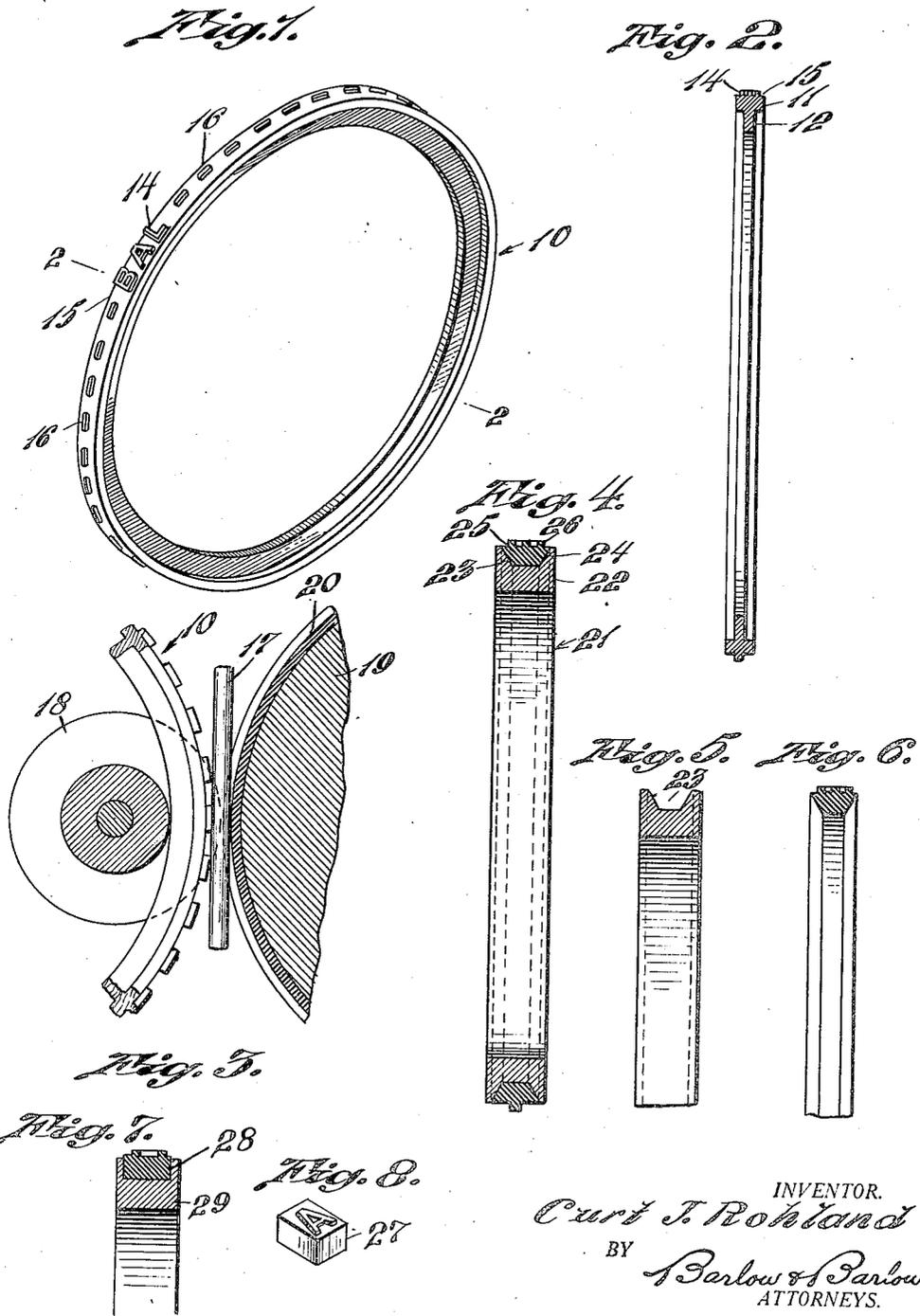


Aug. 20, 1940.

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PRINTING RING

2,211,794

Filed Feb. 15, 1938



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UNITED STATES PATENT OFFICE

2,211,794

PRINTING RING

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Application February 15, 1938, Serial No. 190,544

4 Claims. (Cl. 101—376)

This invention relates to a printing ring for a marking machine; and has for one of its objects the provision of a ring which may be easily positioned into or taken from a marking machine that the machine may be easily inter-
5 changed for printing different insignia.

Another object of the invention is the provision of a ring in a rather large hoop-shaped formation which may be securely mounted in a marking machine from its inner surface at its printing point, although such support need not be continuous about its entire inner surface, other points being merely guided at spaced intervals.

Another object of the invention is the formation of the printing characters of the ring or some inset therein on the outer convex surface of the same piece of material and out of the same stock as the convex itself.

A further object of the invention is to form the characters or some sort of a marking device on the ring at such points continuously about the surface of the ring as to insure that one of the printing characters or devices will always be in contact with the work.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is a perspective view of the ring;

Fig. 2 is a sectional view on line 2—2 of Fig. 1;

Fig. 3 is a sectional view of a fragmental portion of the ring shown in engagement with the work and the work engaged by the back-up
35 wheel;

Fig. 4 is a sectional view of a modified form of printing ring;

Fig. 5 is a view similar to Fig. 4 and showing but a fragmental portion of the support with the type removed;

Fig. 6 is a sectional view of a type ring for insertion into the support ring of Fig. 5;

Fig. 7 is a sectional view of a different modified form of printing ring;

Fig. 8 is a perspective view of an insert character in the structure of Fig. 7.

In the use of printing machines such as described in application Serial No. 168,379, filed October 11, 1937, of which this application is a continuation in part, it is desirable that type rings be provided of such a character that they may be easily interchanged, this being accomplished by a mere lifting of certain guide rolls and mechanism without the removal of any parts
55 for the removing of one ring out of the machine

and slipping of another ring into place to substitute therefor; and in order that such a ring may be provided which will do accurate precision work in connection with wire printing, I have provided that the ring may be of rather narrow character with letters integral with the convex surface metal being used for the letters where one kind of work is to be provided and some resilient character such as rubber where a different kind of work is to be operated upon; and the following is a more detailed description of the present embodiment of this invention, illustrating the preferred means by which these advantageous results may be accomplished:

With reference to the drawing, 10 designates generally the type ring which consists of a hoop-shaped piece of steel which I have shown as T-shaped in cross-section, the body portion 11 being of generally rectangular shape with a web 12 extending inwardly for stiffening and strengthening purposes, this web 12 being somewhat of reduced cross-section in order to provide the cross-section in the form of a T, although it will be clearly apparent that the particular shape of the cross-section might be rectangular or some other desired form should occasion require, the rectangular form being more suitable under some conditions where a part of the rectangle reduced to provide the T.

On the outer surface of the metal body portion 11 there are letters or characters 14 provided of the same stock as that of the body 11 and raised from the convex surface 15 of the body portion 11. In some cases a metal insert carrying the letters is provided, the insert functioning as the same piece of stock as the ring. Also, there are provided other characters, such as dashes 16, at spaced intervals so that either one of the characters 14 such as a letter or one of the dashes 16 will always be in contact with the work 17 when the ring is in operation with the work, this being so as to provide the necessary feeding action of the rotating parts to the machine when operated. The support wheels 18 for the ring 10 and the back-up wheel 19 with its soft rubber cushion surface 20 are illustrated in Fig. 3 showing the relative position of the parts when working.

In some cases the ring such as 21 may have this modified construction of the body 22 being of generally rectangular cross-section with a recess 23 therein of any desired cross-section, such for instance as having inclined walls 24 for the reception of a continuous circular rubber or resilient insert 25 with raised letters 26 thereon.

This rubber insert will take the form of a continuous band to be stretched and dropped into the groove 23. In Figs. 7 and 8 the form of separate individual characters 27 inserted into a groove 28 in ring 29 under a slight compression so that their inherent tendency to recover their normal sizes causes a grip on the side walls of the groove 28 and also the side walls of each other for holding the resilient blocks in position. In both cases the letters will not slide circularly about the groove.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. A printing ring comprising a metal annulus having a relatively narrow width and depth with respect to its outer diameter and having its entire inner peripheral surface continuous and smooth and free of projections and provided with an annular recess formed in the stock at its outer peripheral surface and characters of a solid elastic material located in said recess and of a size to be compressed in said recess and maintained therein wholly through the tensioned state of the elastic material.

2. A printing ring comprising a metal annulus having a relatively narrow width and depth with respect to its outer diameter and having its entire inner peripheral surface continuous and smooth and free of projections and provided with an annular recess formed in the stock at its outer peripheral surface and characters of a solid elastic material located in said recess and of a

size to be compressed in said recess and maintained therein wholly through the tensioned state of the elastic material, said characters being readily removable from said recess by a prying action.

3. A printing ring comprising a metal annulus having its entire inner peripheral surface continuous and smooth and free of projections and provided with an annular recess formed in the stock at its outer convex surface, an annulus of an elastic material having printing characters thereon extending radially from the outer peripheral surface thereof and located in said recess in a stretched state and having an inner diameter when in a normal contracted state of less diameter than the bottom walls of said recess, said elastic annulus being maintained in firm engagement with the walls of said recess wholly through the tensioned state of the elastic material.

4. A printing ring comprising a metal annulus having its entire inner peripheral surface continuous and smooth and free of projections and provided with an annular recess formed in the stock at its outer convex surface and provided with inclined walls, an annulus of an elastic material having printing characters thereon extending radially from the outer peripheral surface thereof and located in said recess in a stretched state and having an inner diameter when in a normal contracted state of less diameter than the bottom walls of said recess and provided with side walls complementary to the walls of said recess, said elastic annulus being maintained in firm engagement with the walls of said recess wholly through the tensioned state of the elastic material.

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