

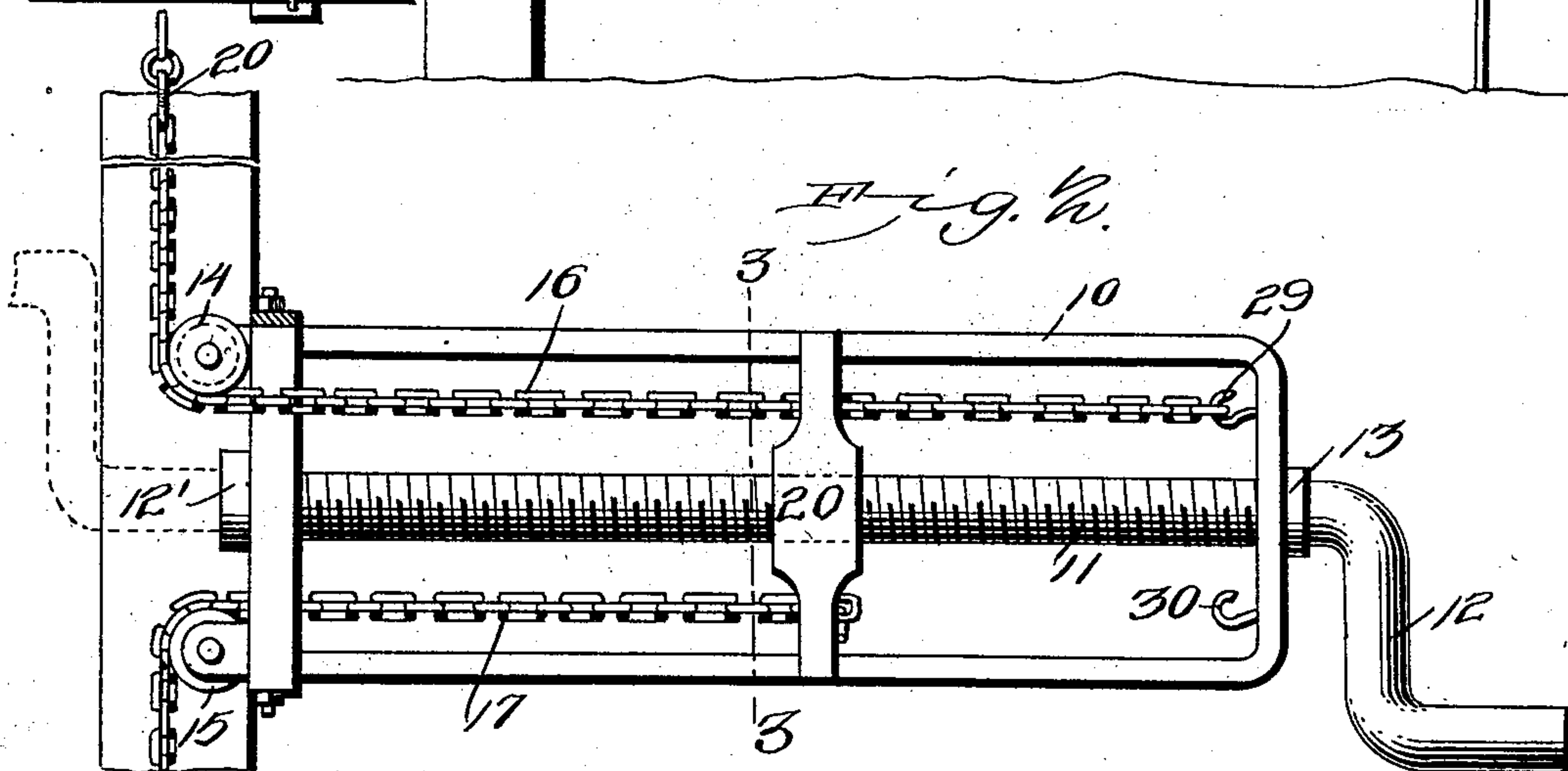
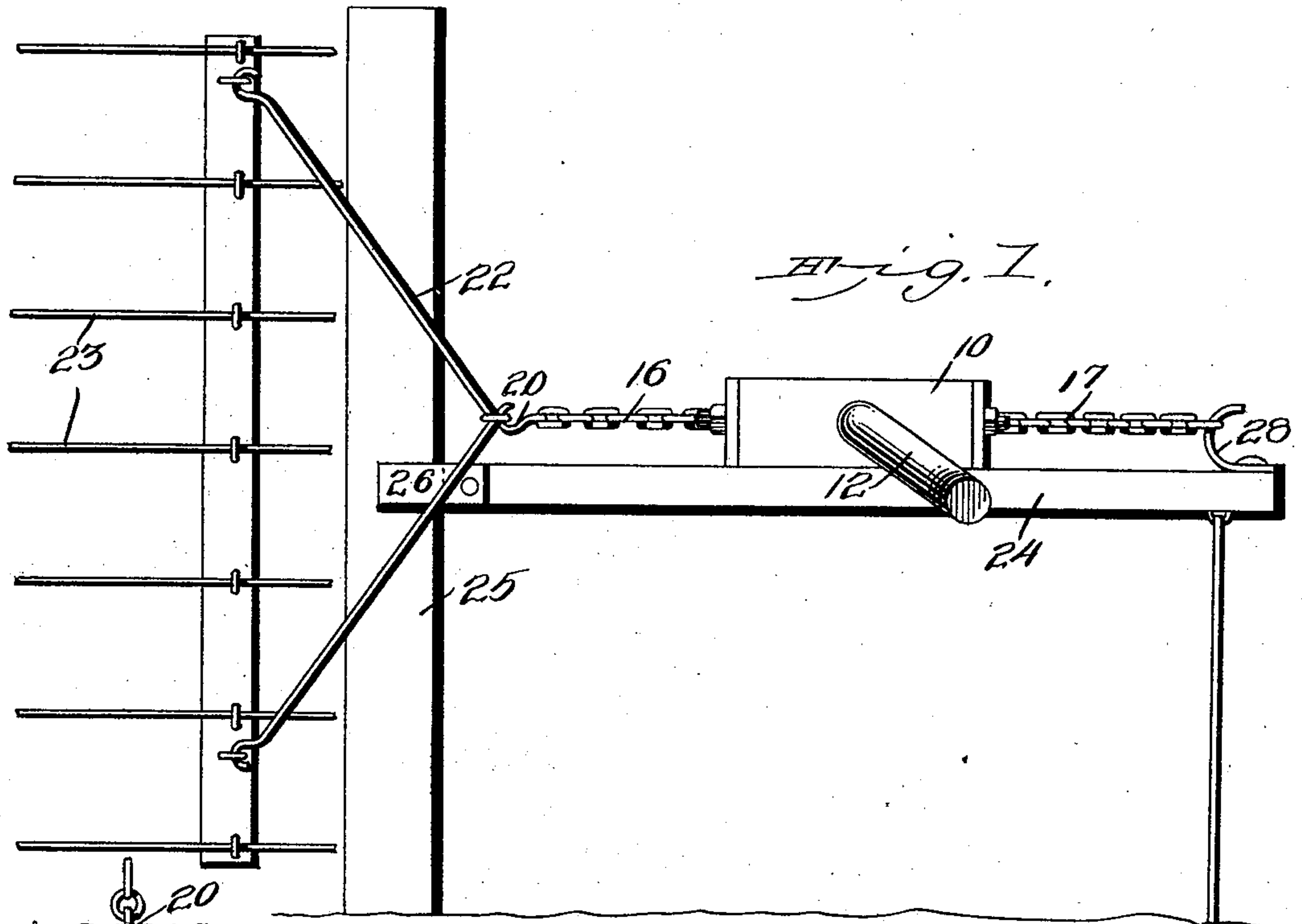
No. 721,946.

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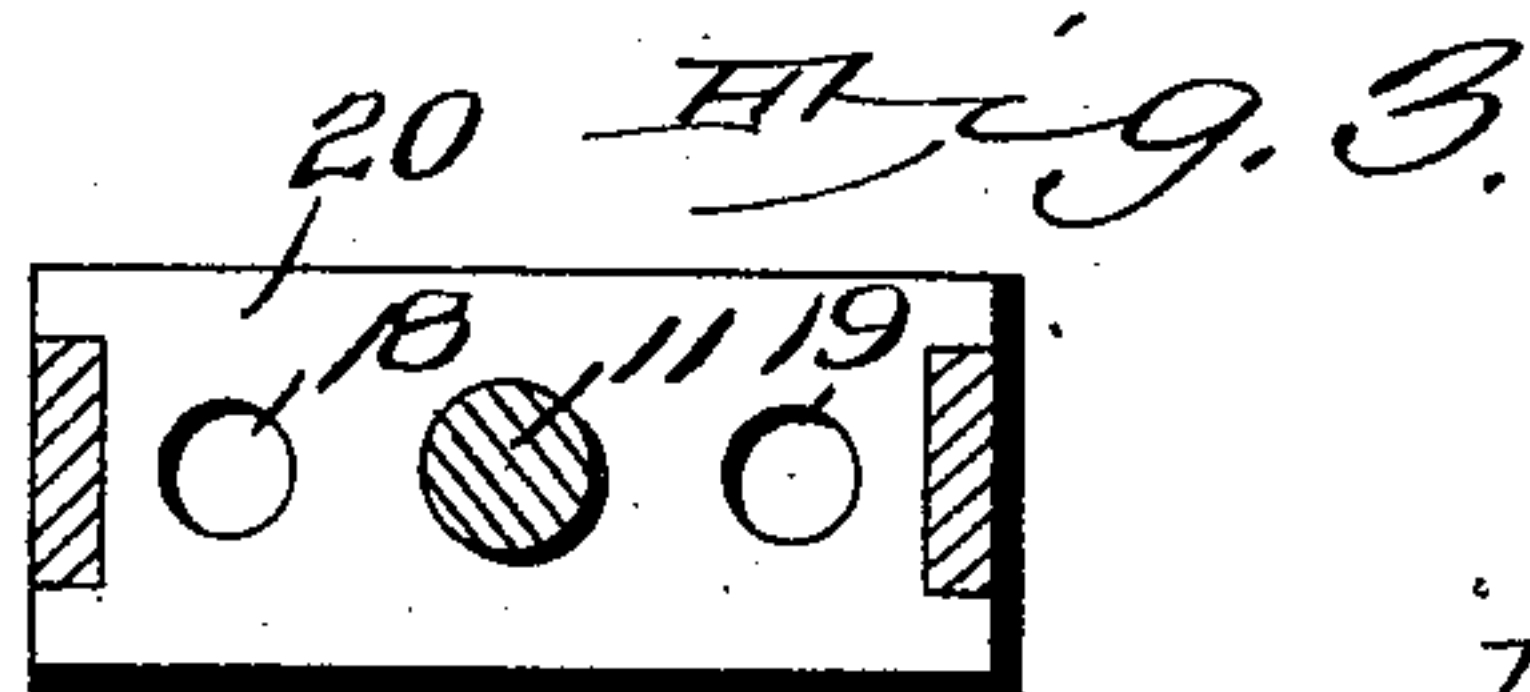
J. A. FOSTER.
WIRE STRETCHER.

APPLICATION FILED JUNE 2, 1902

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

JULIAN A. FOSTER, OF SALEM, WISCONSIN.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 721,946, dated March 3, 1903.

Application filed June 2, 1902. Serial No. 109,964. (No model.)

To all whom it may concern:

Be it known that I, JULIAN A. FOSTER, a citizen of the United States, residing at Salem, in the county of Kenosha and State of Wisconsin, have invented a new and useful Wire-Stretcher, of which the following is a specification.

This invention relates to devices for forcibly drawing two objects toward each other or for forcibly drawing one object toward another or stationary object, such as the ends of two cables or chains or the wires in fences, either when building new or repairing old fences.

The device may be employed in connection with all the various forms of wire fences, either those which are woven into webs or panels previous to being stretched across the posts or those which are built upon the posts one wire at a time.

The device may also be employed for forcibly drawing other objects together or toward each other and may be of any size or strength to adapt the device to the work required.

One object of the invention is the production of a simple, portable, manually-operated device adapted to be readily applied when employed in connection with fence-building or repairing operations without disconnecting the wires and operative between two "runner-supports" or at any point along the line of the fence.

Another object of the invention is to produce a device which may be employed for the purpose of stretching the fence wires or panels and connecting them to the last post in a line of fence.

Other features of the invention will appear in the annexed description and be specified in the claims.

In the drawings illustrative of the invention, Figure 1 is a view of a portion of a fence "web" or panel, with an end view of the improved device applied. Fig. 2 is a top plan view. Fig. 3 is a transverse section on the line III III of Fig. 2.

The device consists of an oblong frame 10, having a screw 11 revolubly mounted in its end members and provided with an operative handle 12, as shown.

In the larger devices the screw may be extended and provided with a handle at each

end, as indicated by dotted lines in Fig. 2, to increase the power, or a hand-wheel or other suitable operative means may be connected to rotate the screw, and I do not, therefore, wish to be limited to the use of any specific means for rotating it.

When the device is to be employed for very heavy work, a system of gearing might be employed to increase the power; but such devices are so well known that the structure is not further illustrated.

The screw 11 will be provided with suitable collars 12 and 13 adjacent to the frame 10 to prevent end movement of the screw, while at the same time leaving it free to rotate in the frame.

Disposed within the frame 10 is a cross head or block 20, embracing the side members of the frame slidably by its ends, as shown, and having a central threaded aperture engaging the screw 11, as shown, so that the revolution of the screw will cause the cross-head to be moved longitudinally of the framework. It will be thus understood that when the screw 11 is rotated in one direction the cross-head will be moved in one direction in the framework and when the screw is rotated in the opposite direction the movement of the cross-head will be likewise reversed.

The screw 11 is entirely unobstructed between the ends of the framework 10, so that the cross-head will be movable the entire length of the interior of the framework.

On one end of the framework 10 at opposite sides guide-pulleys 14 15 are connected, and over these guide-pulleys cables or chains 16 17 are conducted and passed through apertures 18 19 in the cross-head 20 on opposite sides of the screw 11, as shown.

The chains 16 17 will be connected detachably to the cross-head by a pin or hook passed through the links of the chains, when chains are employed, on the opposite sides of the cross-head from the pulleys 14 15. When wire cables or ropes are employed, detachable couplings will be secured to the cable to hold them in place in engagement with the cross-head; but as the construction of these couplings is so well known they are not further illustrated, the object sought to be attained being to provide a ready means of de-

tachably coupling the chains or cables at successive points to the cross-head, as herein-after described. The opposite ends of the chains or cables are provided with hooks 20 21, respectively, by which they may be connected to the objects which are to be operated upon. When operating upon fences, the hooks 20 21 will be coupled to the runner-wires or other parts of the fence, as will be readily understood.

When employed for coupling the ends of broken runner-wires, the hooks 20 21 will be connected to the broken ends of the wires and the device operated to draw the broken ends together. When employed for drawing the runner-wires across the posts, one of the hooks 20 or 21, as the case may be, will be connected by a chain or other suitable fastening to one of the posts and the opposite hook connected to the runner-wire.

When two objects are to be drawn toward each other, the screw 11 is reversely rotated until the cross-head 20 is at the end of the framework adjacent to the pulleys 14 15. The chains or cables are then coupled to the cross-head by one end and the opposite ends coupled to the objects to be operated upon. Then by rotating the screw 11 in the opposite direction the cross-head is moved to the opposite end of the framework, carrying the chains or cables with it and correspondingly drawing the separated objects toward each other the distance of the length of the screw within the framework. The screw is then reversed in movement until the cross-head 20 is again at the pulley end of the framework, the hooks 20 21 again coupled in a new place to the object to be moved, and the operation repeated, and so on as often as may be required.

It is obvious that by repeating the operation the objects may be drawn together from any distance.

In Fig. 1 the device is shown applied to a web or "panel" fence or one wherein the fence material has been previously woven into webs or panels in distinction from a fence built up one wire at a time. In this case a link or bail wire 22 will be connected to the web or panel (indicated at 23) and the hook 20 or 21, as the case may be, connected to this bail, while the opposite hook on the opposite section of chain or cable will be coupled to a bail or link upon the adjacent web or panel if two panels are to be drawn together and the device operated as before described. If one panel or web only is to be operated upon, the opposite hook 20 or 21, as the case may be, will be connected to some stationary object, such as a post or anchor-bar, and the web or panel moved by the operation of the device in the same manner.

If the device is to be employed for the purpose of drawing the last panel of the fence or the last end of the runner-wires to a position

to be attached to the last post of the line of fence or to a corner-post, the attachment illustrated in Fig. 1 will be employed, consisting in a bar 24, connected at one end to the post 25, as indicated at 26, and supported in a horizontal position by a trestle beneath its outer end, as shown. Attached to the outer end of this bar 24 is a hook 28, adapted to engage one of the hooks 20 or 21, as the case may be. The bar 24 will be long enough so that the frame 10 will operate between the post 25 and hook 28, as indicated.

In Fig. 1 the frame 10 is shown located adjacent to or resting upon the bar 24 and entirely outside of the line of the fence, the end of the fence being represented by the post 25. By this means it will be understood the fence members, either in the form of separate runner-wires or the web or panel 23, may be drawn across the post 25 in position to be attached thereto. This is a very important feature of the invention and adds materially to the efficiency of the device, as it enables the fence to be drawn into position to be attached to the last post in the fence-line or to a corner-post or to posts located at bends in the fence which are too great for the fence wires or panels to be drawn around. Under some circumstances it may be desirable to move only one of the chains or cables 16 or 17, as the case may be, in which event one of the chains or cables will be released from the cross-head 20 and connected to a hook 29 or 30 upon the end of the frame 10 opposite the pulleys 14 15, as shown in Fig. 2. Under these conditions when the cross-head 20 is operated it will move along the section of the chain or cable which is fastened to the chain or hook without affecting it, and the "draft" will be entirely upon the other chain or cable. This arrangement will be found desirable in localities where it is inconvenient to locate the frame 10 and its attachments midway between the "drawing-points," but will enable the device to be located at one side and the draft or pulling force applied to one chain or cable only. This is a very important feature of the invention and materially increases its efficiency and greatly increases its usefulness by providing for its employment in localities where it could not be applied if the chains and cables were attached permanently to the cross-head.

Another important advantage is gained by coupling the chains or cables detachably to the cross-head, as by that means when the cross-head has been moved to the limit of its stroke it may be returned to its former position, the chains or cables drawn through the cross-head, and the couplings applied adjacent to the cross-head and the operation of the screw repeated without detaching the hooks 20 21. This latter arrangement greatly increases the usefulness of the machine and enables it to be employed in many localities

and for many purposes where it could not otherwise be employed. It greatly simplifies the operation, as it is a much simpler process to remove a pin from a chain or detach a coupling or clip from a cable and reconnect the pin or clip at a new point on the chain or cable than to detach the hooks 20 21 and reconnect them to the object to be operated upon.

The whole device is very simple in construction and may be made comparatively small in size, and consequently light and portable, and at the same time very strong and durable and capable of exerting a great force.

The frame 10 will be formed with its lower end or pulley end sufficiently strong to resist the pulling strains to which it will be subjected when in action, and the frame 10 will be proportioned to correspond to the strains to which it will be subjected and will be increased in strength as required.

The proportions and form may be altered and the parts modified in minor particulars without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim is—

1. In a device of the character described, a supporting-frame, a cross-head slidably disposed in said frame, a screw revolubly supported in said frame and engaging said cross-head, flexible connecting means leading inward from one end of said frame, and means whereby said flexible connecting means may be detachably coupled alternately to the opposite end of said frame or to said cross-head, substantially as described.

2. In a device of the character described, a supporting-frame, a cross-head slidably disposed in said frame and having a threaded aperture, a screw revolubly supported in said frame and engaging said threaded aperture, flexible connecting means leading inward from one end of said frame, and means whereby said flexible connecting means may be de-

tachably coupled alternately to the opposite end of said frame or to said cross-head, substantially as described.

3. In a device of the character described, a supporting-frame, a cross-head slidably disposed in said frame, a screw revolubly supported in said frame and engaging said cross-head, means for rotating said screw, apertures in said cross-head, spaced pulleys in one end of said framework, flexible connecting means adjustably and detachably engaging said apertures and leading in opposite directions over said pulleys, substantially as described.

4. In a device of the character described, a supporting-frame, a cross-head slidably disposed in said frame and having spaced apertures and a threaded aperture, a screw revolubly supported in said frame and engaging said threaded aperture, flexible connecting means leading inward from one end of said frame, and engaging said spaced apertures, and means whereby said flexible connecting means may be detachably coupled alternately to the opposite end of said frame or in said spaced apertures, substantially as described.

5. In a device of the character described, a supporting-frame, spaced pulleys upon one end of said frame, a cross-head slidably disposed in said frame, a screw revolubly supported in said frame and engaging said cross-head, flexible connecting means leading inward over said pulleys from opposite directions and engaging said cross-head by one end, and means carried by the opposite ends of said flexible connecting means for coupling to the objects to be operated on, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JULIAN A. FOSTER.

Witnesses:

ALEX. BAILEY,

FRANK A. PALMATIER.