

Oct. 8, 1957

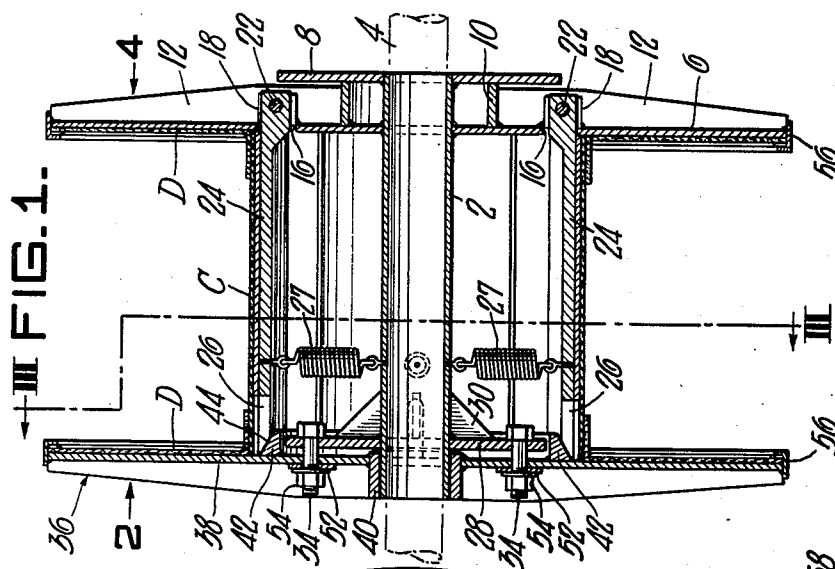
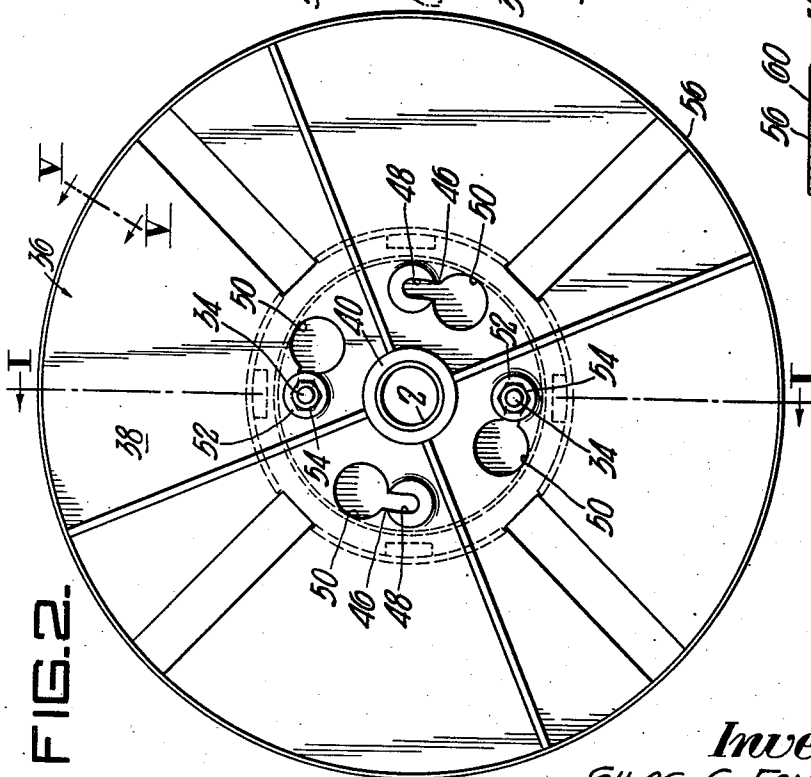
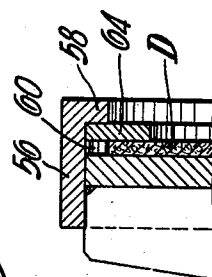
S. C. FONS ET AL.

2,808,642

METHOD OF MAKING A COIL OF WIRE

Original Filed June 8, 1950

3 Sheets-Sheet 1



Inventors:
SILAS C. FONS and
WILLIAM V. ROLLINS
by *Donald G. Dalton*
their Attorney.

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3 Sheets-Sheet 2

FIG. 4.

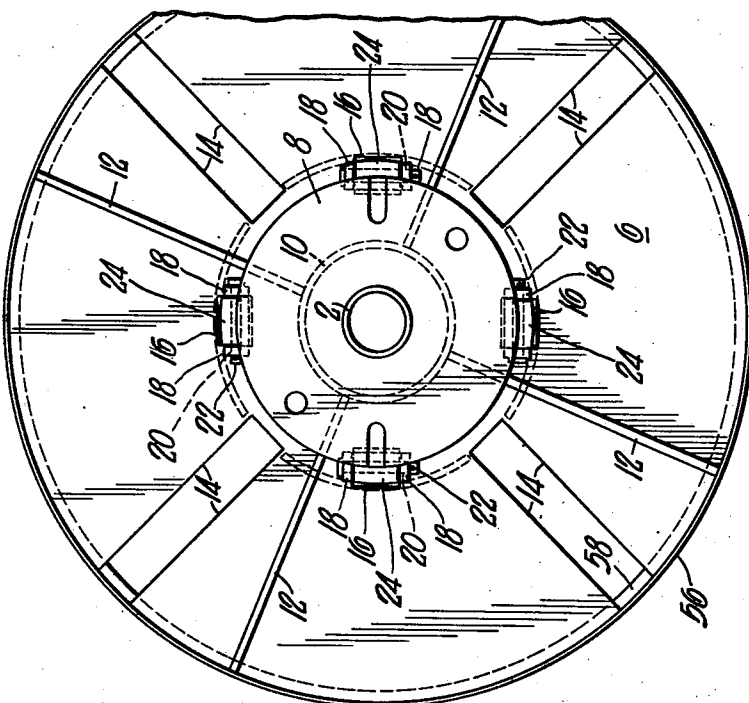
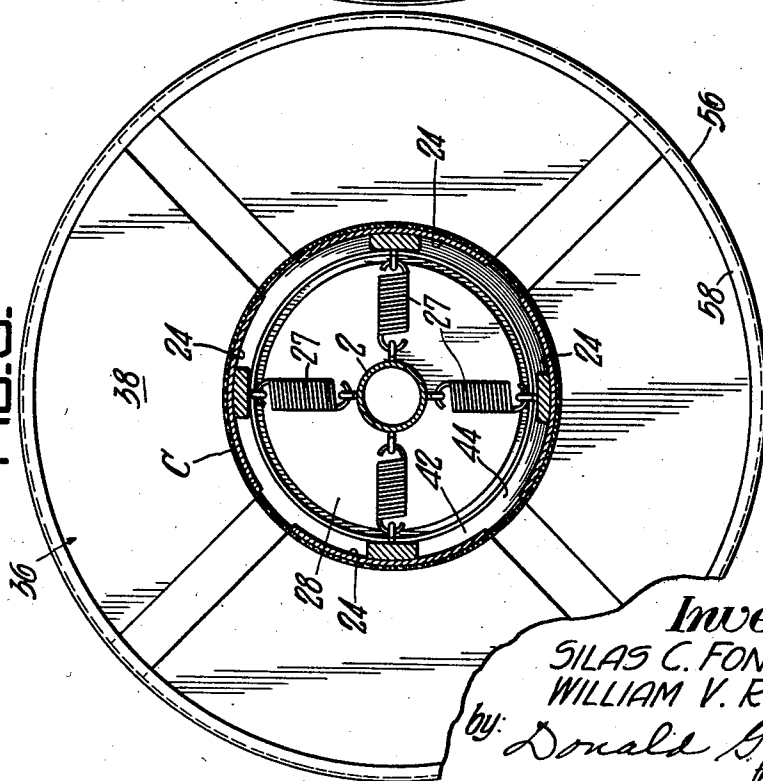


FIG. 3.



Inventors:
SILAS C. FONS and
WILLIAM V. ROLLINS,
by: Donald G. Dalton
their Attorney.

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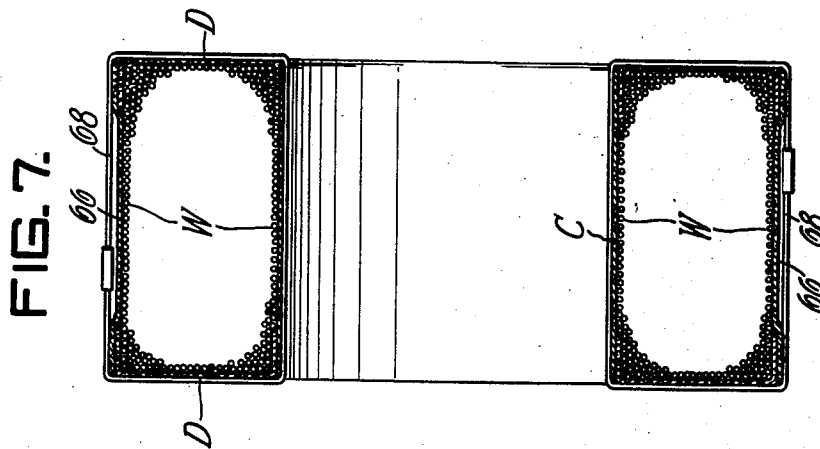
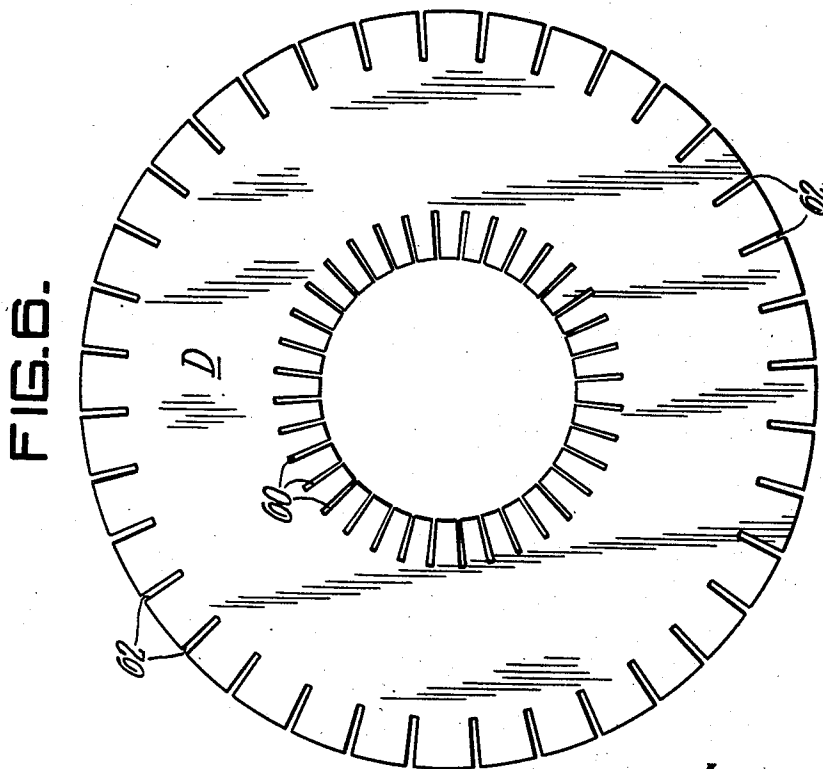
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METHOD OF MAKING A COIL OF WIRE

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Inventors:
SILAS C. FONS and
WILLIAM V. ROLLINS,
by: *Donald G. Dalton*
their Attorney.

1

2,808,642

METHOD OF MAKING A COIL OF WIRE

Silas C. Fons and William V. Rollins, Waukegan, Ill.,
assignors to United States Steel Corporation, a corpo-
ration of New Jersey

Original application June 8, 1950, Serial No. 166,944,
now Patent No. 2,695,142, dated November 23, 1954.
Divided and this application January 14, 1954, Serial
No. 404,076

1 Claim. (Cl. 29—428)

This invention relates to a method of making a coil of wire and is a division of my copending application, Serial No. 166,944, filed June 8, 1950, now Patent No. 2,695,142, dated November 23, 1954. In making up coils of wire it is desired to cover the coil with paper or cardboard and in the past it has been difficult to do this with the methods in common use.

It is therefore an object of our invention to provide a method of making a paper covered coil of wire.

This and other objects will be more apparent after referring to the following specification and attached drawings, in which:

Figure 1 is a sectional view taken on the line I—I of Figure 2;

Figure 2 is an end view of Figure 1 taken in the direction of arrow II;

Figure 3 is a sectional view taken on the line III—III of Figure 1;

Figure 4 is an end view of Figure 1 taken in the direction of arrow IV;

Figure 5 is an enlarged sectional view taken on the line V—V of Figure 2;

Figure 6 shows a paper or cardboard disc used in carrying out our invention; and

Figure 7 is a sectional view of a completed coil of wire.

Referring more particularly to the drawings the reference numeral 2 indicates a hollow shaft which is adapted to be mounted on the arbor 4 of a stranding machine. Welded to the shaft 2 is an outwardly extending flange or plate 6. A circular plate 8 is welded to the extreme end of the shaft 2 adjacent the plate 6. The plates 6 and 8 are connected by a tubular member 10 welded to both plates. Radial reinforcing ribs 12 extend from the outer periphery of plate 6 to the tubular member 10. Radial slots 14 are provided in the plate 6 for a purpose which will appear later. A slot 16 is cut in the plate 6 between each pair of radial slots 14. Welded to the plate 6 on each side of slot 16 is a lug 18. Aligned openings 20 are provided in each pair of lugs 18 for receiving a pivot pin 22. Each of the pivot pins supports a barrel segment 24. As shown, four barrel segments are provided with a space therebetween aligned with the radial slots 14. An axial slot 26 is provided in at least two of the barrel segments 24. One end of a spring 27 is attached to each of the barrel segments 24 with the other end being attached to the shaft 2. A circular plate 28 is welded to the shaft 2 a short distance from the end remote from plate 8. Gusset plates 30 welded to the shaft 2 and plate 28 may be provided for reinforcement. Two studs 34 are welded to the plate 28 with the threaded end thereof extending outwardly for a purpose which will appear later. A cover plate 36 is made up of an outwardly extending flange or plate 38 welded to a tubular hub 40 which has an internal diameter just slightly greater than the outside diameter of the shaft 2. A ring 42 having a bevelled outer surface 44 is welded to the inner side

2

of plate 38. Plate 38 has a plurality of openings 46 therethrough for receiving the studs 34. Each of the openings 46 has a portion 48 having a width slightly greater than the diameter of the studs 34 and a larger circular portion 50. The diameter of the portion 50 is such that washer 52 and nut 54 which are fastened to each of the studs 34 can pass therethrough.

As best shown in Figure 5, each of the flanges 6 and 38 has a ring 56 fastened to its outer periphery. An inwardly extending radial flange 58 is attached to each of the rings 56 on the side of the flange 6 or 38 adjacent each other. A space 60 is provided between the flange 58 and the flange 6 or 38.

The method of making a coil of wire is as follows:

The shaft 2 is slipped over the arbor 4 and is held in place thereon in any suitable manner. A cylindrical core C, preferably made of paper, is slipped over the barrel segments 24 and a side disc D is placed against the inner face of the flange 6. As best shown in Figure 6, the disc D has slots 60 in its inner periphery and slots 62 in its outer periphery. Prior to placing the disc D against the flange 6, the disc is bent inwardly over the core member C. A snap ring 64 is forced into the opening 60 with one side bearing against the flange 58 and the other side bearing against the disc D to hold it in place. In like manner a second disc D is positioned against flange 38. The cover plate 36 is then placed against the flange 28 with the large portion 50 of the openings 46 being aligned with the studs 34. The beveled portion 44 of the ring 42 bearing against similar bevel portions on the barrel segments 24 force the barrel segments to their expanded position against the pressure of springs 27. The cover plate is then turned until the studs 34 are in the narrow sections 48 of the openings 46. The nuts 54 are then tightened to hold the reel in assembled position. The end of the wire W being coiled is forced through the core member C into one of the openings 26 in the barrel segments 24 and reeling is begun. When the wire coil has been built up to a diameter substantially equal to the diameter of the disc at the base of the slot 62, the wire is cut and the ends of the disc D are bent over the outer periphery of the coil. If desired, the paper covering 66 may be placed around the outer periphery of the coil. Steel strapping 68 is then wrapped around the inner surface of the core between the barrel segments, outwardly around the sides of the coil in the slots 14 and around the outer periphery of the coil and the ends fastened together. The wrapping of the coil may be done either with the reel mounted on the arbor 4 or with the reel removed therefrom.

While one embodiment of our invention has been shown and described it will be apparent that other adaptations and modifications may be made without departing from the scope of the following claim.

We claim:

The method of making a coil of wire which comprises placing a cylindrical core on a collapsible barrel having a plurality of segments, providing a pair of side discs having slotted outer portions and slotted inner portions, bending the slotted inner portions at right angles to the plane of the discs, placing one of said side discs against a side flange with its bent inner slotted portion extending inwardly over the cylindrical core, applying a removable side flange with a beveled portion contacting the barrel segments to support and expand the same, placing the other of said side discs against the removable side flange with its bent inner slotted portion extending inwardly over the cylindrical core, coiling wire on said core between said side discs, bending the outer slotted portions of said side discs over the outer periphery of the coiled

wire, wrapping strapping around the inner surface of said core outwardly around the said side discs and around the outer periphery of said coil, then removing the removable side flange with its beveled portion to collapse the barrel and removing the completed coil therefrom. 5

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