

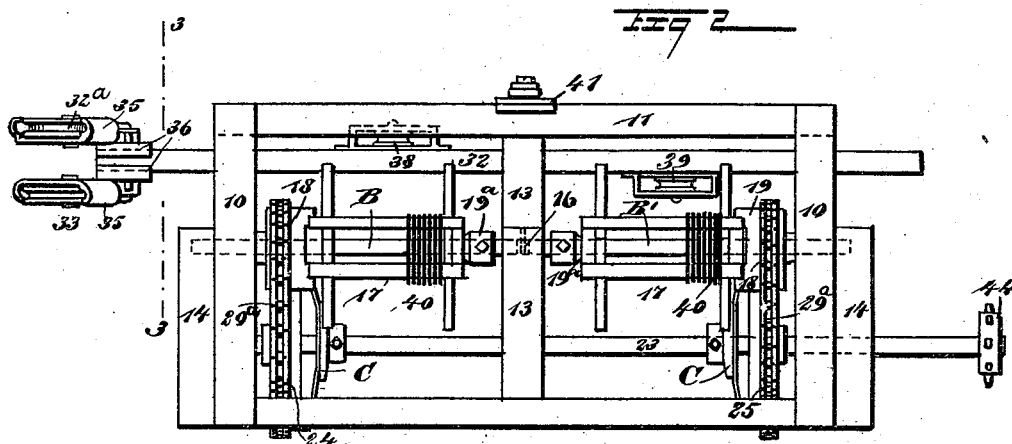
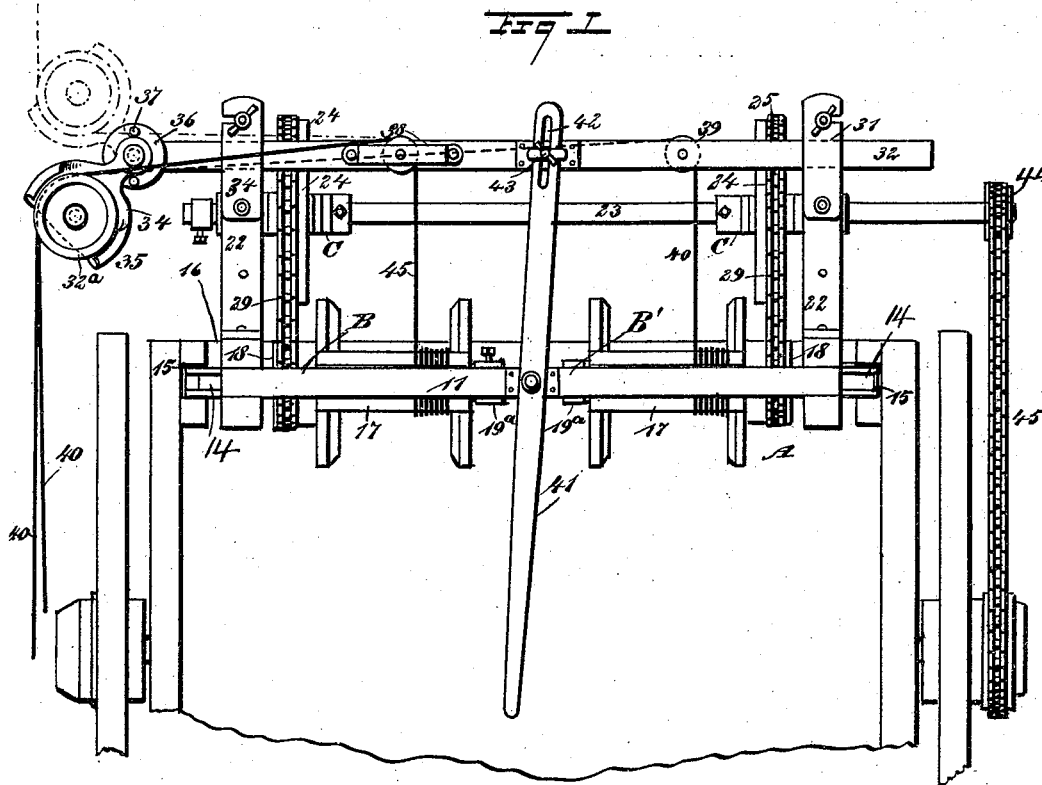
(No Model.)

2 Sheets—Sheet 1.

S. MOORE.
FENCE WIRE REEL.

No. 491,849.

Patented Feb. 14, 1893.



WITNESSES:

H. Walker
C. Sedgwick

INVENTOR:

S. Moore

BY Munn & Co

ATTORNEYS.

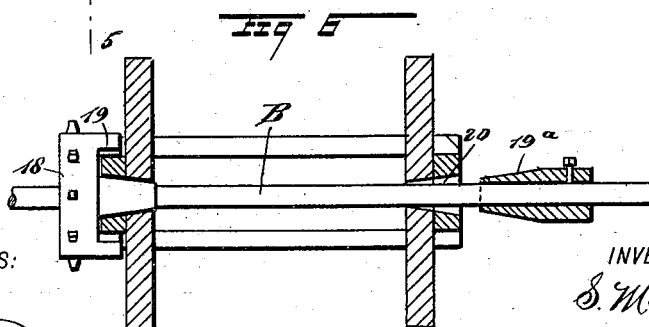
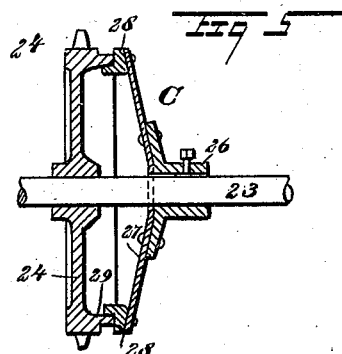
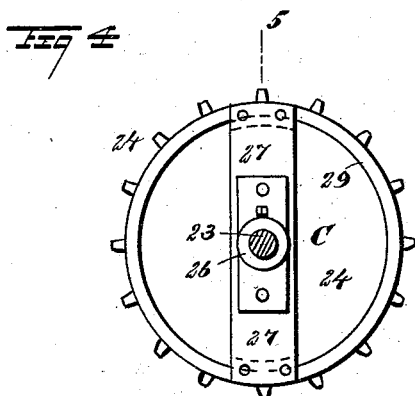
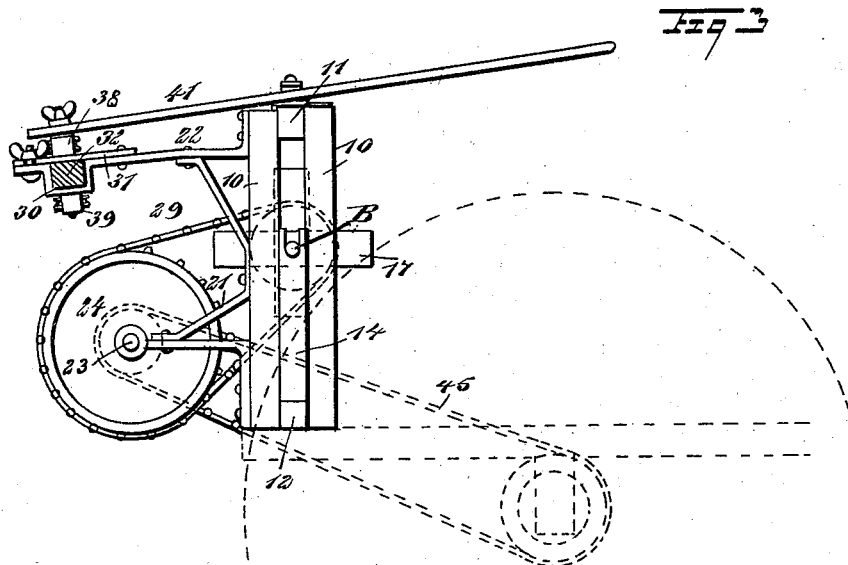
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UNITED STATES PATENT OFFICE.

SYLVESTER MOORE, OF AUDUBON, IOWA.

FENCE-WIRE REEL.

SPECIFICATION forming part of Letters Patent No. 491,849, dated February 14, 1893.

Application filed February 25, 1892. Serial No. 422,796. (No model.)

To all whom it may concern:

Be it known that I, SYLVESTER MOORE, of Audubon, in the county of Audubon and State of Iowa, have invented a new and useful Improvement in Fence-Wire Reels, of which the following is a full, clear, and exact description.

My invention relates to an improved reel for fence wire and similar material, and has for its object to provide a device which will be an improvement upon the device patented to myself December 29, 1891, No. 466,179, the especial improvements consisting in the construction of the spooling bar, wherein one fence wire is carried to or from a reel above the bar and the other beneath the bar, thus equalizing the strain thereon.

Another feature of the improvement consists in providing for the driving gears a clutch capable of being conveniently and expeditiously applied while the device is in operation, and wherein the driving wheels may be relieved from the frictional contact of the clutch.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the device illustrated as applied to the rear of a wagon; Fig. 2 is a front elevation of the device; Fig. 3 is an end view; Fig. 4 is a section through the driving shaft, illustrating one of the driving wheels and its clutch; Fig. 5 is a vertical section through a driving wheel and its clutch, said section being taken practically on the line 5—5 of Fig. 4; and Fig. 6 is a longitudinal section through one of the reels, illustrating its actuating gear in edge view and the clamping device in longitudinal section.

The frame of the device consists practically of spaced end posts 10, two of such posts being located at each end of the frame and tied together at top and bottom by rails designated respectively as 11 and 12 and also by means of an upright or vertical bar 13, best shown in Fig. 2.

Upon the outer faces of the end portions of the frame, tongues or vertical projections 14, are produced, whereby the frame may be fitted in the end of a wagon body A, or other form of vehicle, the tongues or projections 14, entering the slide-ways 15 of the vehicle, which slide-ways are adapted ordinarily to receive the tail-board. Two reel shafts B and B', are employed, and these shafts are independently journaled at their inner ends in bearings located upon the forward face of the standard or vertical post 13, as shown at 16 in Fig. 2; and at their outer ends the shafts are journaled in suitable bearings formed ordinarily in the upper ends of the tongues 14 at the ends of the frame, and from both bearings the shafts may readily be removed. Each shaft carries a reel 17, which is loosely mounted thereon; and each shaft preferably at or near its outer end carries a sprocket wheel 18, the sprocket wheels being rigidly attached to the shafts. The inner faces of the sprocket wheels 18, or those faces contiguous to one end of the reels, are provided with recesses 19, as best shown in Fig. 6, the said recesses being adapted to receive one or more end cross bars of the reels, whereby when said cross bars are inserted in said recesses the reels will be forced to turn with the gears or sprocket wheels and will not slip therefrom.

In order to prevent any possibility of the reels slipping from connection with the sprocket gears, sleeves 19^a are held to slide upon each of the shafts, and may be secured to said shafts by set screws or the equivalents thereof. The outer ends of these sleeves are made conical, so that they may enter any openings approximating a circle produced in the inner ends of the reels, and create such frictional contact between the head of the reel containing the openings and themselves as to hold the reel steady, as the conical ends of the sleeves may be forced inward so far as desirable in the openings. The sleeves are made conical also that they may be fitted to any sized hub having a bore larger than the shaft, and cause the reels to revolve in a perfect circle. All common wire reels have the same sized hole throughout the hub. In Fig. 6 the openings 20 in the heads of the reels are made conical, but they need not necessarily be made of such formation.

Two brackets are rearwardly-projected from each end of the device, one of said brackets 21 being attached to the lower portion of the end pieces of the frame, and the upper set of brackets 22 to the upper portion of said end pieces. The upper brackets are preferably made longer than the lower ones, and if in practice it is found desirable the brackets at each end of the device may be constructed integrally. The lower brackets 21, are adapted to constitute bearings for the drive shaft 23, and this drive shaft has loosely mounted thereon two sprocket wheels 24 and 25. These sprocket wheels are made to turn with the shaft through the medium of clutches C, and the application of the clutches to the wheels is best shown in detail in Figs. 4 and 5. Each of these clutches consists of a hub 26, attached to the shaft by means of set screws or like fastening devices, and each hub has attached thereto a spring 27, extending beyond opposite ends of the hub, while each end of the spring has secured thereto a brake shoe 28, ordinarily made angular in cross section so as to embrace a smooth peripheral flange 29, formed upon each of the driving wheels, as is best shown in Fig. 5; and, according to the frictional contact upon the driving wheels by the brakes will the wheels revolve to draw the wire more or less freely from the reels, and in the event that any obstruction should intervene to prevent the wire from reeling or from being wound upon the reels the driving wheels will not turn, so that the wire when wound will be at all times perfectly tight and even. Each of the driving wheels 24 and 25, is connected through the medium of a chain belt 29^a, with a sprocket wheel upon a reel shaft. The clutches C are kept in engagement with the driving wheel by causing their set screws to bear firmly upon the driving shaft after they have been set.

In the outer end of each of the upper brackets 22 a shoe 30, is formed, open at the top and provided with a latch plate 31, whereby the top of the shoe may be closed; and the plate is held in the closing position over the shoe by means of a thumb screw located upon a bolt passing upward from the shoe through a slot in the cover plate, as shown in Fig. 1; but other forms of fastening devices may be employed if in practice it is found desirable.

A spooling bar 32, is held to slide in the shoes of the upper bracket. This spooling bar may be of any approved shape in cross section, but is preferably rectangular and is of much greater length than the frame, being adapted to extend some distance beyond the end of the frame, especially at one end, and at this projecting end two horizontally located friction and guide pulleys 32^a and 33, are located, the said pulleys being capable of revolving upon suitable plates 34, which are provided with guides 35, extending upward around portions of the periphery of the friction rollers, and the plates are pivotally attached preferably upon a head 36, the said

head being secured directly upon the spooling bar, as shown in Figs. 1 and 2. The friction pulleys may be carried laterally at a right angle to the spooling bar either in direction of the right or the left of the device, or in the direction of the end of said bar, and stop pins 37, are preferably attached to the head 36, acting to prevent the friction guide pulleys from being carried beyond a predetermined distance inward.

The spooling bar has secured thereon two horizontally located guide pulleys 38 and 39, one being located opposite each reel; and the friction pulley 38, for instance, is secured upon the upper face of the spooling bar, while the pulley 39, is attached to the under face thereof. Thus as the wire 40 passes from the reels over the friction pulleys 38 and 39, and thence to the outer friction and guide pulleys 32^a and 33, tension upon the spooling bar is equalized; and further, as sheaves are employed in connection with the smaller friction or guide pulleys 38 and 39, and these sheaves are bolted to the spooling bar, the latter is materially strengthened.

The latch plates 31 are so made as to constitute a stout fastening and by loosening the bolt, the plate can be turned around and the spooling bar 32 readily removed. The spooling bar is so made that it may be reversed when necessity may require to permit the guide pulleys 38 and 39 to be placed on either side of the vehicle.

In order that the wire may wind and unwind freely and evenly from the reels, a hand lever 41, is fulcrumed upon the upper beam of the frame, and the outer end of said lever is pivotally connected with the spooling bar, the pivotal attachment being a removable one; and this removable connection is ordinarily effected by forming a slot 42 in the outer end of the lever, receiving a post projected upward from the spooling bar, the said post carrying a button 43, adapted to be locked transversely upon the lever, and capable when carried longitudinally over the slot 42, of passing downward through the slot when the lever is elevated.

Motion is given the drive shaft through the medium of a sprocket wheel 44, attached at one end of said shaft and connected by a chain belt 45 with a sprocket wheel secured upon one of the wheels of the vehicle, as for instance upon the hub of the wheel, but preferably the sprocket wheel is secured to the spokes at the inner face of the wheel.

The wire is received by the guide pulleys at the outer end of the spooling bar, makes an angular turn, passes over an inner guide pulley upon said bar, makes a second turn, and passes on to the reel in front of the pulley.

As heretofore stated the device is adapted to be placed in a wagon or other vehicle, preferably at that portion usually occupied by the tail board; and the device may be clamped to the wagon in any suitable or approved manner.

It is evident that in the operation of the device, if wire fencing is to be reeled up, one fence wire is led up over the outer guide pulley of the spooling bar, thence over the upper
5 inner guide pulley of the reel immediately in front of it, the second wire being carried over the lower outer guide pulley and thence over the under inner guide pulley to the reel in front of it, and as the vehicle is drawn ahead
10 the wire will be wound up upon the reels, which when filled may be removed and others substituted.

When it is desired to unreel wire for laying a fence, for instance, the driving belts are dis-
15 connected from the driving shaft or from the reel shaft, and the wire then being attached to any fixed object at its outer end will readily unroll as the vehicle is driven ahead. It is also obvious that by connecting one reel
20 with the drive shaft and disconnecting the other, one strand of wire which formerly composed a portion of the fence may be reeled up while another strand may at the same time be laid to take the place of the reeled strand.

25 Having thus described my invention, I claim as new, and desire to secure by Letters Patent,—

1. In a fence wire reel, the combination, with a reel shaft and a reel mounted thereon,
30 of a drive shaft, a driving wheel loosely mounted upon the drive shaft and connected with the reel shaft, and a clutch carried by the drive shaft and having a bearing upon the driving wheel, substantially as shown and
35 described.

2. The combination, with a drive shaft, a driving pulley loosely mounted thereon, a clutch mechanism connected with the drive shaft and bearing upon the driving pulley, a
40 reel shaft, a reel loosely mounted upon the same, and a driving connection between the reel shaft and the driving pulley, of a driven pulley fixed upon the reel shaft and having a recessed face receiving and clamping one
45 end of the reel, and a conically formed sleeve mounted upon the reel shaft opposite the recess in the driven pulley, the conically-shaped end of the sleeve being capable of entering the head of the reel not engaged by the re-
50 cessed driven pulley, as and for the purpose set forth.

3. The combination, with reels, of a spooling bar located at one side of the reels, friction pulleys connected with one end of the
55 spooling bar and independently and laterally adjustable thereon, intermediate guide pulleys located in front of the reels, one below and the other above the spooling bar, the intermediate guide pulleys being adapted to receive wire from the reels and conduct it to
60 the outer adjustable friction pulleys, bearings removably holding the spooling bar and admitting of its lateral movement, and a shifting device connected with the spooling bar, substantially as set forth.

SYLVESTER MOORE.

Witnesses:

JNO. A. NASH,
S. S. WILSON.