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SHELL CASING SUPPORTING AND PROTECTOR RING

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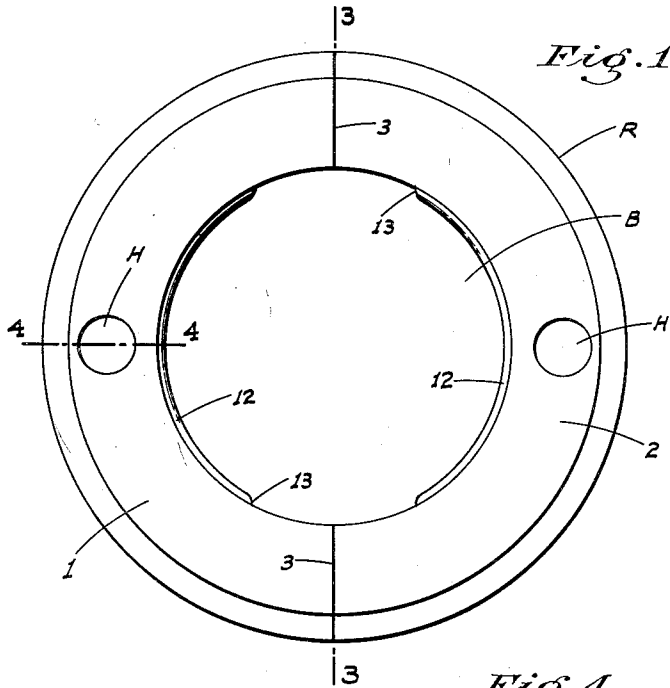


Fig. 1

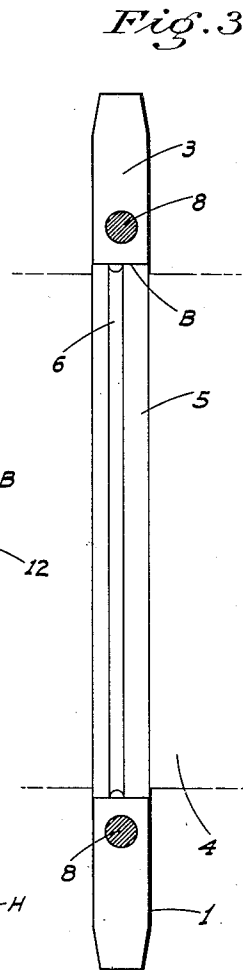


Fig. 3

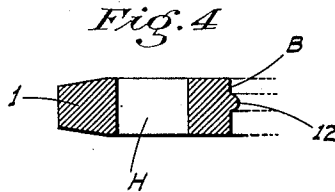


Fig. 4

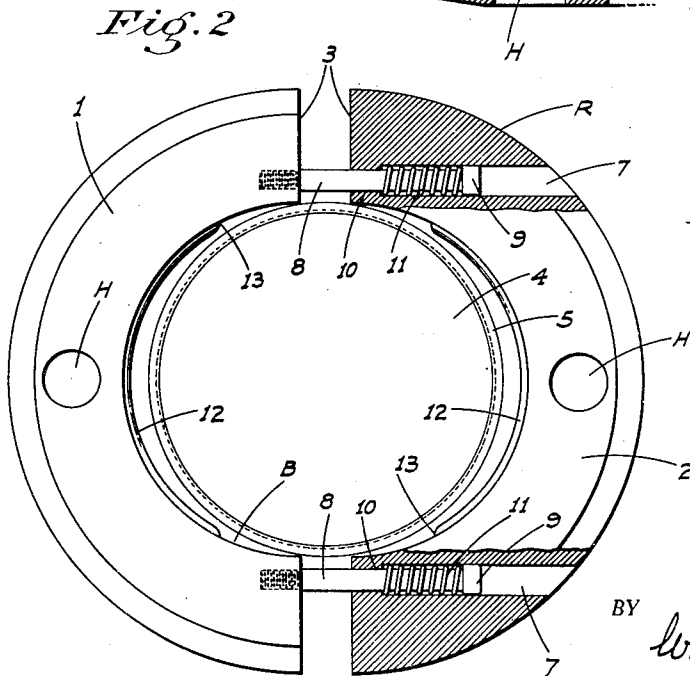


Fig. 2

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SHELL CASING SUPPORTING AND
PROTECTOR RINGFloyd H. Wyman, Toccoa, Ga., assignor to R. G.
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Application April 11, 1942, Serial No. 438,556

7 Claims. (Cl. 91—60)

This invention relates to, and it is an object to provide, a device for use to movably support a rotatable member in a spray painting machine; the device at the same time being operative to shield a portion of said rotatable member against being painted; the invention being especially designed to support gun shell casings in a spray painting machine.

In the manufacture of gun shell casings such casings, after being formed, are given a protective coating of paint, which is applied by a spray painting machine such as shown in the copending application for United States patent of George P. Short, Serial No. 419,136, filed November 14, 1941, and wherein the shell casings are supported above and for movement along tracks, and while being spray painted, by longitudinally spaced wheels or rings removably applied to the shell casings. One of these rings is attached at the nose end of the casing, while another ring engages about a copper band on and included with the body of the casing adjacent but short of the other end thereof.

It is a further object of this invention to construct that one of the rings which engages said copper band on the casing so that said ring not only supports the adjacent portion of the shell casing, but shields the outer or peripheral face of said band and prevents painting thereof, as is desired, while at the same time permits painting of the shell casing closely on opposite sides of said band.

An additional object of this invention is to provide a supporting and protector ring, as above, which is segmental and spring closed; the ring assembly being arranged to be readily and quickly placed on or removed from the shell casing by means of a hand operated spreader tool.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Figure 1 is a plan view of the device closed but separate from a shell casing.

Figure 2 is an end view of the device in open position and as extending about a shell casing.

Figure 3 is a cross-section on line 3—3 of Fig. 1.

Figure 4 is a fragmentary cross section on line 4—4 of Fig. 1.

Referring now more particularly to the characters of reference on the drawing, the shell casing supporting and protector device comprises a metallic ring R split diametrically into half-circle segments 1 and 2; the ends of the segments at the line of split being indicated at 3.

The numeral 4 indicated the body of a shell casing and which body adjacent one end, but short thereof, is formed with an outwardly projecting, annular metallic band 5 which is usually of copper. This band 5 is flat-faced transversely and of substantial width, being formed intermediate its side edges with an annular groove 6 which is substantially semi-circular in cross section.

The bore B of the ring R is of the same diameter—when the ring segments 1 and 2 are closed—as the external diameter of band 5, and in addition the inner peripheral face of the ring R is of the same width as the outer periphery or face of band 5.

The ring segments 1 and 2 are normally held in aligned and closed position by means of the following mechanism:

The segment 1 on opposite sides of bore B is drilled from the periphery inward at right angles to the ends 3 or the line of split, to form sockets 7 of substantial depth. A headed guide pin 8 for each socket and disposed with its head 9 in socket 7, slidably projects through a reduced diameter bore 10 between the bottom of the socket and the corresponding end 3 of segment 1, and thence projects therebeyond and is threadingly secured to the adjacent end portion of ring segment 2. There is normally a space between head 9 of pin 8 and the bottom of socket 7, and a loaded compression spring 11 surrounds each pin within its socket between the bottom of the latter and the corresponding pin head 9. It will be seen that these springs normally urge the ring sections 1 and 2 into symmetrical closed relationship.

When the ring is to be applied to a shell casing, the ring segments 1 and 2 are separated some distance, as shown in Fig. 2, by means of a spreader tool, such as is illustrated in my copending application, Serial No. 438,557, filed April 11, 1942. The segments 1 and 2, centrally between their ends, are formed with circular holes H into which lugs of the spreader tool project. After the ring segments are spread apart, the ring is slipped over the shell casing and the segments released to engage about band 5 in full covering and close engaging relation thereto.

In order to prevent lateral displacement of

the ring R from band 5, each of the ring segments is formed on its inner periphery with a circumferential and inwardly projecting flange 12 having a cross-sectional configuration to matchingly engage in groove 6 of band 5. The flanges 12, while being of substantial and unbroken circumferential extent on each ring segment, terminate at their ends 13 a considerable distance short of the ends 3 of the segments; the reason for this being that it permits escape of said flanges from grooves 6 and consequent removal of the ring, with a minimum of opening movement of the segments 1 and 2 under the influence of the spreader tool.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent is:

1. A supporting shield for a cylindrical object, comprising a ring having an internal diameter substantially the same as the portion of the object to be engaged, said ring being segmental, means yieldably urging the ring segments into closed symmetrical engagement, each segment being a half circle, and said means comprising parallel guide elements secured to one segment at the ends and projecting into the other segment in slidable relation thereto, and a spring between each element and said other segment urging the latter into engagement with said one segment.

2. A device as in claim 1 in which said elements comprise headed guide pins; said other segment having bores through which said pins project and communicating enlarged sockets in which said heads run, said springs being of helical compression type and surrounding the pins between said heads and the bottom of the corresponding socket.

3. A supporting ring for a cylindrical object having an annular groove therein, comprising a ring having an internal diameter substantially the same as the portion of the object to be engaged; said ring being split diametrically into half segments, and means yieldably urging said segments, in guided relation, to closed position, said segments having locating flanges projecting radially inward from the inner periphery of the ring and removably seating in said groove.

4. A device as in claim 3 in which said flanges are of substantial length and extend in circumferentially unbroken relation on each segment.

5. A device as in claim 3 in which said flanges are of substantial length and extend in circumferentially unbroken relation on each segment, but terminate at the ends some distance short of the ends of the corresponding segments.

6. A supporting ring for a cylindrical object having an external annular band extending thereabout, said ring comprising half segments, means yieldably urging said segments to closed position, said ring being adapted to surround the object in close engagement with said band, and cooperating means between said ring and band to prevent lateral displacement of the ring.

7. A device as in claim 6 in which the engaged surfaces of the ring and band are of the same width whereby the ring fully laps the band.

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