

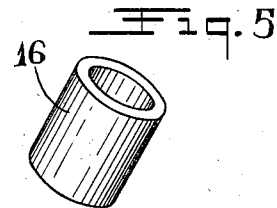
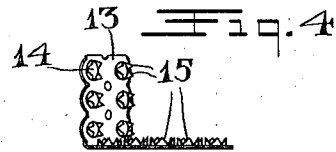
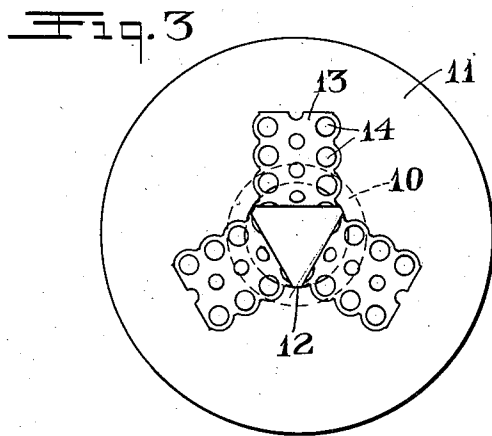
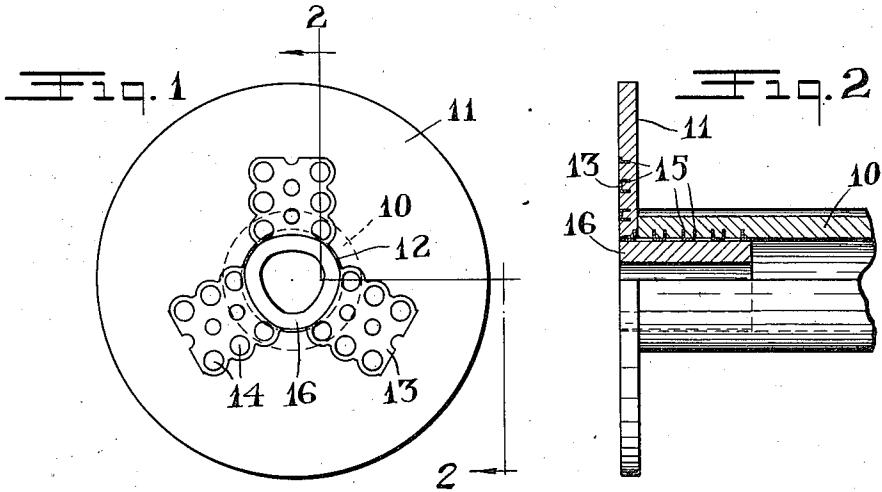
March 31, 1936.

F. A. ENGEL

2,035,644

SPOOL

Filed May 26, 1934



WITNESSES:

Asbarnell
C. B. Baitzel

INVENTOR:

Francis A. Engel

BY

Joachim R. Harris
ATTORNEY

UNITED STATES PATENT OFFICE

2,035,644

SPOOL

Francis A. Engel, Merchantville, N. J.

Application May 26, 1934, Serial No. 727,627

2 Claims. (Cl. 242—124)

This invention relates to spools and more particularly to the means for attaching the head to the barrel of a spool, and has for an object to provide improved means simultaneously engaging and binding the head and barrel, with means for maintaining such engaging means in position.

A further object of the invention is to provide a spool comprising a barrel and head with means for connecting the barrel and head in a superior manner.

A further object of the invention is to provide a spool having a barrel and head and connecting the barrel and head in a more economical manner.

A further object of the invention is to provide a spool having a barrel and head connected with great rigidity.

The drawing illustrates an embodiment of the invention and the views therein are as follows:

Figure 1 is a view in end elevation of the completed spool,

Figure 2 is a view partly in elevation and partly in diametrical section of the spool, as indicated by line 2—2 of Figure 1,

Figure 3 is an end view of the spool head with the strips inserted and impressed therein before being introduced into the barrel,

Figure 4 is a view partly in perspective of one of the strips having the penetrating points, and

Figure 5 is a view in perspective of one of the locking members.

Like characters of reference indicate corresponding parts throughout the several views.

The spool of the present invention comprises a barrel 10, tubular in construction and preferably cylindrical. The barrel is made of some penetratable material, such for instance, as paper stock, or the like, although the invention is not limited specifically to the material.

A head 11 is provided of greater diameter than the barrel. The relative sizes of the barrel and head, as indicated in the drawing, is purely illustrative, and may be varied practically without limit.

The head is provided with a central opening 12, preferably circular and of the same diameter as the interior diameter of the barrel 10. For the purpose of attaching the head to the barrel, a plurality of strips 13 are provided.

Under the present practice, these strips will be sheet metal, although it is to be understood that sheet metal is merely a shop expedient, and the invention is not limited thereto.

The sheet metal has a plurality of perforations

14 formed therein by any type of punching device, which provides an outstanding boss made up of random penetrating points 15 which produces penetrating points in the usual, well-known manner.

These strips are bent at right angles, as indicated at Figure 4, and one leg of any approved number of the strips are inserted through the central opening 12 at the head, as indicated at Figure 3 and by the employment of any approved type of press, the penetrating points 15 are pressed into the material of the head, as indicated at Figure 2.

In this condition the legs inserted are arranged in such relation as to be inserted into the interior of the barrel 10 and after such insertion, will still remain in the original relation. As shown in the drawing, three of these strips 13 are employed, in which case the relation of the strips will form a substantial triangle, as shown at Figure 3.

The invention, however, is in no way limited to the number of these strips, and the relation of the parts will depend upon the number.

After the legs have been inserted into the tubular barrel 10, a locking member 16 is forced into the space formed by the inserted legs.

At Figures 1, 2 and 5, this locking member is shown as a hollow tubular cylindrical member, which is the preferred type, but the invention is in no way limited to the central opening, as a solid cylinder will perform the function so far as attaching the head is concerned, the tubular form being employed to produce a spool which adapts itself to use better than the solid type.

With the locking member 16 forced into the central opening formed by the arrangement of the strips 13, as shown at Figure 3, the inserted legs of the strips will be forced to concavity to conform to the cylindricity of the locking member 16, as shown at Figure 2, so that the strips 13 so inserted will intimately hug the walls of the interior of the barrel 10, and the penetrating points 15 be forced into the material of the walls. Also the cylindrical member 16 will be slightly deformed as shown in Figure 1 due to the positioning of the strips 13 between the exterior surface of the member 16 and the inner surface of the barrel 10.

The resiliency and roughness formed by the perforation of the strips 13 will be sufficient to maintain the locking member 16 securely in position, which in turn will securely lock the strips 13 in position to hold the head 11 firmly to its position.

Of course, the spool herein described may be modified and changed in various ways without departing from the invention here set forth and hereinafter claimed.

5 I claim:—

1. A spool comprising a tubular barrel, a head having a central opening registering with the interior of the barrel, strips partially inserted in the barrel and having bosses forming penetrating points and formed by like punchings at a plurality of positions, said points being imbedded in the material of the exterior of the head and interior of the barrel, the inserted part of the strips being curved complementary to the curvature of the interior of the barrel, and a locking member intimately engaging the curved parts of the strips and held in position by the said engagement.

2. A spool comprising a tubular barrel, a head having a central opening registering with the interior of the barrel, strips having a plurality of projections defined by spaced punchings and which strips are inserted in the barrel with the projections penetrating the material of the barrel, and a locking member inserted in the barrel and engaging the strips to deform the latter into a curvature corresponding with the curvature of the barrel and locking member, said locking member being maintained in position in the barrel by the engagement of the strips therewith, said strips having a portion extending beyond the barrel which is bent over into engagement with the head with the projections on the strips entering the material of the head.

FRANCIS A. ENGEL.