C. M. MOORE.

WIRE STRETCHER.

APPLICATION FILED MAY 24, 1917.

1,261,590. Patented Apr. 2, 1918.

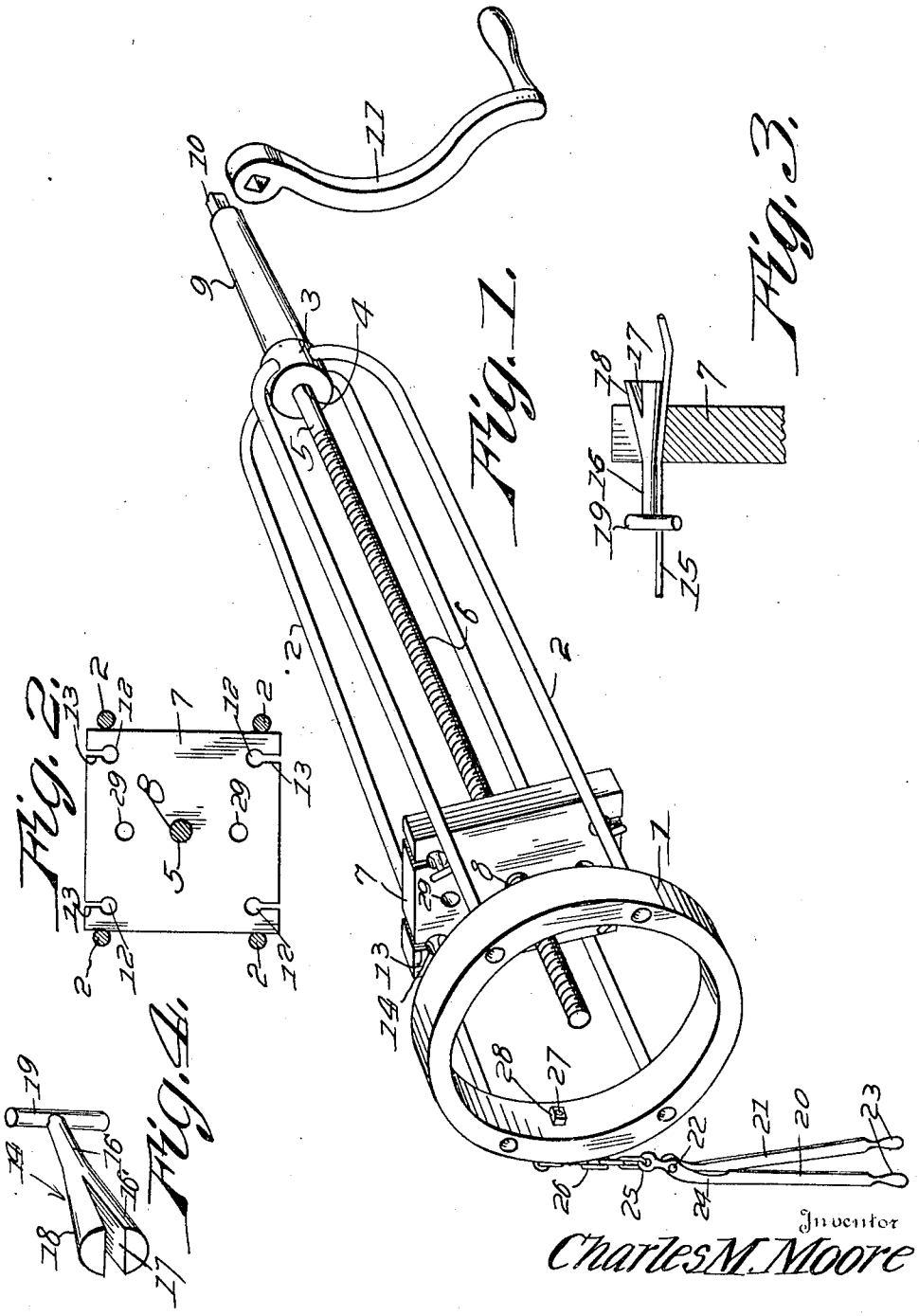


Fig. 1.

Fig. 3.

Fig. 2.

Fig. 4.

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WIRE-STRETCHER.

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To all whom it may concern:

Be it known that I, CHARLES M. MOORE, a citizen of the United States, residing at Muenster, in the county of Cooke and State of Texas, have invented certain useful Improvements in Wire-Stretchers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention has reference generally to improvements in that class of inventions known as pushers and pullers and more particularly relates to a wire stretcher.

It is the principal aim and object of this invention to provide novel means for operatively supporting the wire stretching means during operation of the adjusting means.

As an equally important object the present invention embraces the provision of novel wire attaching means and coöperable means for adjusting the wire attaching means to consequently stretch the wire.

It is an additional object of this invention to provide improved wire retaining members for removable engagement with the wire attaching plate to assure of an effective connection of the wire being stretched with the adjustable plate.

The invention as a further improvement consists in the provision of wire cutting means operably connected to the supporting frame.

Among the other aims and objects of this invention may be recited the provision of a device of the character mentioned with a view to compactness, and in which the number of parts are few, the construction simple, the cost of production low and the efficiency high.

Other improvements and novel details in the construction and arrangement of the various parts of the apparatus will be brought out more in detail in the description to follow, which for a clear understanding of the invention, should be considered in connection with the accompanying drawings forming a part hereof, and wherein is disclosed for the purpose of illustration a convenient and satisfactory embodiment of the invention. It is to be noted in this connection that minor changes in the construction and arrangement of parts may be made without departing from the spirit of the invention or the principle of operation of the various parts.

The invention is clearly illustrated in the accompanying drawings, in which:

Figure 1 is a perspective of the improved wire stretcher;

Fig. 2 is a transverse section taken through the guiding bars of the frame and looking toward the front face of the adjustable plate;

Fig. 3 is an enlarged sectional detail through the plate showing one of the retaining members in position therein; and

Fig. 4 is a perspective detail of one of the retaining members.

Similar reference characters are employed in all of the above described views, to indicate corresponding parts.

Referring now, more particularly, to the accompanying drawings, there is provided an improved supporting frame consisting of a ring 1 to which is connected the outer ends of a plurality of guide bars 2 which are preferably arranged in opposed pairs in spaced parallel relation to each other. The opposite ends of the bars being bent inwardly and rigidly connected to a relatively small disk 3 which is provided with a central aperture 4 for a purpose that will presently appear.

With a view toward providing the improved adjustable wire stretching means, a rod 5 has one portion thereof journaled in the opening 4 in the disk 3. One portion of the rod 5 is threaded as indicated by the numeral 6 and extends approximately throughout the length of the frame. A wire attaching plate 7 is now employed and is preferably rectangular in cross section being provided with a central transverse aperture 8 in which is adjustably connected the threaded portion 6 of the rod. The opposite end of the rod is enlarged as indicated by the numeral 9 forming a shoulder which is arranged in close relation with the outer face of the disk 3 while the extreme end of the enlarged portion is reduced and square as indicated by the numeral 10 for removably receiving a crank handle 11 which is removably engaged with the reduced end

10 and serves as a means for rotating the rod 5 to consequently cause the plate 7 to move inwardly over the rod toward the disk 3, being guided in such movement by the rods which are arranged in close relation with the outer sides thereof as indicated in the drawings.

As intimated, improved means have been provided for attaching pieces of wire to the plate 7. In reducing this feature of the invention to practice the plate 7 is provided adjacent its upper and lower edges and adjacent the respective side edges with openings 12 the walls of which desirably diverge toward the rear face of the plate while the upper and lower edges are further provided with slots 13 which establish communication with the respective openings 12. Retaining members indicated in their entirety by the numeral 14 are now employed for retaining pieces of wire 15 against the openings at points opposite the slots. Each of these retaining members in this instance consists of a shank 16 which is gradually enlarged as at 16′ toward the outer end and provided with an inwardly extending slot 17 forming opposed substantial wedges 18. Of course handles 19 are formed on the opposite ends of the shanks 16. Subsequent to the arranging of a piece of wire 15 in one of the openings one of the shanks 16 is inserted through the slot 13 while the handle 19 is engaged to draw the wedges 18 into frictional engagement with the corresponding wall of the opening 12 so as to consequently clamp the pieces of wire in the opening.

For the purpose of cutting the wire when desired suitable cutting means are provided in this instance consisting of two sections 20 and 21 which are pivoted at their inner ends by means of a suitable pivot 22 while handles 23 are formed on the outer ends. The member 20 is provided with a wire receiving recess 24 with which coöperates the other member 21 subsequent to the arrangement of one of the pieces of wire 15 in the recess so that when the handles are moved toward each other the wire will be severed. An eye 25 is formed on the inner end of one of the members while a suitable flexible element such as a chain 26 has one end connected in the eye while the link on the opposite end is attached to the ring 1 preferably by means of an eye bolt 28. Of course the end 28 is provided for removably retaining the nut on the ring.

In the event that it is desired to use auxiliary adjusting means for relieving tension on the plate 7 when there is a severe strain on the device, the plate is provided with opposed openings 29, to enable the attachment of an auxiliary adjusting device such as a cable or chain (not shown).

The mode of operation of the present invention may be reviewed as follows:

Assuming that the device has been assembled in the manner described and as indicated in Fig. 1, pieces of wire 15 are passed through the ring 1 and arranged in the respective openings 12 whereupon the retaining members 14 are placed through the slot so as to be frictionally engaged in the openings 12 and consequently clamp the pieces of wire in the respective openings. The ring 1 of the frame is arranged against a suitable support such as a post (not shown) while the handle 11 is attached to the respective end 10 and rotated so as to rotate the rod. Because of the threaded portion 6 being arranged in the threaded opening in the plate the latter will be drawn inwardly to stretch the wire while the inward movement of the plate will be guided by the bars 2.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, and it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limited sense. It is also to be understood that the language used in the following claims is intended to cover all the generic and specific features of the invention herein described and all statements of the scope of the invention, which, as a matter of language might be said to fall therebetween.

Having thus fully described this invention, what is claimed as new and desired to be secured by Letters-Patent, is:

1. In a wire stretcher in combination with a slidably adjustable non-rotatable plate, having wire receiving openings therein and slots communicating with the openings, a plurality of resilient wedge-shaped retaining members insertible through the slots and frictionally engageable with the openings for clamping pieces of wire in the openings in the plate so that the pieces of wire will be stretched during adjustment of the plate.

2. In a wire stretcher, in combination, a slidably adjustable non-rotatable plate provided with wire receiving openings and slots communicating with the openings, a plurality of retaining members each including a shank for insertion in the adjacent slot, resilient wedges formed on one end of the shank for frictional engagement with one of the openings in the plate for clamping a piece of wire to the plate, and a handle formed on the opposite end of the shank for adjusting the wedges.

In testimony whereof I affix my signature.

CHARLES M. MOORE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."