P. T. DODGE.

CORE CAP.

APPLICATION FILED MAR. 30, 1920.

1,358,531. **Patented Nov. 9, 1920.**

Fig. 1.



Fig. 2.

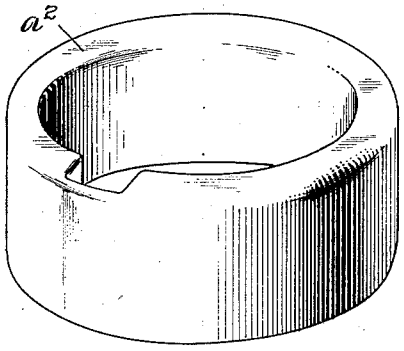


Fig. 3.

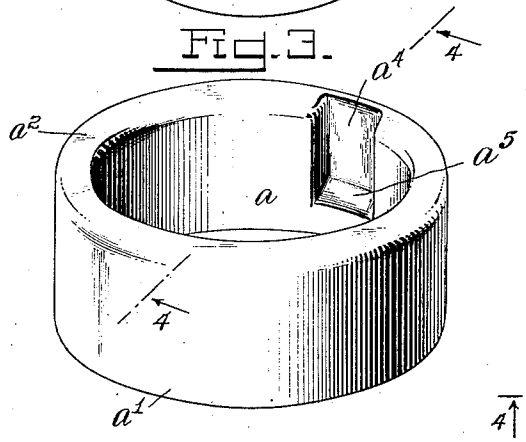


Fig. 5.

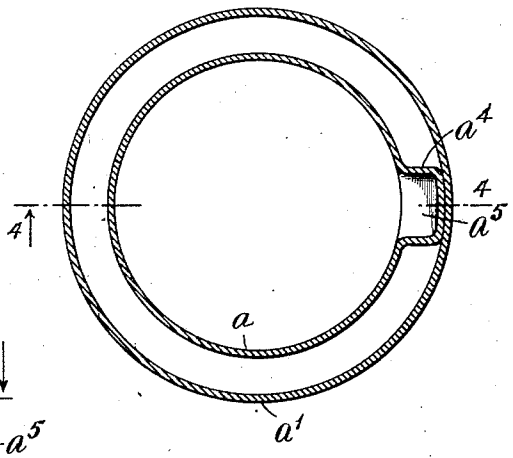
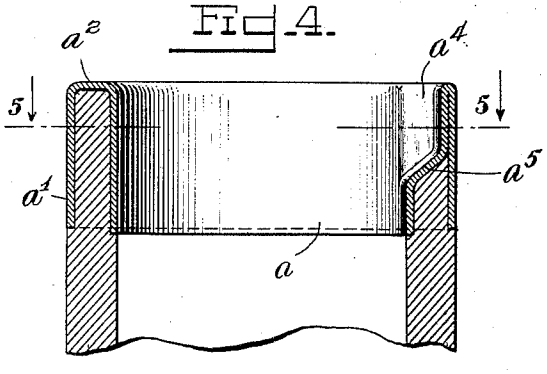


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CORE-CAP.

1,358,531. Specification of Letters Patent. Patented Nov. 9, 1920.

Application filed March 30, 1920. Serial No. 369,947.

To all whom it may concern:

Be it known that I, PHILIP T. DODGE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Core-Caps, of which the following is a specification, reference being had therein to the accompanying drawing.

In the manufacture of newsprint paper and other papers which are produced in long sheets and wound into rolls for the market, it is the custom to wind the paper on a tubular core of paper, strawboard or similar material, and for the purpose of protecting the ends of the cores and adapting them to withstand the weight and strain to which they are subjected when the roll is placed in the printing press, it is customary to secure metal caps to said ends. These caps have been made in a great variety of forms of cast metal and sheet metal with flanges to fit inside and outside of the core as shown, for example, in United States Patents of Tilton No. 689,834, Gately No. 839,378 and Elixman No. 1,137,470; and the caps are usually provided with a notch or indentation to engage a stud on a supporting chuck or spindle of the printing press connected to a friction wheel by means of which the rotation of the roll is resisted and the proper tension of the sheet secured as it is unwound and carried through the press.

As heretofore constructed, the sheet metal caps have had a portion of the metal cut away in order to form the notch as shown in the Elixman patent above named. In practice, it is found that this cutting away of the thin metal, reduces the strength of the cap to such an extent that when in use it is liable to be fractured by the strain to which it is subjected.

The aim of my invention is to produce a light and cheap cap of greater strength than those heretofore employed, and to this end the invention consists of a cap formed from a single piece of sheet metal and comprising inner and outer concentric flanges connected at one end by the intermediate metal, and having the notch formed by pressing the metal of the inner flange outward against the outer flange without cutting or removing any portion of the same. The result is a one piece cap consisting of inner and outer concentric flanges with a pocket having continuous unbroken walls and of double thickness on the outer side.

In the accompanying drawings, Figure 1 is a view of the flat sheet metal blank from which my cap is formed;

Fig. 2 is a perspective view of the cap looking into the outer end;

Fig. 3 is a similar view of the cap shifted around to better show the cavity therein;

Fig. 4 is a cross section on the line 4—4 of Figs. 3 and 5, with the cap applied to the end of the paper core; and

Fig. 5 is a section on the line 5—5 of Fig. 4.

Referring to the drawings:

In the production of my cap, I first provide a flat sheet metal blank, such as shown in Fig. 1, of circular form and with a central circular opening therein. By means of suitable dies, I form this blank into the shape shown in the succeeding figures, bending its inner and outer edges until they form parallel concentric flanges a and a' connected together at their outer ends by the intermediate web a^2. The flanges may be of the same or different lengths.

During the formation of the flanges or after they are formed, I press the metal of the inner flange outward for a width of half an inch, more or less, until it bears against the outer wall or flange, forming on the inside of the cap a cavity or recession a^4 intended to receive a rib or the usual stud on a supporting chuck or spindle and connected with the usual friction wheel or tension device commonly used in printing presses.

It is observed that the pocket a^4 is produced without cutting or removing any portion of the metal, that its walls are continuous, and that it bears against and is supported by the outer flange a' so that it is given great strength and the cap is adapted to resist the strong rotative or torsional strain to which it is subjected when in use in the press.

The pocket or cavity a^4 may extend the entire length of the inner flange, but it is preferable as shown in the drawing to extend it for a portion of the length only, this construction leaving at the bottom of

the pocket a web or connecting portion a^5 which gives additional strength.

The distinctive or characteristic feature of my cap is the existence of the pocket formed by pressing the metal into shape without severing it at any point and without removing any portion, and while in the foregoing description and accompanying drawings I have set forth my invention in the particular detailed form I prefer to adopt, it will be manifest that these details may be modified and changed without departing from the limits of the invention; and it will be understood that the invention is not limited to any particular form or construction of the parts, except in so far as such limitations are specified in the claims.

Having thus described my invention, what I claim is:

1. The one piece sheet metal core cap comprising the parallel annular flanges and the connecting web at one end, with a portion of the inner flange bent outward to form a stud receiving cavity, substantially as shown.

2. The sheet metal core cap comprising in a single piece, the concentric annular flanges and the continuous and connecting web at their outer ends, the inner flange being bent outward against the outer flange at one point to form a pocket with double walls.

3. The one piece sheet metal core cap comprising the concentric flanges and the connecting web a^2, the metal of the inner flange being pressed outward to form the pocket a^4 with the web a^5 at one end, substantially as shown.

4. The sheet metal core cap comprising in one piece, the continuous uncut concentric flanges and the connecting web at their outer ends; the inner flange and the web being indented outward to form a double walled pocket, substantially as shown.

5. A one piece sheet metal core cap comprising inner and outer annular flanges and a web connecting said flanges together at one end, a portion of one of said flanges being bent laterally to form a stud receiving cavity.

6. A core cap comprising inner and outer annular flanges and a web connecting said flanges together at one end, a portion of one of said flanges being bent laterally into engagement with the other flange to form a stud receiving cavity with a wall of double thickness.

In testimony whereof I have affixed my signature hereto.

PHILIP T. DODGE.