(No Model.)

# E. A. EUSTICE.

## WIRE STRETCHER.

No. 513,993. Patented Feb. 6, 1894.

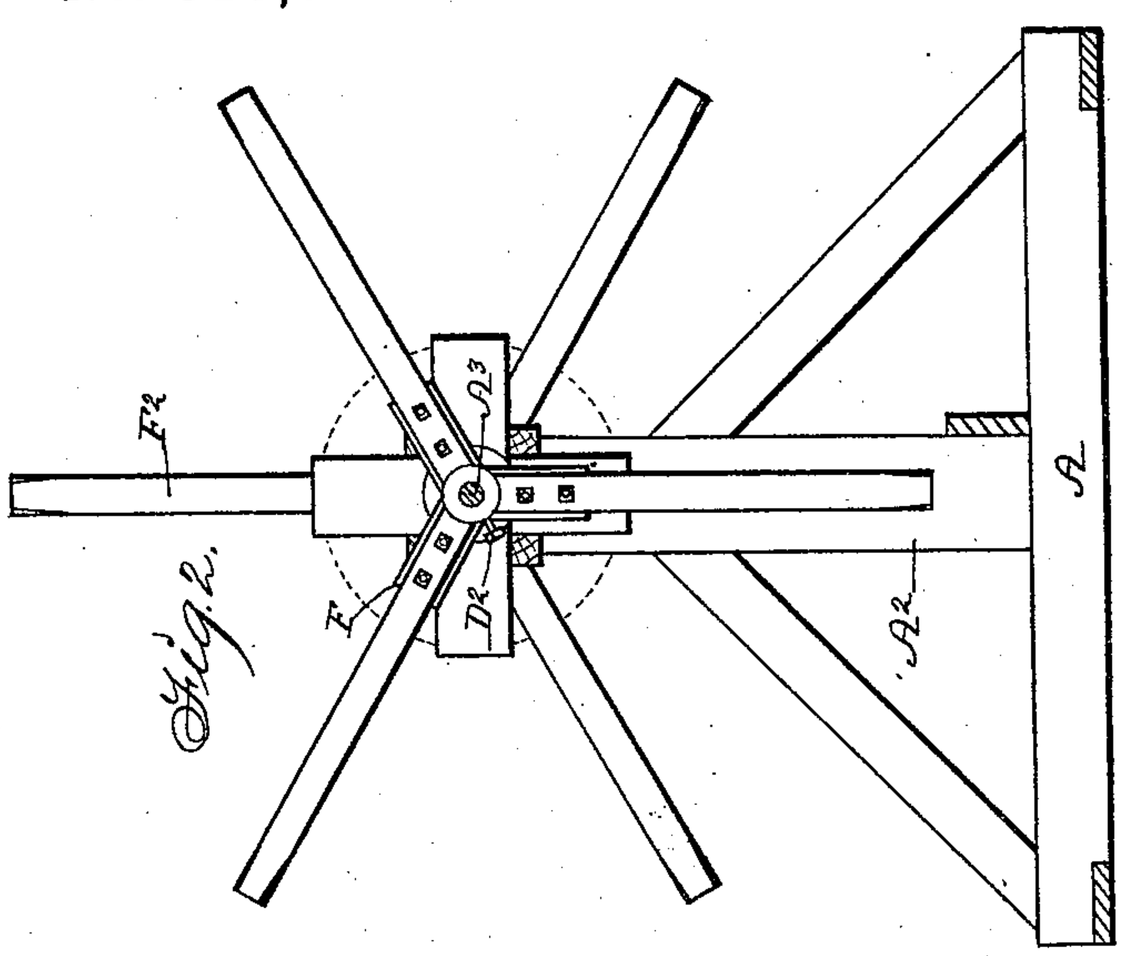

Fig. 2.

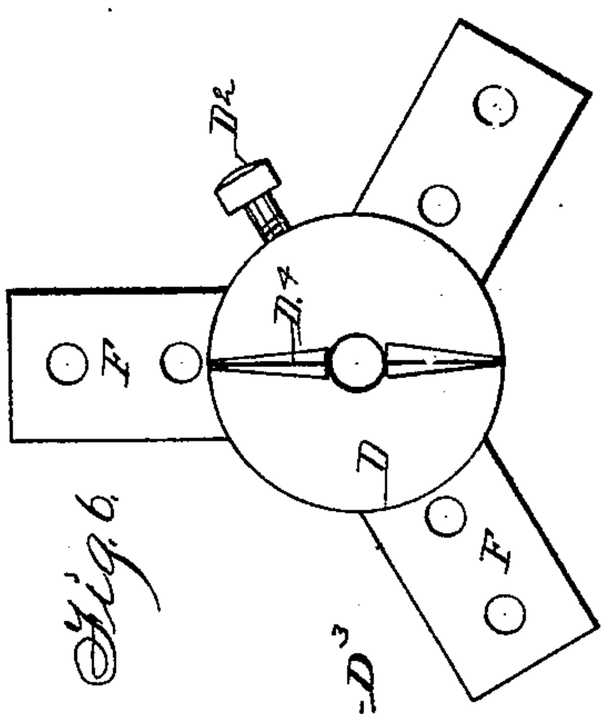

Fig. 6.

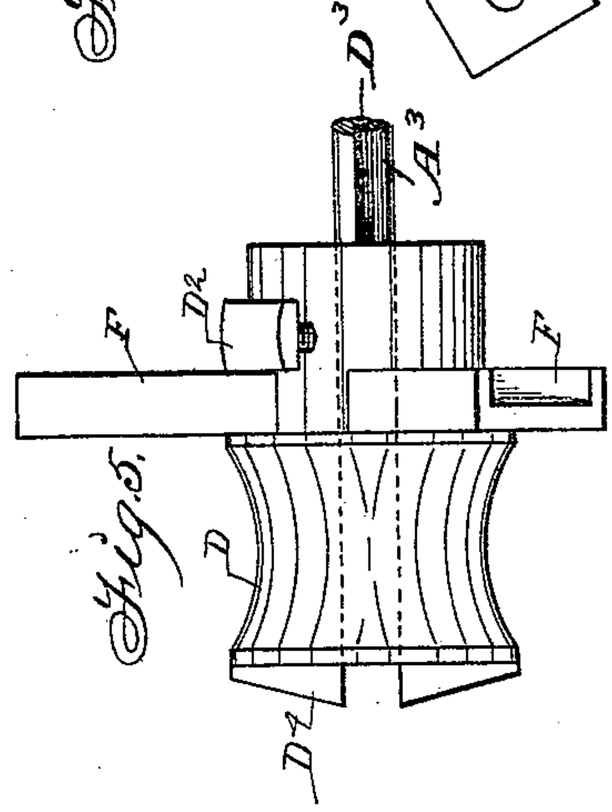

Fig. 5.

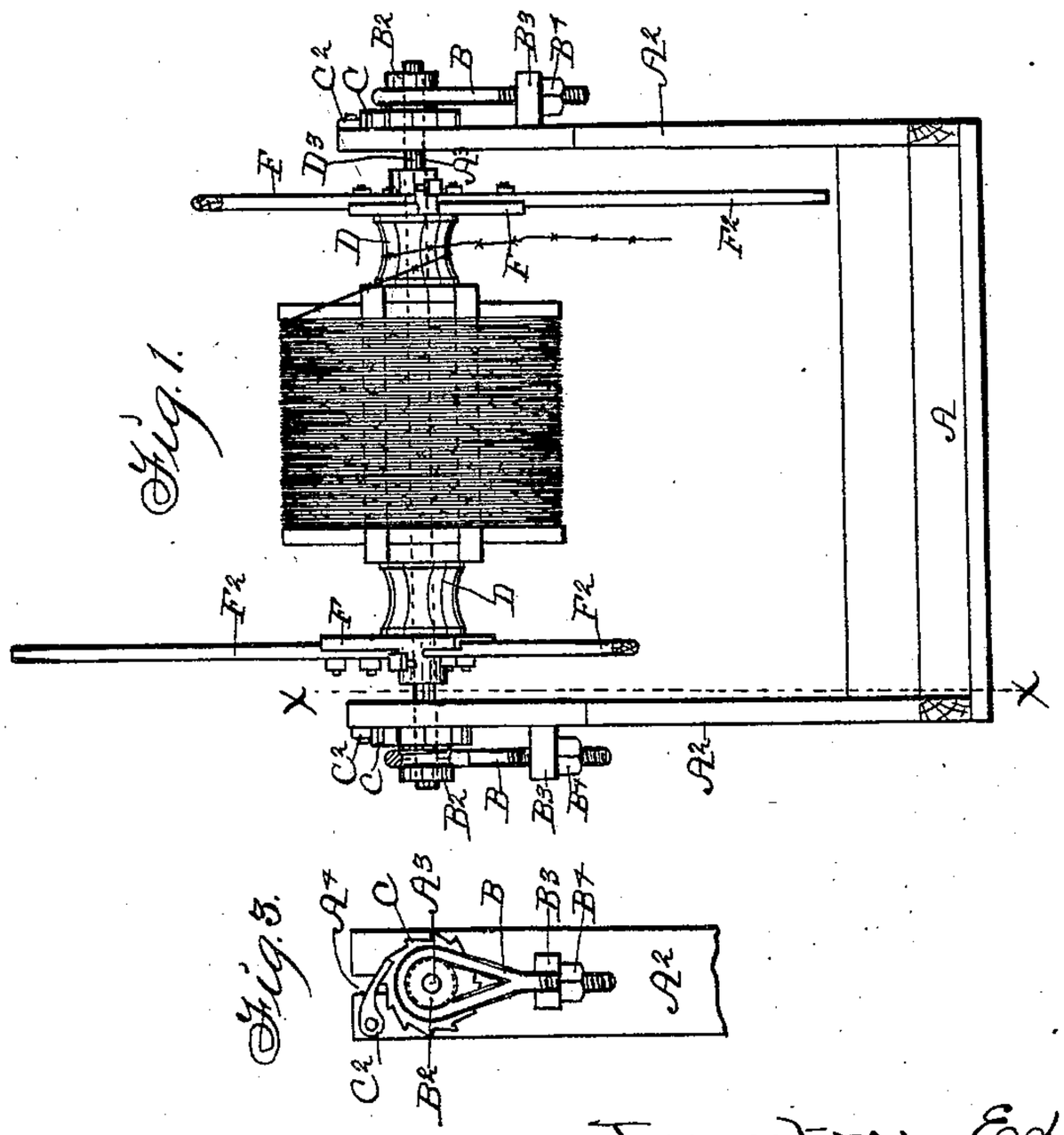

Fig. 1.



Fig. 3.

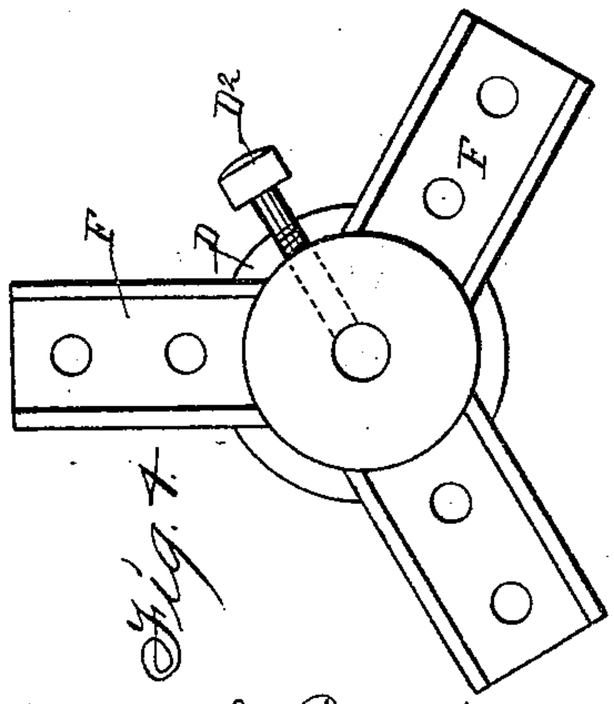

Fig. 4.

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# UNITED STATES PATENT OFFICE.

EDWARD ABLETT EUSTICE, OF NEWTON, IOWA.

## WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 513,993, dated February 6, 1894.

Application filed May 26, 1893. Serial No. 475,649. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD ABLETT EUSTICE, a citizen of the United States of America, residing at Newton, in the county of Jasper and State of Iowa, have invented an Improved Wire-Stretcher, of which the following is a specification.

The object of this invention is to provide a combined reel and stretcher adapted to be placed in a wagon, or other movable support and arranged so that the spool of wire is automatically prevented from rotating while the wagon is advanced to partially stretch the wire and when it is desirable to apply a greater tension thereto a portion of the wire is moved upon a drum of comparatively small diameter, attached to the same shaft and manually rotated by means of levers attached thereto, and my object is further to provide simple and durable means whereby a spool of wire may be non-rotatably connected with the shaft of the device and also to provide simple and effective means for applying friction to said shaft to allow the wire to be unwound therefrom in an even and regular manner.

To this end my invention consists in certain details of construction, arrangement and combination of parts as hereinafter set forth, pointed out in my claims and illustrated in the accompanying drawings, in which—

Figure 1 is an end view of the complete device, with a spool for holding wire in position thereon. Fig. 2 is a vertical sectional view through the line *x*—*x* of Fig. 1. Fig. 3 is a detail side view showing the device for applying tension to the shaft of the stretcher and the ratchet device for holding the shaft. Fig. 4, is a combined view of the drum and spool engaging device and sockets for the operating levers. Fig. 5 is a front view of the same with a portion of the axle connected therewith. Fig. 6 shows the opposite side of the same from that shown in Fig. 4.

Referring to the accompanying drawings the reference letter A is used to designate the base of the device, $A^2$ suitable uprights at the side thereof. $A^3$ designates a shaft mounted in suitable bearings in the top of said uprights and adapted to be readily detached by being moved upwardly through the slots $A^4$. At each end of the shaft is a device for applying tension thereto comprising a bolt B having a loop at its one end adapted to encircle a grooved collar $B^2$ detachably connected with said shaft, and having its lower end extended through a lug $B^3$ and provided with a nut $B^4$.

C designates ratchet wheels detachably connected with the shaft $A^3$ with their teeth running in opposite directions and $C^2$ are gravity actuated pawls adapted to engage said ratchets.

D designates a drum of comparatively small diameter adapted to be slidingly and non-rotatably connected with said shaft by having a set screw $D^2$ adapted to enter a longitudinal groove $D^3$ on said shaft. Formed on or fixed to the inner face of this drum are the knife edged projections $D^4$ that are adapted to engage the sides of a wooden spool for holding wire and prevent its rotation relative to the drum and on the outer end of the drum are the integral sockets F adapted to admit the levers $F^2$.

Inasmuch as both sides of the device are identical but one has been described.

In practical operation, when it is desirable to place a spool of wire upon the shaft $A^3$ the tension device at one end is first loosened the shaft elevated out of the upright $A^2$, the ratchet wheel and the drum both slipped off the end of the shaft and the spool of wire placed thereon in close engagement with the knife edges on the other drum. Said parts are again placed in position with the knife edges of the remaining drum firmly embedded in the side of the spool. If it is desirable to play out the wire both of the ratchet devices are thrown out of engagement and the tension devices regulated to apply friction to the shaft to partially stretch the wire as it is being played out. To stretch the wire one of the ratchet devices is thrown into engagement in the shaft to prevent backward rotation and the wagon to which the frame is attached is advanced, and to apply a still greater tension to the wire, a portion of it is slipped over the spool, upon the drum, and the levers attached thereto, manually operated. The advantages gained by placing the wire upon the drum instead of having it upon the spool are, first, the drum is of smaller diameter than its spool, and thereby more power is gained; second, the drum presents a smooth and firm surface

thereby obviating the objections incident to stretching the wire directly from the spool and thereby causing the portion of the wire to which tension is applied to press the other parts of the wire upon the spool out of place and cut through to the spool, &c. It will now be obvious that by the placing of a small drum at the side of the spool a much greater tension may be given to the wire and the difficulties incident to stretching it directly from the spool be obviated.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States therefor, is—

1. In a wire reel and stretcher the combination of the following elements, to wit; a suitable frame adapted to be placed in a wagon; a shaft carried by said frame; a wooden spool for holding wire mounted on said shaft, a drum D mounted on said shaft, having knife edges $D^4$ and integral sockets F; and levers $F^2$ in said sockets substantially as and for the purposes stated.

2. In a wire reel and stretcher the combination of the following elements, to wit; the base A; the uprights $A^2$; the shaft $A^3$ having the groove $D^3$ mounted in the slots $A^4$ in said uprights; the bolts B encircling collars $B^2$ fixed to the said shafts; the lugs $B^3$ and nuts $B^4$; the ratchet wheels C and gravity pawls $C^2$; the drums D, having sockets F; the set screws $D^2$ therein; the knife edged projection $D^4$; and the levers $F^2$; all arranged and combined substantially in the manner set forth for the purposes stated.

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