No. 761,283. PATENTED MAY 31, 1904.

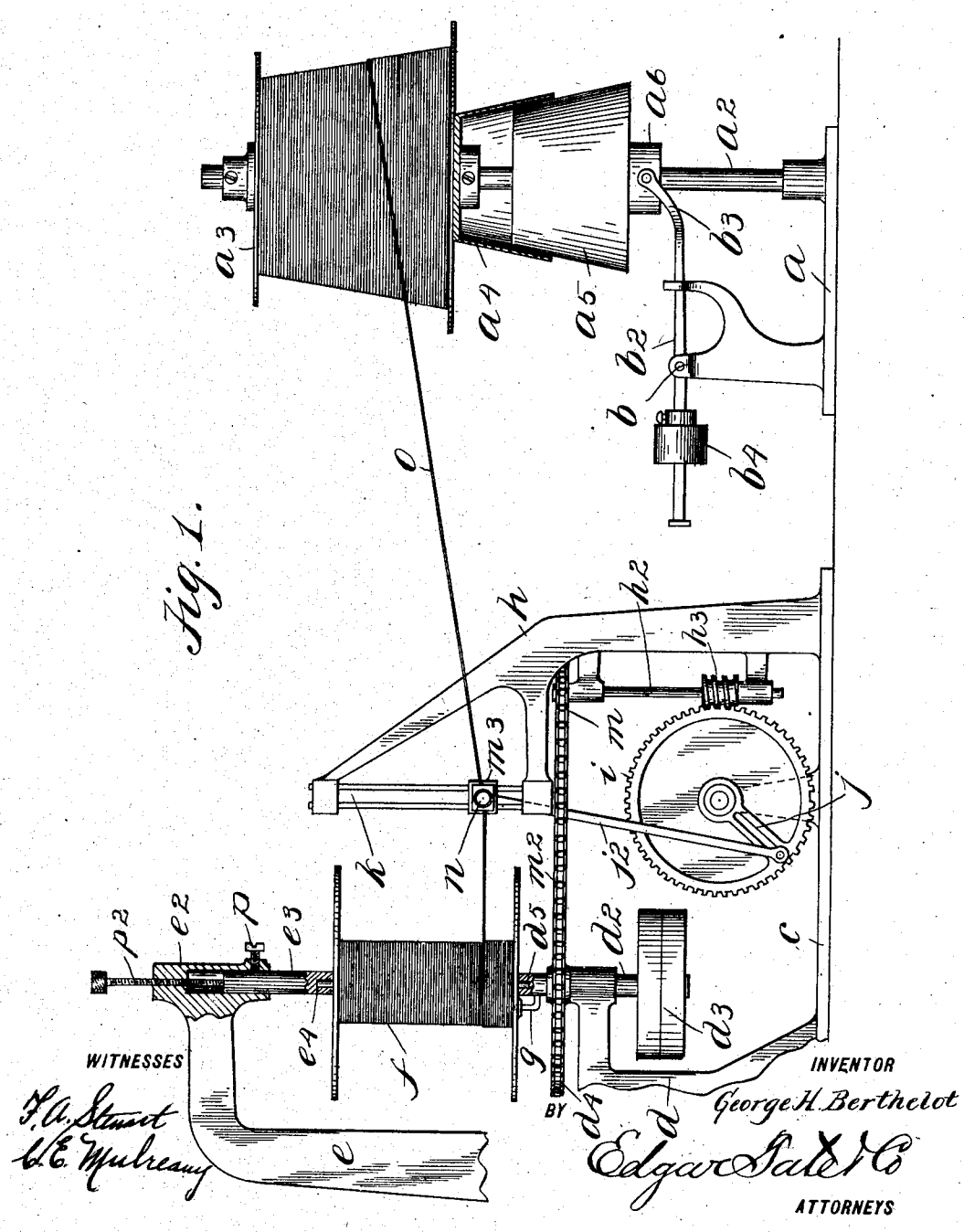
G. H. BERTHELOT.

APPARATUS FOR WINDING WIRE ONTO SPOOLS OR SHUTTLES.

APPLICATION FILED OCT. 13, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

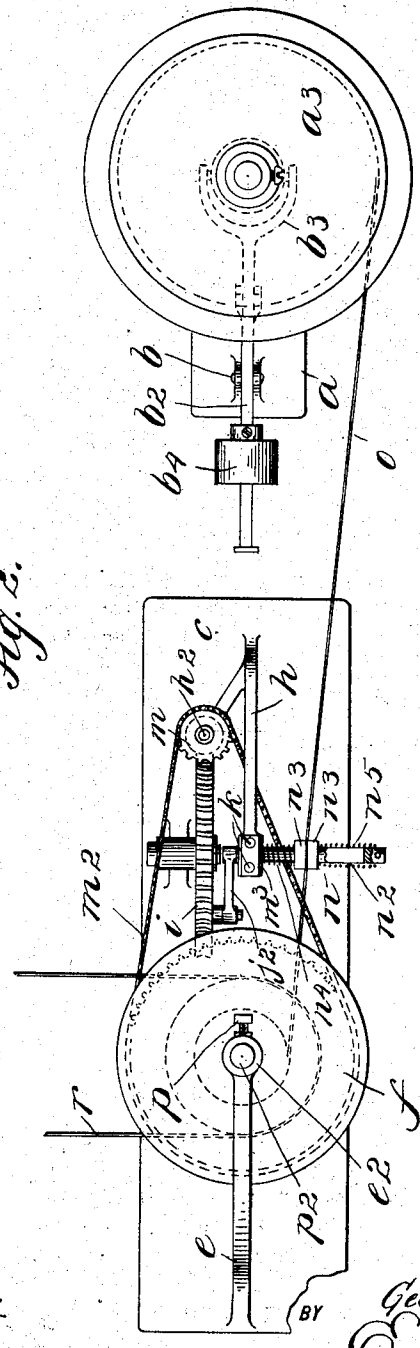
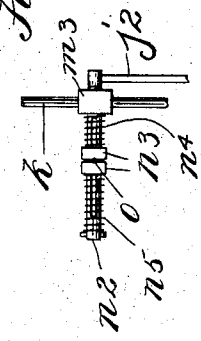


Fig. 3.



WITNESSES

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 761,283. Patented May 31, 1904.

UNITED STATES PATENT OFFICE.

GEORGE H. BERTHELOT, OF BAYONNE, NEW JERSEY.

APPARATUS FOR WINDING WIRE ONTO SPOOLS OR SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 761,283, dated May 31, 1904.

Application filed October 13, 1903. Serial No. 176,825. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. BERTHELOT, a citizen of the United States, residing at Bayonne, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Winding Wire Onto Spools or Shuttles, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved apparatus for winding wire from a drum onto a spool or shuttle from which it is taken in the operation of making wire cables, cords, and the like; and with this and other objects in view the invention consists in an apparatus of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a side view of an apparatus involving my invention, part of the construction being in section; Fig. 2, a plan view thereof, and Fig. 3 a side view of the detail of the construction.

In the practice of my invention I provide a suitable frame, which, as shown in the drawings, consists of two separate parts, one of which comprises a base a, having an upright shaft or support a^2, on the upper end of which is mounted a drum a^3 of any desired shape, but similar to the drums on which wire is wound when it comes from the factory. The bottom of this drum is provided with a hollow conical shell a^4, which may be formed integrally therewith or be secured thereto and within the lower end of which is mounted a conical brake a^5, which operates in connection with said shell and which is free to move longitudinally on the shaft a^2. The base a is also provided with an upright b, in which is pivoted a lever b^2, one end of which is yoke-shaped in form, as shown at b^3, and incloses a hub member a^6, connected with the lower end of the brake a^5, and is pivoted thereto, and the opposite end of the lever b^2 is provided with a weight b^4, which is adjustable thereon, and the object of the brake a^5 is to regulate the movement of the drum a^3 in the operation of the apparatus, as hereinafter described. The other part of the framework of the apparatus comprises a base c, having upwardly-directed supports d and e, the support e being higher than the support d, and mounted in the support d is a vertically-arranged shaft d^2, provided with drive wheels or pulleys d^3 and with a sprocket-wheel d^4. The support e is also provided with a tubular head e^2, in which is mounted a vertically-adjustable stub-shaft e^3, and the upper end of the shafts d^2 and e^3 are provided with sockets d^5 and e^4, respectively, and between the members d^2 and e^3 a spool, shuttle, or similar device f is placed, and in the form of construction shown the shaft d^5 is provided at its upper end with a finger g, which operates to prevent the spool, shuttle, or similar device f from turning independently of the shaft d^2, and it will be understood that in the operation of winding the wire onto the spool or other device f the said spool is turned by the shaft d^2.

Between the uprights d and e and the support of the drum a^3 is another upright, h, in the bottom portion of which is mounted a vertically-arranged shaft h^2, provided with a worm h^3, and between the shaft h^2 and the shaft d^2 is supported a worm gear-wheel i, which is operated by the worm h^3. The worm-gear i is provided with a radial slot j, in which is adjustably secured a pivot-pin to which a connecting-rod j^2 is connected.

Arranged vertically over the wheel i is a guide or guides k, on which is mounted a vertically-movable slide m^3, with which the rod j^2 is connected, whereby said slide is given a vertical movement as the wheel i is revolved. The shaft h^2 is also provided with a sprocket-wheel m, and this wheel is geared in connection with the wheel d^4 by a drive-chain m^2.

Connected with the slide m^3 is a wire-guide n, which in the form of construction shown consists of a slotted arm or rod n^2, on which are mounted two blocks n^3, which are free to slide thereon, and between one of the blocks n^3 and the slide m^3 is a spiral spring n^4, and between the other block n^3 and the outer end

of the slotted rod n^2 is another spiral spring, n^5, and in practice the wire o from the drum a^3 is passed between the blocks n^3 and through the slot in the rod or arm n^2 and connected with the spool f. The adjacent surfaces of the blocks n^3 are grooved slightly to permit of the passage of the wire o, while at the same time affording a slight grip thereon, and this particular form of wire-guide is intended for use in connection with soft wire or coated wire, and various other forms of vertically-movable wire-guides may be employed.

The shaft d^2 may be driven by any suitable power, and in Fig. 2 I have shown a belt r for this purpose, and the spool, shuttle, or similar device f is turned therewith and with the shaft, and at the same time the shaft h^2 is turned by the chain m^2 and the wheel i is turned by the shaft h^2 and the wire-guide moves up and down with each revolution of the wheel i, and the wire o is wound in layers on the spool or shuttle f in the usual manner. The spool or shuttle may be removed or placed in position by raising and lowering the short stub-shaft e^3, which is held in place by a set-screw p and the position of which may also be regulated by a screw p^2, which passes into the support thereof.

This apparatus is simple in construction and operation and perfectly adapted to accomplish the result for which it is intended, and changes in and modifications of the construction herein shown and described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. In an apparatus for winding wire on a spool, a vertically-arranged wire-drum support having a drum mounted thereon and provided at its lower end with a conical shell, a vertically-movable conical brake operating in said shell, means for regulating the pressure of said brake, devices for supporting a spool in an upright position, a vertically-movable slide mounted between the spool-supporting devices and the drum-support, a wire-guide connected with said slide, means for rotating the spool-supporting devices, and devices for moving the wire-guide vertically, said means and devices being in operative connection, substantially as shown and described.

2. In an apparatus for winding wire on a spool, a vertically-arranged wire-drum support having a drum mounted thereon, a vertically-movable brake operating in connection with said drum, means for regulating the pressure of said brake, means for supporting a spool in an upright position, a vertically-movable slide mounted between the spool-supporting means and the drum-support, a wire-guide connected with said slide, devices for rotating the spool, a gear-wheel supported beneath said slide and in operative connection therewith, and a vertically-arranged shaft geared in connection with said wheel and in connection with the spool-rotating device.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 12th day of October, 1903.

GEORGE H. BERTHELOT.

Witnesses:

F. A. STEWART,

C. E. MULREANY.