To all whom it may concern:

Be it known that I, JULIAN O. ELLINGER, a citizen of the United States, and a resident of the borough of Manhattan, city and State of New York, have invented certain new and useful Improvements in Barrels or Kegs, of which the following is a specification.

One of the objects of the invention is to so construct the barrel and the cover therefor that when the barrel is subjected to heavy strains, shocks or knocks the seal between the cover and the body of the barrel will not be destroyed, but such strains will tighten the grip of the cover to the body of the barrel.

Another object of the invention is to make the body of the barrel so flexible in relation to the cover that any distortion of the body and the cover, due to falls or rough handling, will not unseat the cover but will have a tendency to cause the cover to grip the body of the barrel more tightly.

Another object is to so construct the barrel and the cover that the material contained in the barrel will be prevented from sifting or leaking out and the seal will be so effective that moisture will not penetrate into the interior of the barrel to the injury of the contents thereof.

Another object of the invention is to so construct the body of the barrel and the cover therefor that the cover can be quickly placed upon the barrel and securely held in place, yet may be readily removed without destroying it or the body of the barrel.

Another object is to reduce the cost of construction and to make the barrel light so that freight charges will be materially reduced.

Another object is to construct a barrel in which explosive, inflammable and oxidizable chemicals in the dry state, as well as other materials, can be safely shipped, thereby reducing the insurance and carrying charges.

Other objects will appear from the hereinafter description.

Certain constructions of the present invention are illustrated in the accompanying drawings which form part of this application and in which the same reference character indicates the same part in the several views.

Referring to the drawings: Figure 1 is a side elevation, partly in section, of the preferred form of the completed barrel. Fig. 2 is a cross sectional view of an annular reinforcing ring for the end of the barrel. Fig. 3 is a fragmentary cross sectional view of the cover of the barrel on an enlarged scale. Fig. 4 is a fragmentary cross sectional view of one end of the barrel on an enlarged scale. Fig. 5 is a fragmentary cross sectional view showing the cover in position on the barrel, also on an enlarged scale. Fig. 6 is a fragmentary cross sectional view of the end of the barrel and cover showing a slightly modified construction of the barrel. Fig. 7 is a side elevation of the end of the barrel with the tightening clamp used in fastening the cover on the barrel, the clamp being in section. Fig. 8 is a top plan view of the clamp. Fig. 9 is a view of the endless hoop or ring for securing and holding the cover in position. Fig. 10 is a view similar to Fig. 9, showing the eye of the ring twisted to tighten the ring to its seat. Fig. 11 is a modified construction of the securing ring. The part marked 20 on the drawing represents the body of the barrel, preferably made of sheet metal of about 28 gage and is preferably rolled into a cylinder, the meeting edges of the sheet metal being secured together by riveting, welding or in any other suitable manner. The body of the barrel, near the end thereof, is stamped up to form an outwardly projecting annular rim 21. Intermediate this rim and the edge of the cylinder is another outwardly projecting annular rim 22, which is wedge-shaped in cross section. Between these rims is an annular seat 23. The edge of the cylinder is rolled or turned over, as shown, to form a seat or support for the cover.

26 is a reinforcing ring made of metal of about 16 gage, and is stamped up to conform to the shape of the rim 22 and the overturned part 24 of the cylinder against which it snugly fits inside of the cylinder. This ring has an inwardly projecting flange 27 which rests upon and is supported by the lower portion 28 of the outturned rim 22. This construction reinforces the end of the barrel in such a manner that ordinary shocks and strains will be taken up and resisted, and it also forms a rigid support for the cover.

The cover 30 of the barrel is formed or stamped out of sheet metal of about 26 gage, 110
the central portion 31 being stamped outwardly for rigidity. There is formed at the periphery of the cover an annular rim 32 of substantially the same shape as the rolled or overturned end 24 of the head of the barrel, to form a recess into which is received the overturned end. Formed as a part of the cover is a downwardly extended flange 33, which is wedge-shaped to conform with the corresponding shape of the rim 22, pressed out of the body of the barrel. The edge of this flange projects inwardly and is rolled over outwardly to form a holding means 34, which fits in the seat 23 and forms a seat 35 for the securing ring or wire to be hereinafter referred to. The rim or flange of the cover is provided with a series of transverse slots 36, which permit the part 34 of the downwardly extending flange to spring outwardly over the rim 22, when the cover is put over the end of the barrel.

To put the cover on the barrel it is first placed over the edge of the barrel and then pressed down, whereupon the inturned edge or rim 34 of the flange 33 will slide over the wedge-shaped rim 22 and will then partly snap in the annular seat 23. When the cover is in this position the tie 40, which consists of an endless ring and is provided with an eye 41, is slipped over the cover and forced in position in the seat 35 of the inturned edge 34 of the downwardly projecting flange. The tightening clamp A is now placed over the cover, as shown in Fig. 7 of the drawing. This clamp consists of a split ring which is angular in cross section, one of the webs a projecting inwardly and fitting over the top of the cover, and the other flange a' extending downwardly and fitting against the extreme outward portion or side b, of the cover. The meeting ends of the ring are separated at a" and each end is provided with a lug a", a"', to receive the set-up screw a". The body of the screw projects through the screw-threaded opening in the lug a", and the end of the screw turns freely in the other lug a", the extreme end of the screw being provided with a nut or cap a". The downwardly extending web or flange a' is provided with a recess or cut-out portion a" through which projects the eye 41 of the tie or securing ring 40. When the clamp is in position the screw a" is "set up" whereupon the ends of the clamp are pulled together, and the flange a' bearing against the side b of the cover forces the flange of the cover inwardly and also forces the rolled end 34 of said flange securely in its seat 23. This also squeezes or forces the cover tightly against the end of the body of the barrel and puts this portion of the body of the barrel under compression. After this operation a suitable instrument is placed in the eye 41 of the endless ring or band 40, and twisted as shown in Fig. 10 of the drawing, thereby tightening the ring in its seat 35. The twisted eye can then be turned to one side and hammered into the seat and out of the way. The screw is now untightened and the clamp removed from the barrel. Upon the removal of the clamp the body of the barrel tends to spring to its original form or position, which tendency is resisted by the securing wire 40, which is now under such tension that all slack therein is taken up. Instead of having an endless bale or ring, as shown, an ordinary piece of wire as illustrated in Fig. 11 may be used as the securing means, and the ends 41 thereof may be twisted together by a pair of pliers or a special tool made for that purpose.

To remove the cover of the barrel it is only necessary to untwist the wire 40 and use a suitable tool or implement to force the part 34 of the rim out of its seat 23 in the body of the barrel, whereupon the cover can be readily slipped off the barrel without injury to the body of the barrel or the cover itself, and the cover and the securing wire may be used over and over again.

In Fig. 6 there is illustrated a slightly modified construction of the end of the body of the barrel. In this form the end 24 of the body is turned over a reinforcing endless wire 50. This wire not only stiffens the edge of the barrel but forms a seat or support for the rim 32 of the cover. This construction may be used when the barrel is not to be subjected to severe strains or knocks.

It is evident that certain changes may be made without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is:

1. A barrel consisting of a cylinder of sheet metal forming the body thereof, said body being provided with annular outwardly extending projections or rims with a seat between the rims, one of the rims being wedge shaped in cross section, the edge of the cylindrical body being rolled or over-turned and annular reinforcements of substantially the shape of the wedge shaped projection and the over-turned portion of the body and fitted inside the body close to said parts, the said reinforcement having an inwardly projecting flange seated on a wall of the wedge shaped rim, a sheet metal cover having a struck up rim to form a seat for the over-turned edge of the body of the barrel, said cover having a downwardly projecting flange, wedge shaped in cross section, the edge of the flange being turned in to project into the said seat and also to form a seat for a locking means, the downwardly projecting flange being provided with a series of transverse slots extending to the edge thereof and a wire in the seat of the downwardly extending flange and sur-
rounding the cover and forming a locking means to secure and hold the cover in place.

2. A barrel consisting of a cylinder of sheet metal forming the body thereof and provided with annular outwardly extending projections or rims with a recess or seat between them, one of the rims being wedge shaped in cross section, an edge of the cylindrical body being rolled or over-turned, an annular reinforcing ring within the rolled or over-turned part of the body, a sheet metal cover having a struck up rim to form a seat for the over-turned edge of the body of the barrel and having a downwardly projecting flange, wedge shaped in cross section to fit against the wedge shaped rim of the body of the barrel, the edge of the flange being in-turned to project into said seat and over-turned or rolled to form a seat for a locking means, the downwardly projecting flange being provided with a series of transverse slots extending through the edge thereof and an endless wire in the seat of the flange and twisted to hold the turned over edge of the flange in its seat and to lock the cover in place.

3. A barrel formed of a cylinder of sheet metal, said cylinder being provided with annular projections or rims with an annular seat between the same, a sheet metal cover for the barrel having an annular rim to receive an edge of the barrel and a downwardly projecting flange extending over the edge of the barrel, said flange being in-turned to project into the annular seat and out-turned to form a seat for a locking means and a locking means consisting of an endless wire secured in its seat and twisted on itself to squeeze and hold the in-turned edge of the flange in its seat.

4. A barrel formed of a cylinder of sheet metal, said cylinder being provided with annular projections or rims with an annular seat between the same, a sheet metal cover for the barrel having a downwardly projecting flange, the edge of the flange being in-turned to fit in said seat and out-turned to form a seat for a locking means and an endless wire in the last mentioned seat and twisted to hold the in-turned edge of the flange in the seat in the body of the barrel and to lock the cover in place.

5. A barrel consisting of a cylinder of sheet metal forming the body thereof and provided with annular outwardly extending projections or rims with a seat between the same, one of the rims being wedge shaped in cross section, the edge of the cylindrical body being rolled or over-turned to form a seat for the cover of the barrel, a sheet metal cover having a struck up rim to form a seat to receive the over-turned edge of the body of the barrel, said cover having a downwardly projecting flange which is wedge shaped in cross section and fits snugly against the wedge shaped rim of the body of the barrel, the edge of the flange being in-turned and projecting into the seat between the rims on the body of the barrel, the flange being provided with a series of transverse slots extending to the edge thereof and a wire surrounding said in-turned portion of the flange and twisted to hold the seat portion of the flange in the seat in the body of the barrel and to lock the cover in place.

6. A cover for a barrel consisting of a sheet of metal having an up-turned rim and a downwardly projecting wedge shaped flange, the edge of the flange being in-turned and rolled over, the flange being provided with a series of transverse slots extending through the edge thereof.

7. A cover for a barrel consisting of a sheet of metal having an up-turned annular rim at the edge thereof, a downwardly projecting flange extending from said rim, the edge of the flange being in-turned and rolled to form a seat, the flange being provided with a series of transverse slots extending through the edge thereof.

8. The process of securing the cover of the body of a barrel, which consists in placing the cover over an end of the barrel, clamping the cover to the body of the barrel and placing the cover and said body under compression, by placing an endless ring around the cover and tightening said ring against the cover then relieving the cover and the body from compression and permitting the same to spring out and force the annular ring under tension.

In witness whereof I have hereunto set my hand at the borough of Manhattan, city and State of New York, this first day of February, 1915.

JULIAN O. ELLINGER.

In presence of—

JOHN J. RANAGAN,

ETHEL D. BARON.