

(No Model.)

F. C. WERNER.
TWINE REEL.

No. 444,866.

Patented Jan. 20, 1891.

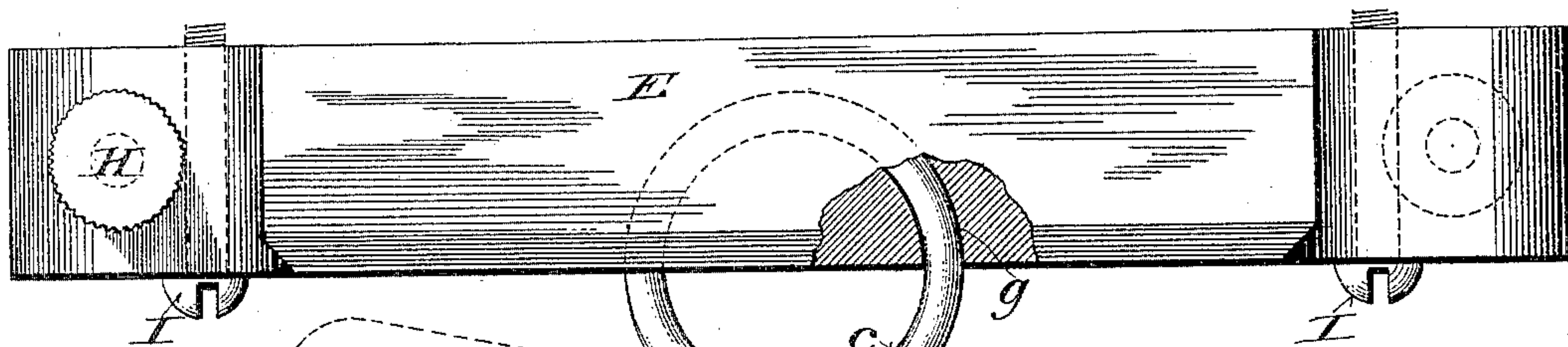


Fig. 1.

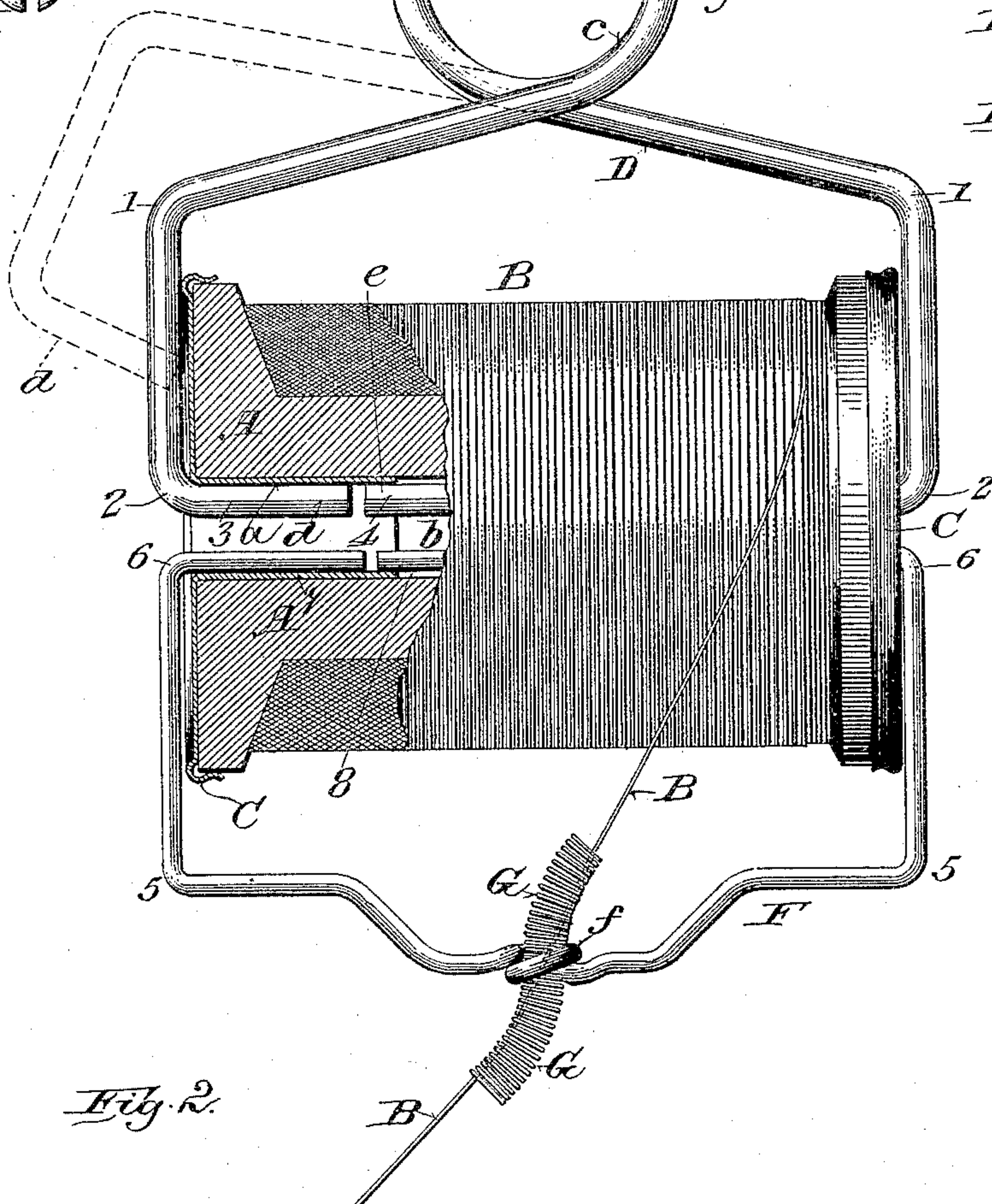
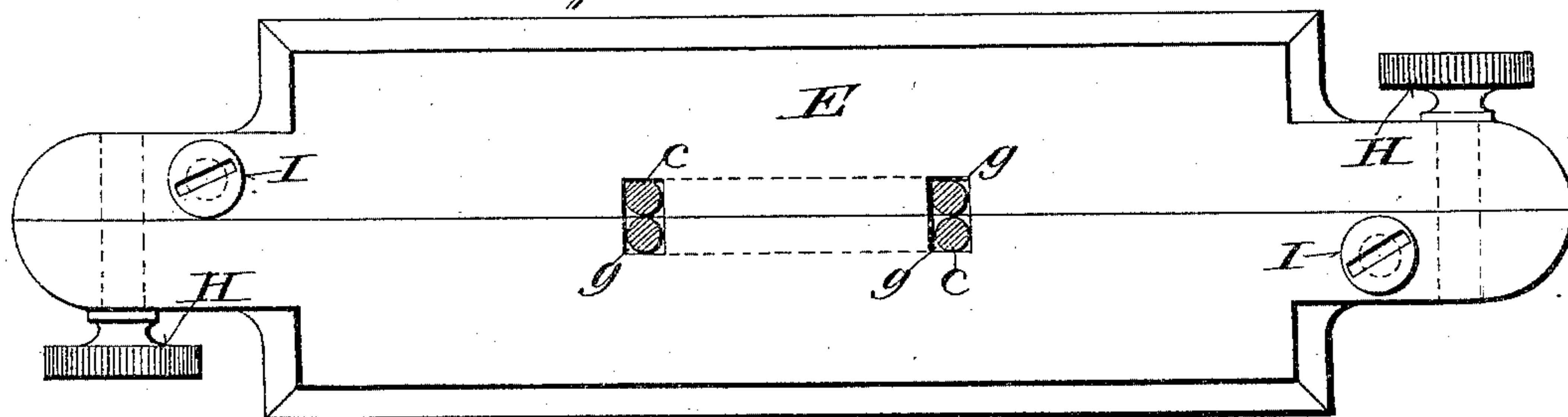


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

FREDERIC C. WERNER, OF WATERTOWN, WISCONSIN.

TWINE-REEL.

SPECIFICATION forming part of Letters Patent No. 444,866, dated January 20, 1891.

Application filed September 23, 1889. Serial No. 324,732. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC C. WERNER, of Watertown, in the county of Jefferson, and in the State of Wisconsin, have invented certain new and useful Improvements in Twine-Reels; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to devices for sustaining or supporting spools or drums upon which twine or cord is wound in convenient position for unwinding the twine or cord for use in tying bundles and packages of various kinds; and my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described, and pointed out in the appended claims.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a front elevation of my improved twine-reel, one end of the spool being shown in section to more clearly show the construction. Fig. 2 is a plan view of the support for the holder.

The object of my invention is to produce a simple, inexpensive, and efficient means for holding spools or reels of twine, cord, &c., and for guiding the same as it is being unwound from the spool for tying up packages, &c., in stores or similar places, and, furthermore, to facilitate the removal of a depleted spool or drum and the attachment of a full one. These objects I attain by the construction which I will now proceed to describe.

Referring to Fig. 1 of the drawings, A designates a spool, upon which the cord or twine B is wound in the usual manner, and which is formed with the usual central longitudinal bore *b*, common to this class of spools or reels.

D designates the supporting-frame for the spool or reel, which consists of a piece of stout round wire possessing the required amount of spring or resilience for its operative purposes, and bent midway of its length to form a loop *c* of one or more convolutions, as desired. From this loop *c* the two parts of the wire cross each other and extend oppositely downward to the points 1 1, at which each wire is bent at an obtuse angle, so as to ex-

tend directly downward, as shown. Each wire is straight from the bend 1 to a point 2, at which it is bent inward at right angles. The inwardly-extending ends 3 4 thus formed enter the bore *b* of the spool A and constitute trunnions on which the spool readily revolves as the cord or twine is unwound therefrom. It is to be observed that the inwardly-extending end 3 is much shorter than the opposite inwardly-extending end 4, so that in disconnecting a spool it is simply necessary to draw the shorter end 3 out of the bore of a depleted spool, as shown in dotted lines, when the latter can be readily drawn off of the longer end 4, and after slipping a filled spool on said end 4 the end 3 can be readily inserted into the bore of the spool for retaining the same. The advantage of this construction is that it not only facilitates the removal and application of the spools, but also the long end 4 affords a perfectly stable bearing for the spool, so that it can hardly be pulled out of the hanger or support by any failure of the twine to unwind from the spool.

F designates a guide-frame, which is also formed of a piece of spring-wire similarly as is the support D, and this piece of wire is bent midway of its length to form a ring or loop *f*, as shown. The wire extends oppositely from the guide-loop *f* to the points 5, at which point each part of the wire is bent upward at an obtuse angle, and extends thence in straight form to the point 6, where it is bent inward at right angles, so as to form the inwardly-extending arms 7 8, which enter the bore *b* of the spool from opposite ends thereof. It is to be observed that the inwardly-extending ends 7 and 8 are relatively and respectively shorter and longer, similarly to the ends 3 and 4 of the support D, and it is obvious that the guide-frame is thus easily applied to and removed from the spool when desired; but that by virtue of the long end 8 the guide-frame can hardly be pulled off of the spool by any knotting of the cord or by accidental binding of said cord in the guide-loop *f*. To prevent all possibility of the cord binding in the guide-loop *f*, however, and to prevent chafing of the cord in said loop, I confine therein a flexible tubular guide-piece G, which is preferably formed of a section of

light spirally-coiled wire of the desired length, which is confined midway of its length in said loop, and longitudinally through which the outgoing strand of cord is passed, as shown. It will be seen that the upper portion of the flexible guide yields readily to the varying positions of the outgoing strand as it runs off of the spool, while the lower portion of said guide yields to the varying positions of the strand as it is being used.

The supporting-frame D and the guide-frame F are connected by a pair of caps C C, which fit upon the ends of the spool, and each of which is formed centrally with a tubular hub or boss *a*. These hubs or bosses are inserted into the bore *b* of the spool at opposite ends thereof, and the caps and their bosses are retained in position by the supporting and guide frames, as shown. It is obvious that the caps and their bosses greatly reduce the friction which would otherwise be created between the spools and the supporting and guide frames, and thus the spool is caused to revolve easily and without hinderance.

The supporting-frame D may be held in position by any suitable means; but in Figs. 1 and 2 is shown an attachment which is peculiarly adapted to the purpose, because it is capable of sustaining the supporting-frame D either in pendent, upright, or horizontal position, as circumstances may require. This attachment consists of a base E of elongated form, divided centrally into two longitudinal portions or half-sections, as indicated by the solid line in Fig. 2. The contiguous sides of these two sections are each formed midway of their length with a semicircular groove *g*, which, when the sections are brought together, match with each other and constitute a semicircular socket. This socket incloses the upper or outer half of the ring *c* of supporting-frame D, and the two sections are held together so as to securely retain the ring *c* by clamping-screws H, which extend transversely into the ends of the base. The base may be attached to any desired object, such as a counter, wall, ceiling, or the like, by the screws I (shown in the drawings) or otherwise, as desired.

Further description of the operation of my improved twine-reel is deemed unnecessary, and it will be seen that as a whole the reel is simple, inexpensive, and very durable, and that it can be readily manipulated to apply or remove a spool or reel.

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

1. In a twine-reel, a supporting-frame constructed from a single piece of spring-wire bent midway of its length to form a ring or loop,

then carried outwardly and bent downward in straight form at each side of the frame, and then bent inwardly to form trunnions for the spool or reel, one of said inturned portions being longer than the other, in combination with a pair of caps formed to abut against the ends of the spool and having tubular hubs or bosses to receive the inturned ends of the frame and to enter the bore of the spool or reel, substantially as described.

2. In a twine-reel, a supporting-frame constructed from a single piece of wire bent midway of its length to form a ring or loop, then carried outwardly and bent downward in straight form at each side of the frame, and then bent inwardly to form trunnions for the spool, in combination with a pair of caps formed to abut against the ends of the spool and having tubular hubs or bosses to enter the bore thereof, a guide-frame constructed from a single piece of spring-wire bent midway of its length to form a guide-loop, then carried outwardly, then upward in straight lines at each side of the frame, and then inward, one inturned end of each of said frames being longer than the other, and all of said ends extending removably into the hubs of the caps, substantially as and for the purposes described.

3. In a twine-reel, a guide-frame consisting of a single piece of spring-wire bent midway of its length to form a loop, and thence suitably bent to enter the opposite ends of the bore of a spool or reel, in combination with an elongated flexible tubular guide confined about midway of its length in the loop and adapted to have the outgoing strand of cord or twine passed longitudinally through it, substantially as described.

4. In a twine-reel, a supporting-frame constructed of a single-piece of spring-wire bent midway of its length to form a ring or loop, and then suitably bent to enter the bore of a spool or reel at its opposite ends, in combination with an attaching device for said support, consisting of a base composed of two longitudinal half-sections formed with registering semicircular grooves constituting a semicircular socket to receive half of the loop, and clamping-screws for holding said half-sections together, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand, at Watertown, in the county of Jefferson and State of Wisconsin, in the presence of two witnesses.

FREDERIC C. WERNER.

Witnesses:

S. S. WOODARD,
J. G. CLIFFORD.