The present invention relates to apparatus for making bodies for containers such as are used for holding paint, white lead and other heavy products from preformed tubular bodies. It is desirable for the sake of economy and efficiency in the manufacture of such containers that the preformed tubular body be of double or greater length and that this tubular body be subsequently cut or split into individual sections to form individual container bodies. It is to mechanism for effecting this cutting or splitting operation that this invention is particularly directed.

This invention is a division of my United States application Serial Number 676,749, filed June 20, 1953, on Art of making container bodies, now Patent No. 2,656,192, issued October 6, 1953.

An object of the present invention is the provision of mechanism for cutting and separating preformed tubular bodies into individual container bodies which mechanism at the same time may also turn back and partially curl the split edges of the container bodies, the severance of the original tubular body thus producing two or more container bodies which are edge curled in part.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a perspective view of one form of preformed double length container body adaptable for cutting or separation into two bodies in accordance with the operation of the apparatus of the present invention, the view showing the ends of the body flanged and its central region reduced in diameter;

Fig. 2 is a perspective view of a fully formed, flanged, necked-in and partially edge-curved container body such as may be produced by severance of the double body shown in Fig. 1, the view illustrating the body which would be so formed from the lower half of the double body;

Fig. 3 is a longitudinal sectional view of mechanism embodying the instant invention, the view showing the cutting elements and the double length body in position prior to cutting and separation of its sections;

Fig. 4 is a view similar to Fig. 3 showing the position of the cutting elements at the completion of the cutting operation and showing the body cut in two sections; and

Fig. 5 is a cross-sectional detail taken substantially along the line 5—5 in Fig. 4.

As a preferred embodiment of the invention the drawing illustrates a mechanism which is adapted to sever or cut preformed, double length tubular bodies transversely to produce two individual bodies from a single double length body. The bodies to be cut may be unshaped, ordinary straight wall bodies flanged or unflanged or they may have their body wall shaped with beaded, necked-in or similar shapes with their ends flanged as the body illustrated in Fig. 1 and designated generally by the character a. Furthermore the cutting may be effected in any part of the body wall depending upon the use to be made of the cut bodies.

If desired the cut may be made so that a head formed in the body wall will be incorporated entirely in one of the bodies or the cut may be made directly through the head so that there will be a part of it in each of the bodies after the original body is cut in two.

This latter form of body obtained from the double body length is well adapted to the manufacture of paint pails, lead kegs, and the like where it is desirable to have the upper end of the body reduced in diameter or necked-in, the head forming this necked-in part of the body. Such a necked-in body is herein used as an exemplary form of body to be cut by the mechanism embodying the instant invention, the body being formed with flanges b at each end and is necked-in or reduced in diameter at its middle section as with an internal bead c as illustrated in Fig. 1.

The mechanism for operating on the double body a comprises in part a pair of cutting heads 11, 12 spaced end for end (Figs. 3 and 4) on which the body is positioned in any suitable manner as by insertion of the heads into its open ends.

The head 11 is rotatably mounted upon the end of a tubular member 13 which is formed with an outwardly projecting flange 14 against which one end of the head 11 abuts. Locknuts 15 are threadedly engaged upon the tubular member 13 and hold the head 11 against the projection 14.

The head 12 is mounted in a similar manner upon a member 16, the inner end of the head 12 resting against a projecting flange 17 of the former. Locknuts 18 threadingly engaging the member 16 hold the head 12 in position against its flange projection.

Members 13, 16 are suitably mounted for non-rotation on a common axis but are movable longitudinally along such an axis. The members in such a movement are first separated one from another a distance sufficient to allow positioning of the beaded tubular body a between their ad-
Although the drawing illustrates a mechanism adapted to cut the body at a reduced diameter section or internal bead, it should be understood that it is equally applicable to a straight wall section of the body, or through an expanded section or external head. It should also be understood that by interchanging the cutting elements so that the cutting disc 28 is mounted exteriorly on the cutting heads 11, 12 and the backing-up rollers 25 are mounted in the heads, the cutting action may be effected inwardly if desired. Thus the edge curl e may also be turned inwardly.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. An apparatus for making container bodies from tubular bodies which comprises, the combination of a shaft 27 on which are mounted cutters 28, 29 adapted to cut the body eccentrically, a roller 30 adapted to rotate the body to be cut, and a backing-up roller 31 adapted to move the body to be cut inwardly, the said backing-up roller 31 being adapted to be moved inwardly toward each other to insert their cutting heads, adapted to be moved inwardly toward each other to insert their cutting heads, said cutting heads being adapted to cut the body eccentrically, and said backing-up roller 31 being adapted to move the body to be cut inwardly, and said backing-up roller 31 being adapted to move the body to be cut inwardly.

2. An apparatus for making necked-in bodies which comprises, the combination of a shaft 27 on which are mounted cutters 28, 29 adapted to cut the body eccentrically, a roller 30 adapted to rotate the body to be cut, and a backing-up roller 31 adapted to move the body to be cut inwardly, the said backing-up roller 31 being adapted to be moved inwardly toward each other to insert their cutting heads, adapted to be moved inwardly toward each other to insert their cutting heads, said cutting heads being adapted to cut the body eccentrically, and said backing-up roller 31 being adapted to move the body to be cut inwardly, and said backing-up roller 31 being adapted to move the body to be cut inwardly.

3. An apparatus for making necked-in container bodies which comprises, the combination of a shaft 27 on which are mounted cutters 28, 29 adapted to cut the body eccentrically, a roller 30 adapted to rotate the body to be cut, and a backing-up roller 31 adapted to move the body to be cut inwardly, the said backing-up roller 31 being adapted to be moved inwardly toward each other to insert their cutting heads, adapted to be moved inwardly toward each other to insert their cutting heads, said cutting heads being adapted to cut the body eccentrically, and said backing-up roller 31 being adapted to move the body to be cut inwardly, and said backing-up roller 31 being adapted to move the body to be cut inwardly.

4. An apparatus for making container bodies which comprises, the combination of a roller 30 adapted to rotate the body to be cut, and a backing-up roller 31 adapted to move the body to be cut inwardly, the said backing-up roller 31 being adapted to be moved inwardly toward each other to insert their cutting heads, adapted to be moved inwardly toward each other to insert their cutting heads, said cutting heads being adapted to cut the body eccentrically, and said backing-up roller 31 being adapted to move the body to be cut inwardly, and said backing-up roller 31 being adapted to move the body to be cut inwardly.

5. An apparatus for making necked-in container bodies from beaded double length tubular...
bodies which comprises, the combination of rotatable heads for supporting a beaded double length tubular body, a cutting and bending disc located in a said head, backing rollers cooperating with said cutting and bending disc for engaging and necking-in the exterior wall of said body within its beaded section, and means for moving said cutting and bending disc outwardly against and through the necked-in portion of said tubular body wall and between said backing rollers for splitting said body into two necked-in container bodies and for bending the severed edge of said body outwardly to form a partial curl.

6. An apparatus for making container bodies which comprises, the combination of a rotatable head comprising portions for interiorly supporting a tubular body in position for cutting and having a space between its supporting portions, a cutting disc arranged in said space and cooperating with said cutting head during said cutting, a backing roller cooperating with said cutting disc for engaging an outer wall of said body adjacent said space during the cutting action, and means for moving said cutting disc laterally against and radially outwardly through said tubular wall for severing said body.

7. An apparatus for making necked-in container bodies from a double length tubular body which comprises, the combination of rotatable heads for interiorly supporting a tubular body having a necked-in portion in position for cutting, a cutting disc cooperating with and between said heads during said cutting, backing rollers cooperating with said heads and cutting disc for engaging the outer wall of said body during the cutting action, and means for moving said cutting disc laterally against and radially outwardly through said necked-in portion of said tubular wall for severing said body into two container bodies.

JOHN M. HOTHERSALL.