

(No Model.)

C. B. RUMSEY.

WIRE REEL.

No. 376,913.

Patented Jan. 24, 1888.

Fig. 2.

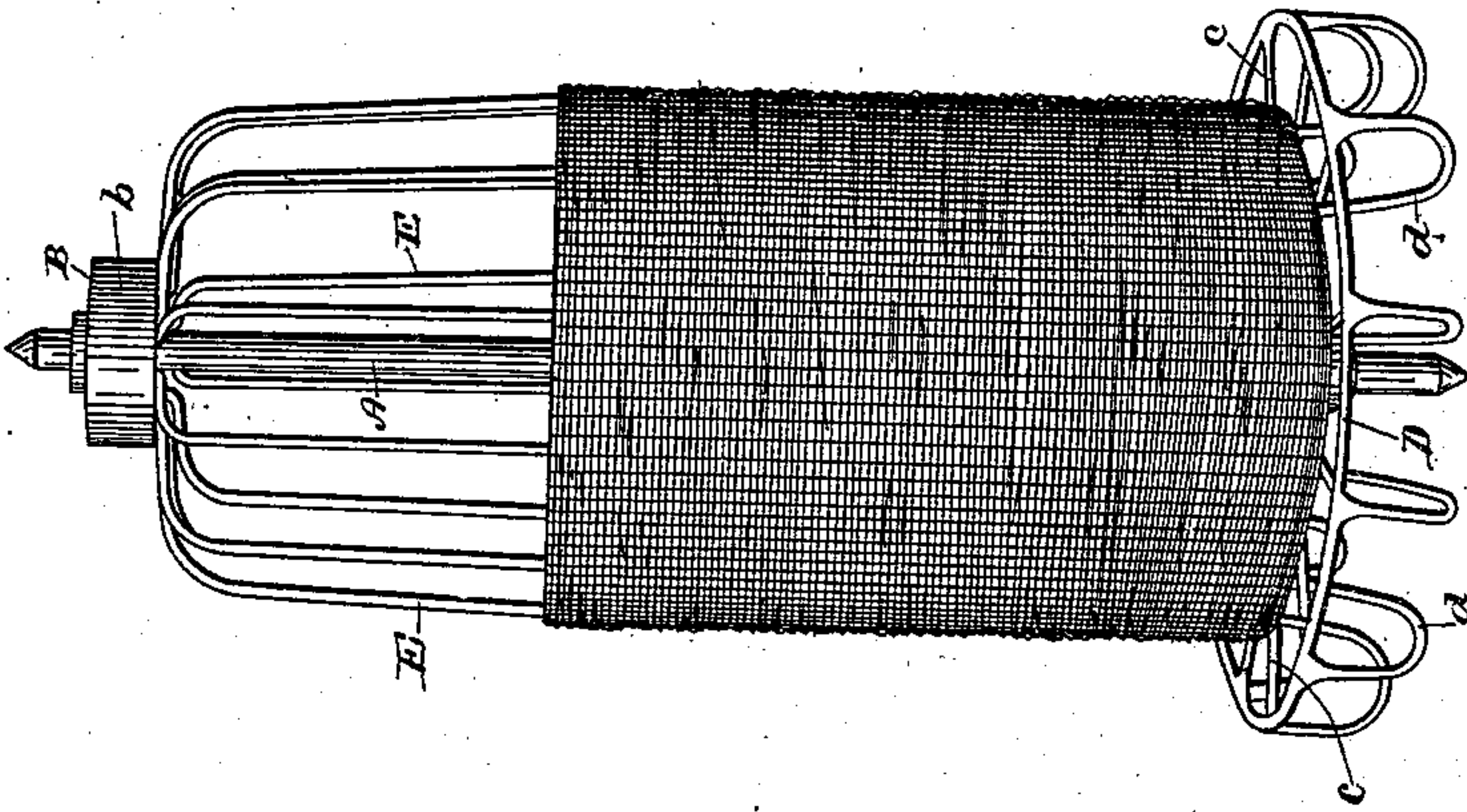
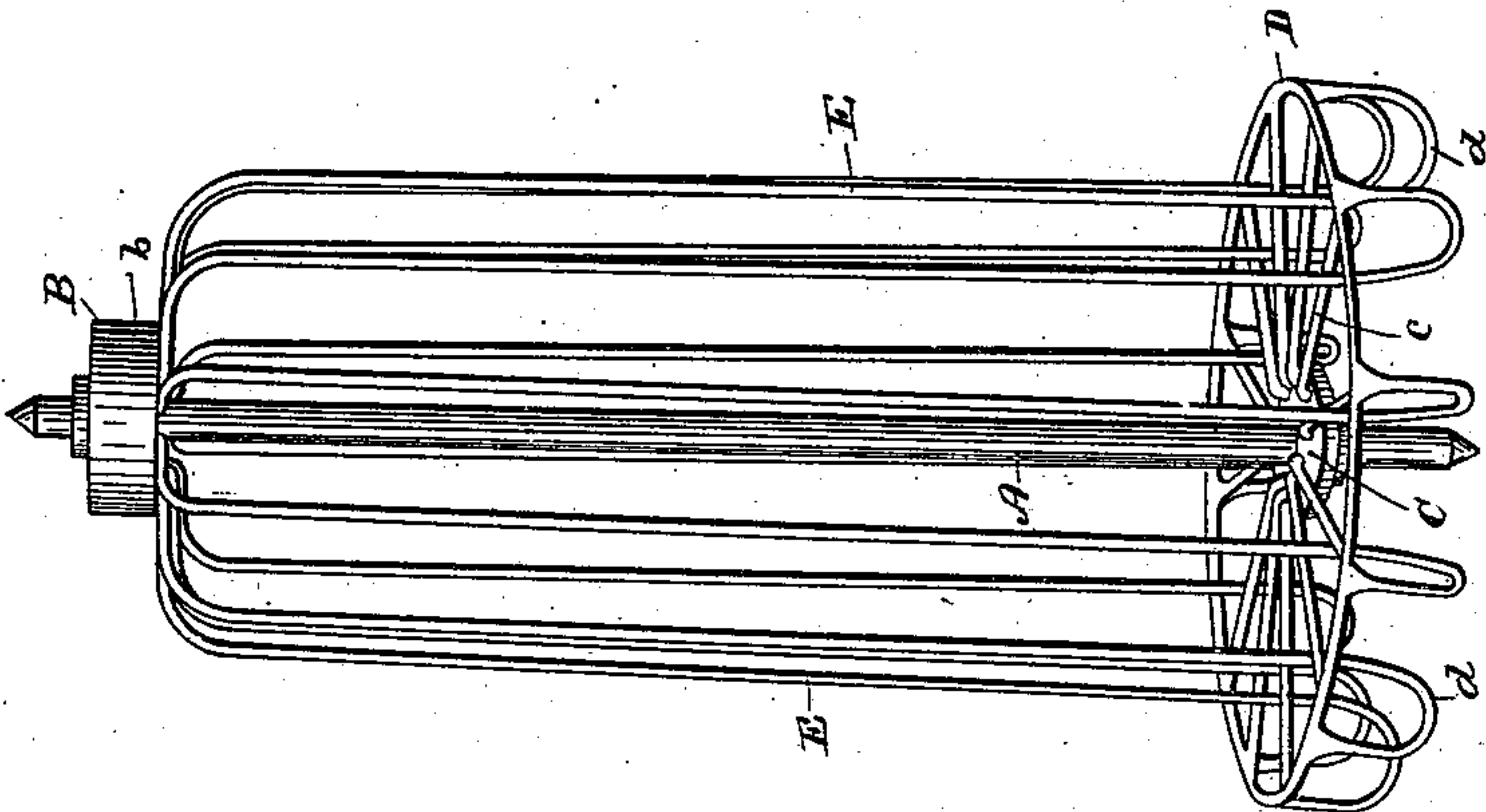


Fig. 1.



Witnesses.

Chas. R. Burr.

Fred F. Church.

Inventor.

Charles B. Rumsey,

By Church & Church

his Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES B. RUMSEY, OF HOMER, NEW YORK, ASSIGNOR TO THE WIRE
FABRIC COMPANY, OF SAME PLACE.

WIRE-REEL.

SPECIFICATION forming part of Letters Patent No. 376,913, dated January 24, 1888.

Application filed August 5, 1887. Serial No. 246,184. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. RUMSEY, of Homer, in the county of Cortland and State of New York, have invented certain new and useful Improvements in Wire-Reels; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

My present invention has for its object to provide a reel for holding, particularly, wire to be used in making wire fabric, (though capable of being used for holding yarn or any analogous material,) which is adapted to receive the wire upon it in the skeins in which it comes from the manufacturer, and in which the strand of wire oftentimes is twisted beneath subsequent coils, so that in unwinding from a rigid reel the wire is liable to be broken; and the invention has further for its object to provide a reel upon which these skeins of wire can be placed in any number, and will insure their being held securely and properly while the wire is being wound off, either upon spools preparatory to being wound upon a warp-beam, or upon the beam direct, or upon shuttle-bobbins for looms; and, further, to provide a reel many times as light and durable as the reels now in use for the purpose for which mine is intended; and said invention consists in certain novelties of construction and combinations of parts, all as I will now proceed to describe, and point out in the claims at the end of this specification.

In the drawings, Figure 1 represents a perspective view of a reel constructed in accordance with my invention, and Fig. 2 a similar view of the same with the wire coiled upon it.

Similar letters of reference in the several figures indicate the same parts.

Heretofore the reels employed for holding the wire skeins from which to wind beamer spools and bobbins have usually been constructed of rigid metal rods, generally hollow, secured rigidly to drums at opposite ends, that at the upper end being somewhat smaller than that at the lower to permit the skeins to be placed over and forced down upon the slightly-tapering body formed of the rods; but there are

many objections to this form of device. In the first place they are very heavy, and, again, the rods being rigid, when the wire is forced down upon them, if a strand be caught below a subsequent coil, as the rods could or would not give in the least when unwinding the wire, the coil would either be pulled entirely loose from the reel or the underlying strand broken, the consequences being disastrous in either event; and with these objections to the old form of reel in view I construct mine of a series of vertical wires secured to a support or spindle, preferably at opposite ends, so constructed as to permit each one to have a limited springing motion, so that should a strand be caught beneath a subsequent convolution the wire at that immediate point could give slightly, thus releasing it and permitting it to pull out without affecting the remaining wires or loosening the coils from the reel.

A in the drawings represents a spindle for the reel, constructed, preferably, of metal, provided with the pivoted bearings at the ends to reduce friction and insure proper running on its bearing-centers, and to the upper end is secured a disk, B, preferably having a broad face, *b*, for a purpose to be described. Near the lower end of the spindle A is secured a disk, C, to which is connected, by means of horizontal wires *c*, a wire ring, D, forming the base of the reel and of slightly greater diameter than the reel-body proper.

E represents the wires forming the reel-body, fastened at their upper ends to the under side of the disk B, extending outwardly horizontally a short distance, and then extending downward, slightly diverging from a line parallel with the spindle, so as to give a slightly-tapering form to the body, and passing below the ring D between the arms *c*, when they curve around, forming a loop, *d*, and are then secured, by solder or in any other suitable manner, to the under side of ring D, as clearly shown in Fig. 1. The wires E, while fastened securely at opposite ends, are so shaped that considerable spring is permitted toward the center spindle, the loops beneath the ring permitting this in a great measure, and yet the number of wires is such that the aggregate amount of spring in the wires forms a body

practically solid, but elastic enough to securely hold the skeins of wire when pressed down over it.

The ring D and rods c form the base of the reel, so that should any coils become loose by accident they would still be supported by the reel and prevented from falling down and becoming wound around the spindle; and it will be noted that the rods E, passing below the radial rods within the ring, are enabled to spring way down to a level with the latter, so that as far as the function performed by the ring and rods c, considered as a base merely, is concerned it is immaterial whether rods E be connected to the base by the loops shown or to the spindle direct, or in any other manner. As the wire is often withdrawn from these reels very rapidly, causing them to revolve at very great speed, when the receptacle on which it is wound is full, it is necessary to stop the reel at the same time that the receptacle is stopped, and as the reel moves loosely in its bearings I provide the braking-disk B, before described, against which is adapted to operate a brake-shoe suitably connected, so as to be operated by the operator to stop the rotation of the reel when desired. It will be understood, however, that instead of locating this disk at the top of the reel, it may be located below the disk D on the lower end of the spindle, and this position is sometimes preferable—as when the reel is mounted on a machine-table, below which the operating-shafts and other mechanism are located, so that the arm bearing the shoe may project through a slot in the table.

From the above description it will be seen how the skeins can be placed upon the reel and forced down upon the tapered sides, the spring-rods E holding it firmly, and also how one or more of the wires can give sufficiently to permit the wire to pass from beneath succeeding coils.

The device as a whole is light, easily and cheaply constructed, admirably serves the purpose for which it is intended, and is a great improvement over the reels now in use.

If the reel is to be used for holding yarn or similar material, the metal spring-rods E might be replaced by rods of reed or other light material having the requisite spring.

Other obvious modifications will at once suggest themselves to those skilled in the art,

and I do not therefore desire to be confined to precisely the construction herein shown.

Having thus described my invention, what I claim as new is—

1. The herein-described reel for holding wire, having a tapering body portion constructed of a number of spring-rods secured rigidly at opposite ends to a spindle or support and free to spring between the ends, substantially as described.

2. In a reel, the combination, with the spindle or support, of the series of rods forming the body portions of the reel secured rigidly to the spindle at the smaller end, and at or near the larger provided with loops intermediate their connection with the spindle to render them slightly elastic, said body portion tapering slightly toward one end, so as to permit of the application of the material to the reel, substantially as described.

3. In a reel, the combination, with the spindle and the ring secured thereto by radial rods, of the spring-rods forming a slightly-tapering body portion secured to the spindle at the upper ends and intersecting the radial supports for the ring inside the latter, whereby the ring and supports will form a broad base for the reel, substantially as described.

4. In a reel, the combination, with the spindle and the ring secured thereto upon radial arms, of the spring-arms forming the body portion secured at one end to the spindle, having the loops therein and passing below the ring and between it and the spindle, substantially as described.

5. In a reel, the combination, with the spindle and the ring secured thereto by means of radial arms, of the spring-rods forming the tapering body portion secured to the spindle at one end, passing below the arms supporting the ring, and secured to the said ring, forming the loops therein, substantially as described.

6. In a reel, the combination of the spindle, the ring secured thereto by the radial arms, and the wires forming the tapered body portion secured at one end to the spindle and at the other to the ring, substantially as described.

CHARLES B. RUMSEY.

Witnesses:

W. H. CRANE,
W. S. SANTUS.