

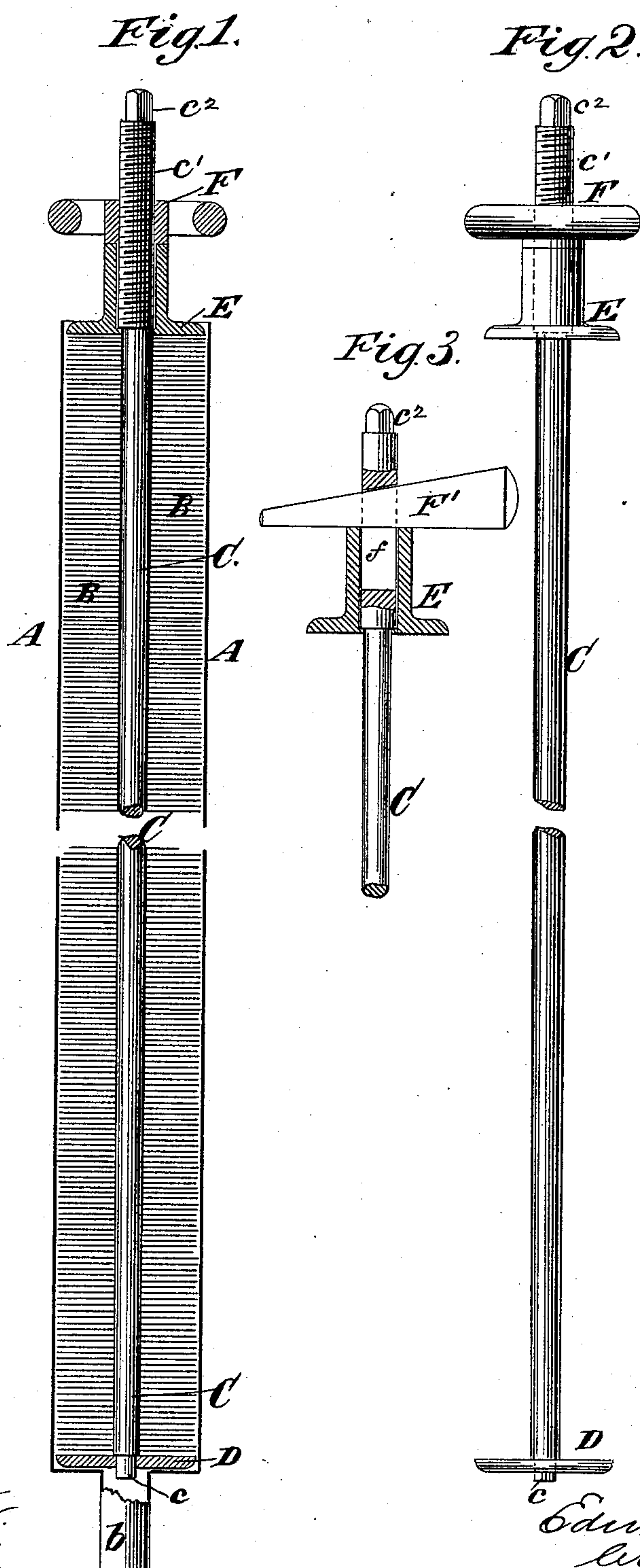
(No Model.)

E. GILBERT.

DEVICE FOR FILLING COP HOLDERS WITH WIRE.

No. 361,501.

Patented Apr. 19, 1887.



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UNITED STATES PATENT OFFICE.

EDWIN GILBERT, OF GEORGETOWN, CONNECTICUT.

DEVICE FOR FILLING COP-HOLDERS WITH WIRE.

SPECIFICATION forming part of Letters Patent No. 361,501, dated April 19, 1887.

Application filed September 18, 1886. Serial No. 213,859. (No model.)

To all whom it may concern:

Be it known that I, EDWIN GILBERT, of Georgetown, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Devices for Filling Cop-Holders with Wire, of which the following is a specification.

My invention relates to means employed for filling cop-holders with wire for use in shuttles or in machines for making wire-netting—such, for example, as the machine which is shown and described in part in my United States Letters Patent No. 341,230, granted May 4, 1886.

Where the cop of wire is, before being introduced into the cop-holder, detached or removed from the parts which are employed in winding the cop, the wire becomes loose, and hence as large a quantity cannot be introduced into a cop-holder of given size as is desirable.

The object of my invention is to provide for the ready transfer of the cop of wire from the parts which are employed in winding it to the cop-holder without allowing any opportunity for the wire in the cop becoming loose, and thereby to provide for the introduction of a greater quantity of wire into the cop-holder than has been heretofore possible.

In forming the cop the wire is wound upon a rod or spindle having heads or flanges for confining the ends of the cop. According to my invention, I make the lower head or flange of the rod of a size to enter freely into the cop-holder, and I make such head or flange readily detachable from the rod by giving it a tight slip fit on the end of the rod, so that after introducing a rod with the cop of wire upon it into the cop-holder the lower head or flange may be detached from the rod and the rod withdrawn, leaving the cop of wire, with the head or flange below it, within the cop-holder. The upper head or flange is adjustable by means of a suitable retracting device—such as a nut and screw-thread upon the rod, or a key or wedge inserted transversely through the rod—and the lower head or flange fits sufficiently tight upon the lower end of the rod, so that a slight force will be necessary to withdraw the rod from said lower flange or head. After the rod, with a cop of wire upon it, has been introduced into the cop-holder the nut at the

upper end of the rod may be turned, and by reason of the upper head or flange bearing against the end of the cop the turning of the nut will withdraw or retract the rod upward, thereby detaching the lower head or flange and permitting of the entire removal upward of the rod from the cop. In order to facilitate the first starting of the rod upward, the rod may be tapered from the screw-thread at its upper end, or from near the upper end, downward to the lower end.

The above-described features of construction are included in my invention, which is hereinafter described, and which consists in a device of novel construction, as particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical section of a cop-holder and a cop of wire contained therein, including, also, the heads or flanges and nut, which are applied to a rod according to my invention. Fig. 2 is an elevation of the rod with the heads or flanges and nut in place thereon; and Fig. 3 represents the upper end portion of the rod and the upper head, showing a modification of my invention.

Similar letters of reference designate corresponding parts in all the figures.

A designates a cop-holder, which is of usual form and constructed of tin or other suitable material, it being provided at the lower end with a journal portion, *b*.

B designates a cop of wire, which is wound of a size to snugly fill the holder A, and C designates a spindle or rod, upon which the cop B is wound, and which is introduced with the cop B within the cop-holder A. The spindle C is provided at or near the lower end with a head or flange, D, and has at or near the upper end a head or flange, E. The lower head or flange, D, is of a diameter to easily enter the cop-holder and to slide to the bottom thereof, and the upper head or flange, E, is preferably, also, of corresponding size, so that it may enter into the upper end of the cop-holder A.

The lower head or flange, D, should be so combined with the rod or spindle C that it is readily detachable therefrom, and such a combination may be secured by making the bore of the head D and the plain end portion, *c*, of the rod, which is destitute of a thread, and on

which the head is fitted, of such size that the head or flange D will have a tight slip fit thereon and will require some force for its removal.

5 As here represented, in Figs. 1 and 2, the upper end portion of the spindle or rod C is screw-threaded, as at c' , and has above the screw-thread a squared portion, c^2 , with which
10 may engage a chuck upon the spindle of the machine in which the cop is wound. The upper head or flange, E, is bored of a size to slip loosely upon the screw-thread c' , and above it is applied a nut, F. The rod or spindle C, having been previously wound with the
15 cop B, extending between its heads or flanges D E, the rod or spindle, with the cop upon it, is removed from the winding-machine and is introduced directly into the cop-holder A, as is shown in Fig. 1. By then turning the nut
20 F in a direction to advance it downward upon the thread c' a downward force will be exerted upon the cop B and an upward pull upon the rod or spindle C, and by such turning of the nut the rod or spindle will be with-
25 drawn from the lower head, D, and the latter will remain in the cop-holder A, with the cop superposed above it, while the rod or spindle C is entirely withdrawn from the cop-holder, leaving the cop B in place therein.

30 In order to facilitate the upward movement of the rod or spindle C, which is necessary in order to remove it from the cop B, said rod may be slightly tapered from the screw-thread c' downward to its lower end, and such taper
35 will render more easy the first starting of the upward movement of the rod out of the cop B.

In lieu of the screw-thread and nut F, as shown in Fig. 1, I may employ any other equivalent retracting device, adjustable relatively
40 to the rod and bearing on the head E, for moving or retracting the rod upward through the head E. I may, for example, employ a key or wedge, F', fitted to a long slot, f , in the upper part of the rod C, as shown in Fig. 3. The
45 nut F and key or wedge F' both constitute retracting devices for this purpose, and are the full equivalents one of the other.

I am aware that a spool or bobbin and also a winding spindle or mandrel on which thread

or yarn has been wound, have been provided 50 with heads or flanges, one or each of which is detachable from the body of the spool or bobbin or from the spindle or mandrel, and hence I do not claim such a construction, broadly, as of my invention.

What I claim as my invention, and desire to 55 secure by Letters Patent, is—

1. The device herein described for filling cop-holders with wire, consisting of a rod about which a cop of wire may be wound, having 60 near its ends heads or flanges for confining the wire, the lower end, c , of the rod being plain and destitute of a thread and the lower head or flange being of a size to enter the cop-holder and being detachably secured on the end of the 65 rod by having a tight slip fit thereon, substantially as herein set forth.

2. The device herein described for filling cop-holders with wire, consisting of a rod, C, a lower head or flange, D, fitted to the lower 70 end of the rod and detachable therefrom and of a size to enter the cop-holder, an upper head or flange, E, having a sliding fit on the rod, and a retracting device adjustable relatively to the rod and bearing on the upper 75 head or flange for retracting or withdrawing the rod from the heads or flanges, substantially as herein described.

3. The device for filling cop-holders with wire, consisting of a rod about which a cop 80 of wire may be wound, a detachable head or flange at the lower end of the rod of a size to enter the cop-holder, and a head or flange adjustable upon the rod near its opposite end by a screw-thread and nut, substantially as herein 85 described.

4. The device for filling cop-holders with wire, consisting of the rod C, having at the upper end a screw-thread and tapering downward therefrom, a detachable head or flange, 90 D, of a diameter to enter the cop-holder at the lower end of the rod, and an adjustable head or flange, E, and nut F, at the upper end of the rod, substantially as herein described.

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Witnesses:

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