J. B. GREEN.

REEL.

APPLICATION FILED MAR. 26, 1917.

1,271,308. Patented July 2, 1918.

Fig. 1.

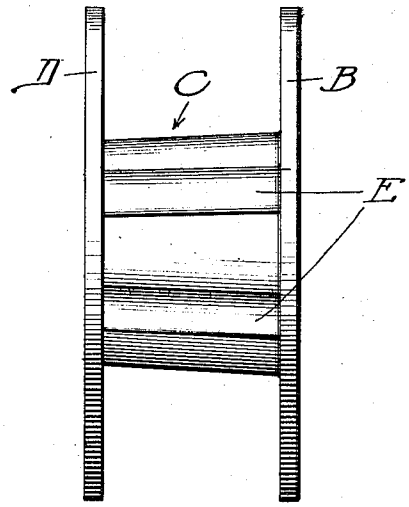


Fig. 2.

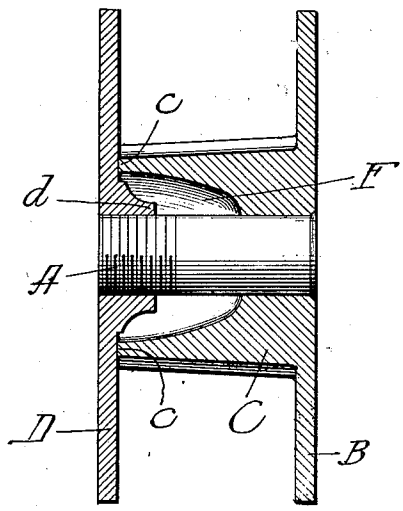
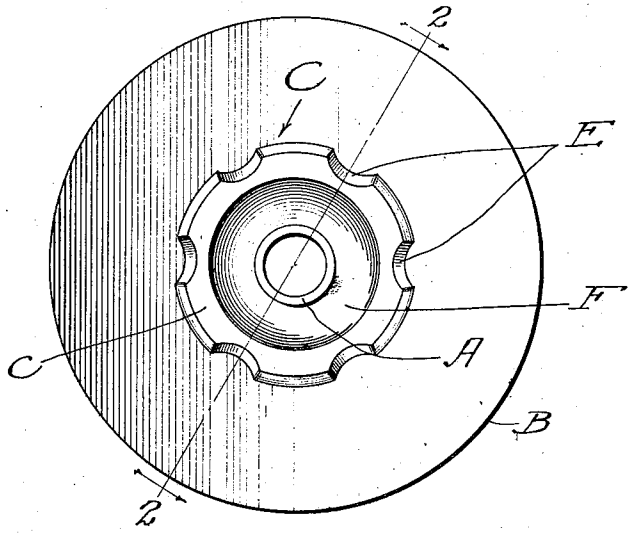


Fig. 3.



Witnesses

Robert H. Weir

Arthur W. Parkos

Inventor

J. Bimchard Green

By Arthur F. Durant

Attorney

UNITED STATES PATENT OFFICE.

J BIRCHARD GREEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHICAGO STEEL AND WIRE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

REEL.

1,271,308. Specification of Letters Patent. Patented July 2, 1918.

Application filed March 26, 1917. Serial No. 157,326.

To all whom it may concern:

Be it known that I, J BIRCHARD GREEN, a citizen of the United States of America, and resident of Chicago, Cook county, Illinois, have invented a certain new and useful Improvement in Reels, of which the following is a specification.

This is an improvement on the reel covered by my prior application Serial No. 32,490, filed June 7, 1915.

My invention relates to reels for holding the wire from which the staples are made on a stapling machine or wire stitcher, or for other purposes, and more particularly to reels of that kind in which one flange is removable to permit the loading of the reel with a coil of wire.

Generally stated, the object of my invention is to provide a novel and improved construction whereby a reel of the foregoing general character is provided with permanent means for supporting the wire, and with a removable flange which is screwed into position to engage said means, so that said flange is frictionally held by said means against rotation on the threaded tube which forms the connection between the two flanges or the ends between which the coil of wire is held in position on the reel.

It is also an object to provide certain details and features of construction and combinations tending to increase the general efficiency and desirability of a reel of this particular character.

To the foregoing and other useful ends, my invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings:—

Figure 1 is a side elevation of a reel embodying the principles of my invention.

Fig. 2 is a section on line 2—2 in Fig. 3.

Fig. 3 is an end elevation of said reel, with the separable flange thereof shown removed.

As thus illustrated, my invention comprises a metal tube A which has its outer surface threaded, and upon one end of which the flange B is fixed and rigidly held in position. This fixed flange, which is preferably in the form of a disk, has its inner side provided with a frusto-conical cup section C, the bottom of this cup section being integral with the flange. A disk D is provided at its center with an opening, and a boss *d* is formed on the inner surface of said disk or flange D, around said opening, and the entire central opening is threaded to permit this flange to be screwed upon the other end of the tube A, whereby the reel is completed to support the wire. When screwed into position, the inner surface of the flange D is engaged by the rim *c* of the cup section C, and this limits the movement of the flange D toward the flange B, and affords a frictional contact to prevent rotation of the removable flange. As the screw threads on the tube A extend beyond the inner end of the boss *d*, when the flange D is screwed into position, it follows that the removable flange will never be screwed too tightly upon the tube, so that it would not be readily removable; but at the same time the diameter of the rim *c* of the cup section is so great that the frictional contact thereof with the inner surface of the disk D is at points a considerable distance from the sides of the threaded tube A, and the friction is sufficient to prevent the flange D from rotating relative to the flange B while the reel is in use. The cup section C is preferably tapered toward the flange D, and provided with grooves E which extend from one flange to the other, and with this formation the coil or bundle of wire is easily slipped over the end of the cup section, after the flange D is removed, and the loading of the reel is facilitated.

In practice, the wire is manufactured and shipped in coils or annular bundles, with bindings of wire on each bundle to hold the coil in shape. These coils or bundles, with the bindings thereon, are placed on the reel, in the manner described, and the taper of the cup section C and the provision of the grooves E makes it possible to do this very easily and conveniently, as the coil of wire can readily be slipped over the smaller end of the cup section and then forced toward the flange B until the cup section fits tightly within the coil. The recesses E not only serve to lighten the structure of the reel, and to provide a grooved or serrated surface which will more securely hold the coil of wire against rotation in the reel, but also to provide channels for the bindings on the coil of wire, which bindings are usually in the form of short pieces of wire inserted through the central opening of the coil and then bent around so that their ends can be twisted together to tightly bind the strands or convolutions of the coil together. These short pieces of wire or bindings can be cut

off or removed after the coil is thus placed on the reel, if such is desirable or necessary. The recess F or interior of the cup section serves not only to lighten the structure of the reel, but also to provide a chamber to receive the boss *d* on the inner surface of the removable flange. In use, brakes of different kinds are sometimes applied to reels of this kind, by engagement with the flanges of the reel, and with the construction shown and described this is possible without loosening the removable flange of the reel, as when it is screwed up tightly it engages the rim *c* of the cup section with sufficient pressure and friction to prevent relative rotation between the two flanges during the use of the reel. But when it is desired to load the reel with a fresh supply of wire, the entire reel can be removed from the spindle or arbor usually provided for this purpose, upon which the tube A rotates, and the flange D can then be removed by hand or with tools, in any suitable and desired manner.

The fixed disk B, and its integral cup section C, can be secured to the tube A in any suitable or desired manner. For example, it can be shrunk on the tube, or it can be cast on the tube, or the tube can be inserted and then expanded and riveted over at its end.

What I claim as my invention is:—

1. A reel for wire, comprising a tube, a fixed flange rigidly secured to one end of said tube and provided with a frusto-conical cup section inclosing said tube, and a removable flange screwed upon the other end of said tube and engaged by the rim of said cup section to frictionally prevent rotation of said removable flange, said cup section forming a support for the wire, and the taper of the cup section serving to facilitate the loading of the reel, substantially as described.

2. The said reel, as set forth in claim 1, in which said cup section is tapered internally to form a solid wall which is thicker than the fixed flange and in which said tube is permanently inserted.

3. The said reel, as set forth in claim 1, in which said tube is provided with screw-threads extending into the cup section, and said removable flange has its inner side formed with a central boss which engages said screw-threads within the cup section, but said screw-threads extending beyond the end of said boss when said removable flange is against the cup section.

4. The said reel, as set forth in claim 1, in which said cup section is cast integral with said fixed flange, and said tube is driven into said cup section.

Signed by me at Chicago, Illinois, this 20th day of March, 1917.

J BIRCHARD GREEN.