the upper face of the floor 11 of the machine. An eye 45 is swiveled through the lever 42 and loosely connected with this eye is a hook 46 which is engageable successively with the projecting ends of the cross pieces 31 constituting the heads of the spools, it being understood of course that the levers are pulled in a direction to rotate the spools as stated and when one lever has been swung to as great a degree as possible and further stretching of the wire is deemed necessary, a second lever is engaged at its hooked end with an adjacent one of the eye members upon the floor of the machine and the swiveled pivoted hook of the lever is engaged with another one of the projecting ends of the cross pieces, this operation being repeated until the wire has been stretched to the proper tension. The said eye members 44 may be located or positioned in any desired manner there being a sufficient number of them and their arrangement being such that the lever or levers may be engaged with them regardless of the positions assumed by the spools. In other words, the eye members are so arranged that when the rear spool is to the right of the longitudinal middle of the machine it may be rotated through the instrumentality of the levers in the same manner and with as much ease as when located to the left of the longitudinal middle of the machine. The form of lever just described is illustrated very clearly in Fig. 4 of the drawings but I may also employ a lever constructed as illustrated in Fig. 8 of the drawings, a hook shape plate 47 being substituted for the swiveled hook 46 of the first described form. The first described form, shown in Fig. 4 of the drawings, is best adapted for use when two reels are supported upon each of the rods or upon one of the rods, its hook being so positioned as to extend between the opposed ends of the reels or spools and being reversible so that it may be engaged with the cross pieces of the upper head of the lower spool or the cross pieces of the lower head of the upper spool, the swivel connection described permitting of such reversal of the hooks.

In connection with the machine heretofore described, I have provided a device which is to be attached to the body of one of the attendants of the machine and is to be used for the purpose of gaging the point at which the wires are to be attached to the fence posts and this device will now be described:

The device mentioned above comprises three members one indicated by the numeral 48, the other by the numeral 49, and the third by the numeral 50, the member 48 being the lower one of the three members and the member 50 the upper one of the mem-

bers. These members are substantially in the form of short flat bars and are preferably formed of wood and are connected together in a series in the order named by means of pairs of links 51. Secured to the lower end of the lower member 48 is a stirrup 52 in which the operator places the instep of his foot, there being an ankle strap 53 attached to the stirrup and adapted to be secured around the operator's ankle to hold his foot in the stirrup. The lower one of the three members, namely the member 48 is of such length that its point of connection with the intermediate member 49 will be at the knee joint of the operator and attached to the member 49 directly above this point of connection of the member 48 therewith is a leg strap 54 which serves as a means for securing the member 49 to the leg of the operator. The member 49 is of such length that its point of connection with the upper member 50 is at the hip joint of the operator and secured to the member 50 above this point is a waist strap 55 and at the upper end of the member there is attached a shoulder strap 56. The member 50 is formed throughout its length with a number of threaded openings 57 in which studs 58 are engaged interchangeably. By stooping and engaging one of the wires A, B or C with one of the studs, and then straightening, the operator can lift the wire while it is being stretched, to the proper point for attachment to the posts, the provision of a plurality of studs permitting of the distance between the wires being gaged.

In Figs. 9 and 10 of the drawings, I have shown my machine adapted for use in building a fence of woven wire fence material and in these figures the machine is shown as constructed in the same manner as heretofore described except that a pair of bearings 59 is arranged upon each of the rear uprights 15 and a guide member including a pintle arm 60 is supported for swinging movement from one or the other of the two pairs of bearings. The guide member also comprises an arm 61 which is directed downwardly and rearwardly from the upper end of the pintle arm 60 and at its rear end, this arm 61 is formed with a vertically extending journal 62 upon which is mounted a roller 63 over which the woven wire fence material is passed. A spring 64 is connected at one of its ends to the upper rear cross piece 17 of the frame of the machine and at its other end to the arm 61 of the guide member and this spring acts to normally pull the arm in a direction to hold its journal ends in the direction of the line of posts to which the woven wire fence material is being secured, the material being in this manner pressed against the posts. In order to prevent frictional contact of the lower end of the roller or bale of the woven wire fence material with the floor of the machine, a pin 65 is passed through the rod upon which the roller is rotatably mounted and a flat circular head 66 is also engaged upon the said rod and is supported upon the pin, the lower end of the rod resting in its respective step bearing.

What is claimed, is:—

1. A machine of the class described comprising a frame supported for travel, vertical rods supported in the frame in alinement diagonally thereof, spools journaled upon the rods, and a wire guide arranged at the rear end of the frame.

2. A machine of the class described comprising a frame supported for travel, spools journaled in the frame, each of the spools including a head formed with projecting portions, eye members arranged in the frame, and a lever provided at its lower end with a hook engageable with the eye members interchangeably, and a hook pivoted to the lever and engageable with the projecting portion of the head of the spool.

3. A machine of the class described comprising a frame supported for travel, a spool journaled in the frame and including a head formed with projecting portions, eye members arranged in the frame adjacent the spool, a lever arranged at one end for engagement with the eye members interchangeably, and a hook pivoted to the lever and engageable with the projecting portion of the head of the spool.

4. A machine of the class described comprising a frame supported for travel, spools journaled in the frame one above the other, the adjacent heads of the spools being formed with projecting portions, a lever, and a hook pivoted and swiveled to the lever and engageable with the said head of either spool.

5. A machine of the class described comprising a frame supported for travel, vertical rods mounted in the frame in alinement diagonally thereof, the said rods being adjustable with respect to each other to extend diagonally of the frame in either direction and in alinement, spools journaled upon the rods, and a wire guide arranged at the rear end of the frame.

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

MARSHAL A. MOSS.

Witnesses:

EDWIN R. SHEETZ,

F. L. MOSS.