No. 742,296. PATENTED OCT. 27, 1903.

J. P. DELPHEY.

WIRE PAY-OUT REEL.

APPLICATION FILED FEB. 7, 1902.

NO MODEL.

Fig. 1.

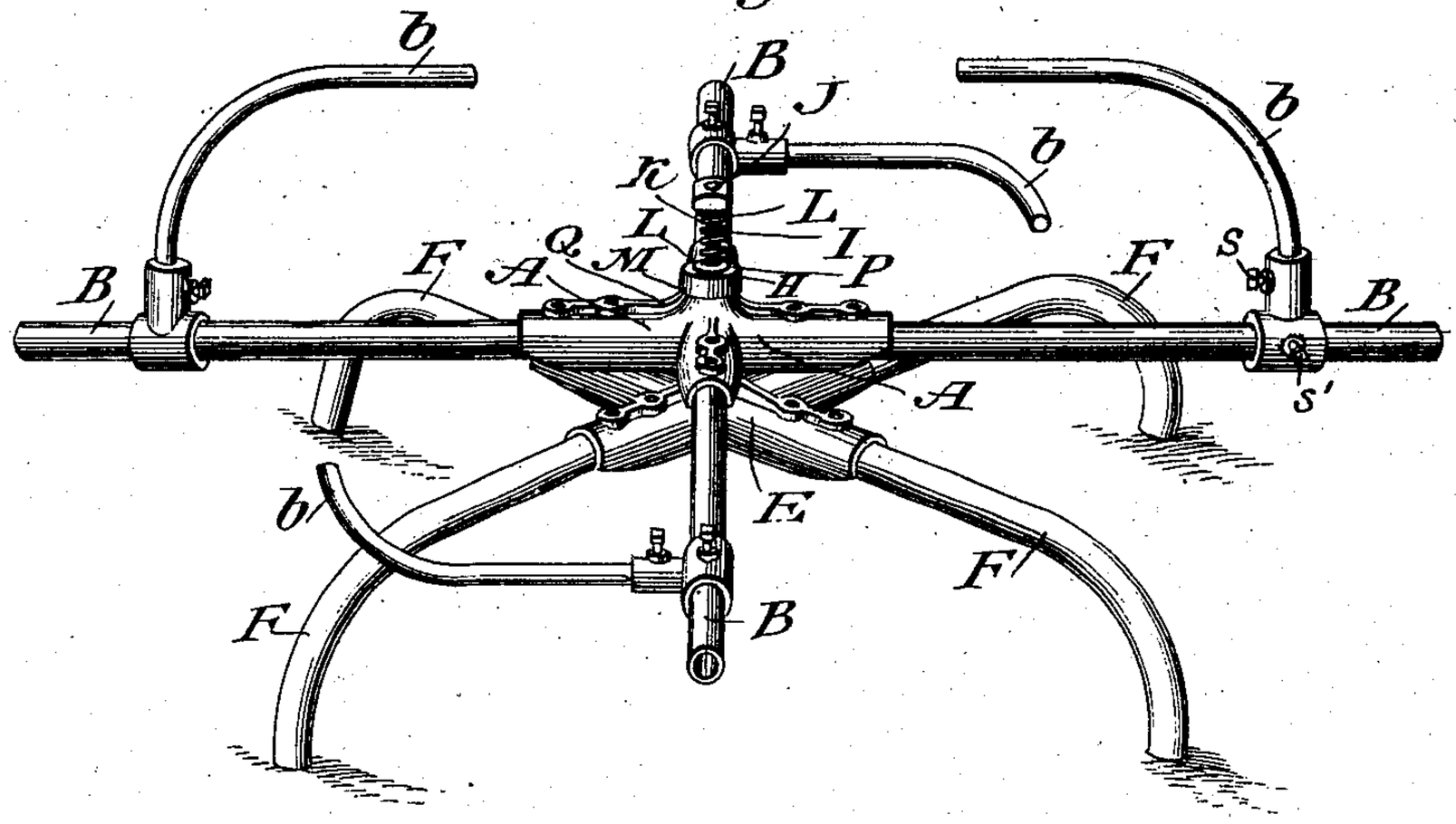


Fig. 2.

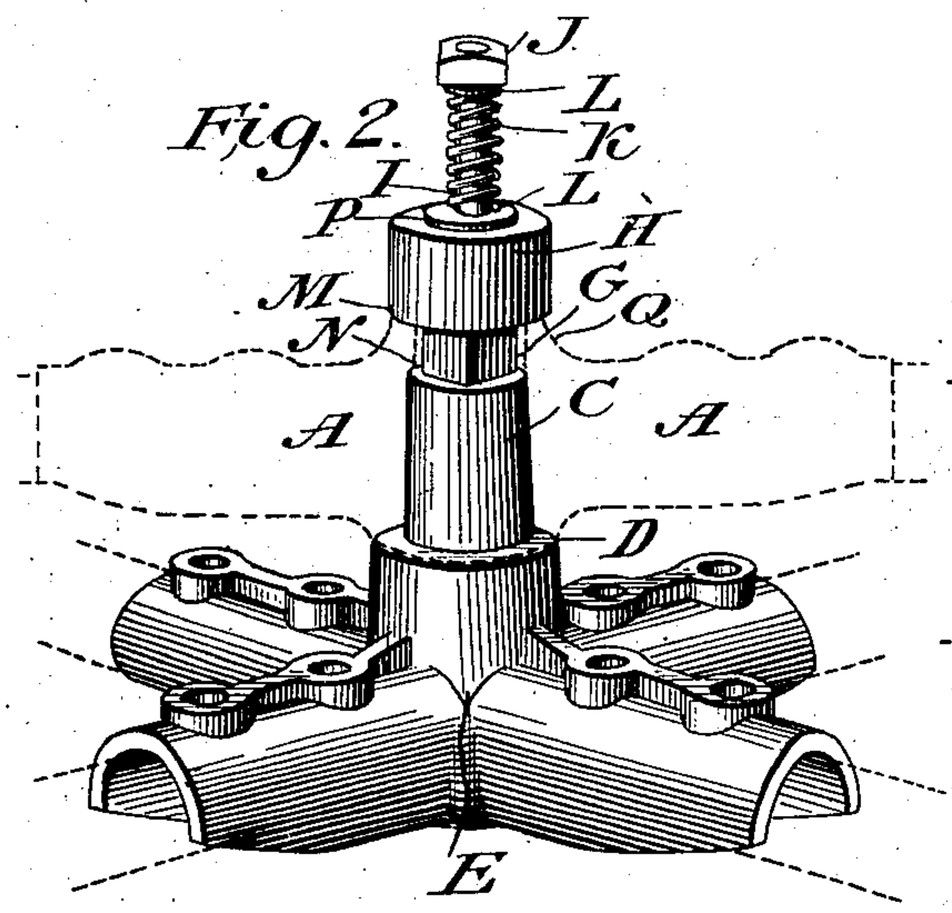
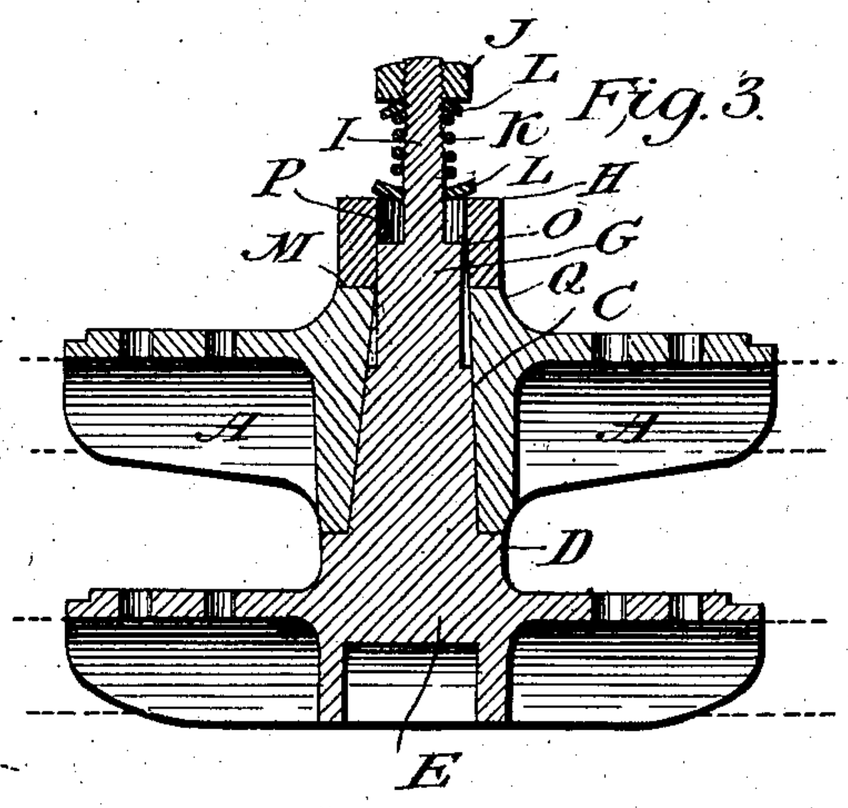


Fig. 3.



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No. 742,296. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

JOHN P. DELPHEY, OF TOLEDO, OHIO.

WIRE-PAY-OUT REEL.

SPECIFICATION forming part of Letters Patent No. 742,296, dated October 27, 1903.

Application filed February 7, 1902. Serial No. 93,106. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. DELPHEY, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Wire-Pay-Out Reels, of which the following is a specification.

The object of my invention is to provide a simple inexpensive efficient means of adjusting the motion of wire-pay-out reels so that, first, without attention (*a*) the wire will not pay out too fast and become entangled and break and (*b*) two or more reels can be adjusted to pay out wire alike or otherwise; second, that tension will be regular and not change with motion of the revolving portion of the reel; third, that will take up the wear of the tension and other parts; fourth, that will not easily get out of order.

With these and other objects in view the invention consists of certain new and novel features of construction, combination, and arrangements of parts which will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a complete wire-pay-out reel with the improvements. Fig. 2 is a perspective showing the pivot, and tension attachment, the revolving casting or swivel in outline. Fig. 3 is a cross-section of the revolving casting or swivel, the pivot, and tension attachment.

Similar letters refer to similar parts throughout the several views.

A A represent the hub or swivel or central revolving portion of the reel and bears the arms B B B B and adjustable uprights *b b b b* thereon and revolves about the pivot C and rests on the shoulder D at the lower part of the pivot C.

E is the base of the reel-pivot, and F F F F the legs supporting the reel. The middle portion G of the pivot C is so formed by squaring, slotting, serrating, fluting, grooving, channeling, or otherwise that while it permits the tension-washer H, with corresponding formation on the inner surface thereof, to slide back and forth at or nearly on a line with the pivot-axis it cannot revolve about the said axis. Above this transformed portion of the pivot C is a round threaded portion I of the reel-pivot, extended and working on which is the threaded bur or nut J. Around the extended portion of the pivot, between the tension-washer H and the bur J, is the spring K, (when coiled-wire spring or rubber is used, one or both ends thereof protected by the washer-caps L L,) pressing down on or releasing the tension-washer H from its point of contact M with the central part of the revolving portion of the reel by turning the bur J, so as to compress the spring K, or turn the bur J and release the spring K.

The bur J may operate directly on the tension-washer H without the intervention of either spring K or one or both protecting cap-washers L L, though in practice I prefer the addition of spring K and washer-caps L L.

The transformed portion G of the reel-pivot C is extended some little distance below the upper contact-surface M of the revolving part of the reel to N and above the tension-washer surface M of the revolving part of the reel to O, but below the upper surface P of the tension-washer H, not so far as to interfere with the revolution of the reel on its pivot, but permitting the tension-washer H to slide down the transformed portion of the pivot C and produce a tension of the reel and also as to take up the wear at the point of contact M of the tension-washer and revolving portion of the reel and the contact of the revolving portion of the reel at the shoulder D on the base E of the reel at the lower end of the pivot C. At Q is a slight elevation or shoulder on the upper portion of the revolving portion of the reel at its point of contact M with the tension-washer H, which gives greater durability to the tension parts of the reel by providing more wearing stock to the frictional contact of the part of the revolving portion of the reel with the tension-washer before wearing into the body of the reel proper.

The shoulder at D keeps the revolving portion of the reel from coming into contact with the base E when the reel is in motion, and by elevating it a little above the requirements to just clear permits the cone-shaped bearing (pivot C) of the reel to settle down on and into closer contact as the same wears, thus practically producing the same degree of friction between the cone-bearings before as after worn.

In operating the mechanism adjust a coil

of wire with its bands removed on the arms B B B B, and outside of the adjustable arms *b b b b* stand the arms upright and turned over the coil, tighten the set-screws *s* and *s'*, and the mechanism is all in position, when by pulling on one end of a strand of the coil the reel is caused to revolve. Then by turning the withholding adjusting bur or nut J, so as to tighten or release the tension-washer H upon or release it from its contact-point M of the central portion A A of the revolving portion of the reel, the revolving portion of the reel will move slow or fast, at the will of the operator. The tension will then not need to be changed except as the force used in drawing the wire varies, or the parts wear in course of time, or change is desired.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of the invention will be readily understood without requiring more extended explanation.

In practice I prefer to use winged withholding adjusting burs or nuts, coiled-wire spring, protecting washer-cups, and squared medium portion of the pivot with corresponding hollowed tension-washer. It is, however, obvious that various changes can be made in the various mechanical devices in form, proportion, and details of construction which will be within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof, and, among others, that the pivot may be attached to and be a part of the revolving part of the reel and revolve in a corresponding socket in the reel-base, the reel-base thereby becoming the reel-hub, and the tension-washer with transformed interior corresponding to that part of the transformed pivot, and the remainder of the herein-described tension device be similarly attached to the pivot, revolve therewith, and the tension-washer bearing on the lower part of the reel-base. Likewise a bolt may be used to perforate both the base and revolving part of the reel with nut and tension attachment at either end, thus holding the parts together and the tension device becoming operative at the same time; and still other changes can be readily suggested as to the various mechanical devices in form, proportion, details of construction, and mechanical arrangement of the parts, all of which and modifications to those indicated above are within the scope and spirit of this invention and claimed as a part thereof.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination in a wire-pay-out reel, of a tension-washer, a cone-shaped reel-pivot on whose middle portion, in frictional contact with the adjacent portion of the reel, the inner surface of said tension-washer so formed into elevations and depressions as to slide in the corresponding depressions and elevations on the adjacent portion of the reel-pivot, back and forth on line in the same general direction of the pivot-axis but not rotate about the pivot, and controlled by a withholding adjusting bur or nut working on threads on the extended portion of the reel-pivot.

2. The combination in a wire-pay-out reel, of a tension-washer on the middle portion of a cone-shaped reel-pivot in frictional contact with the adjacent portion of the reel, the inner surface of the tension-washer transformed into elevations and depressions as to slide in corresponding depressions and elevations on the adjacent portion of the reel-pivot, back and forth on line in the same general direction of the pivot-axis but not rotate about the pivot, and controlled by a spring between it and a withholding adjusting bur or nut working on threads on the extended axis of the reel-pivot.

3. The combination in a wire-pay-out reel, of a cone-shaped reel-pivot with an uneven surface in its middle portion permitting a tension-washer with corresponding uneven inner surface to slide back and forth on line in the same general direction of its axis but not revolve about the pivot, and such uneven portion of the pivot extending sufficiently beyond the reel to prevent the tension-washer revolving about the reel-pivot and sufficiently within the outer portion of the reel-hub to permit taking up the wear of the point of contact of the reel-hub and the tension-washer, and the reel-hub and supporting-shoulder, but not interfere with the reel motion.

4. The combination in a wire-pay-out reel, of a tension attachment withheld and adjusted by a bur or nut on the extension of the reel-pivot, a pivot having its middle surface partly transformed, and a corresponding inner formation of a tension-washer permitting the tension-washer to slide back and forth thereon to and from the adjacent portion of the reel but its lateral movement withheld therewith and prevented thereby, a cone-shaped pivot and a corresponding cone-shaped reel-hub, and a shoulder supporting the reel, preventing undue friction, but taking up the wear between the reel and cone-pivot, and, with the tension attachment, taking up the wear between the tension attachment and the reel.

5. The combination in a wire-pay-out reel, of a non-rotating tension-washer withheld and adjusted by a bur or nut on the extension of the reel-pivot, a pivot with part of its middle surface uneven but with lines running in the same general direction as its axis, and a corresponding inner surface formation of a tension-washer, a cone-shaped pivot and a corresponding cone-shaped reel-hub, and a shoulder supporting the reel, preventing undue friction, but taking up the wear between

the reel-hub and cone-pivot, and, with the tension attachment, taking up the wear between the tension attachment and the reel.

6. The combination in a wire-pay-out reel, of a tension attachment withheld by a bur or nut on the extension of the reel-pivot, a pivot with part of its middle surface uneven but with lines running in the same general direction of its axis, and a corresponding inner formation of a tension-washer, a cone-shaped pivot and a corresponding cone-shaped reel-socket, and a shoulder supporting the reel, preventing undue friction but taking up the wear between the reel hub or socket and the cone-pivot, and, with the tension attachment, taking up the wear between the tension attachment and the reel.

7. The combination in a wire-pay-out reel, of a non-rotating tension attachment withheld by a bur or adjusting-nut on the extension of the reel-pivot, a pivot with a part of the middle surface uneven but with lines running in the same general direction as the reel-axis, and a corresponding inner formation of a tension-washer, a revolving part of the reel with arms radiating from the center, and a base with legs radiating from the center.

8. The combination in a wire-pay-out reel, of a tension attachment withheld by a bur or adjusting-nut on the extension of the reel-pivot, and revolving therewith, a pivot with a part of the middle surface uneven but with lines running in the same general direction as its axis, and a tension-washer with a corresponding inner formation preventing automatic changes of tension, a cone-shaped pivot, and a revolving part of the reel with arms radiating from the center, and a reel-base with legs radiating from the center.

9. A wire-pay-out-reel pivot so formed that the portion toward one end and which comes in contact with the corresponding inner formation of the reel-hub, is cone-shaped, the middle surface of the pivot made uneven but with lines running in the same general direction as the pivot-axis, the other adjacent portion of the pivot being in form of a shaft or bolt with some threads cut thereon.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN P. DELPHEY.

Witnesses:
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CHAS. R. SPRAGUE.