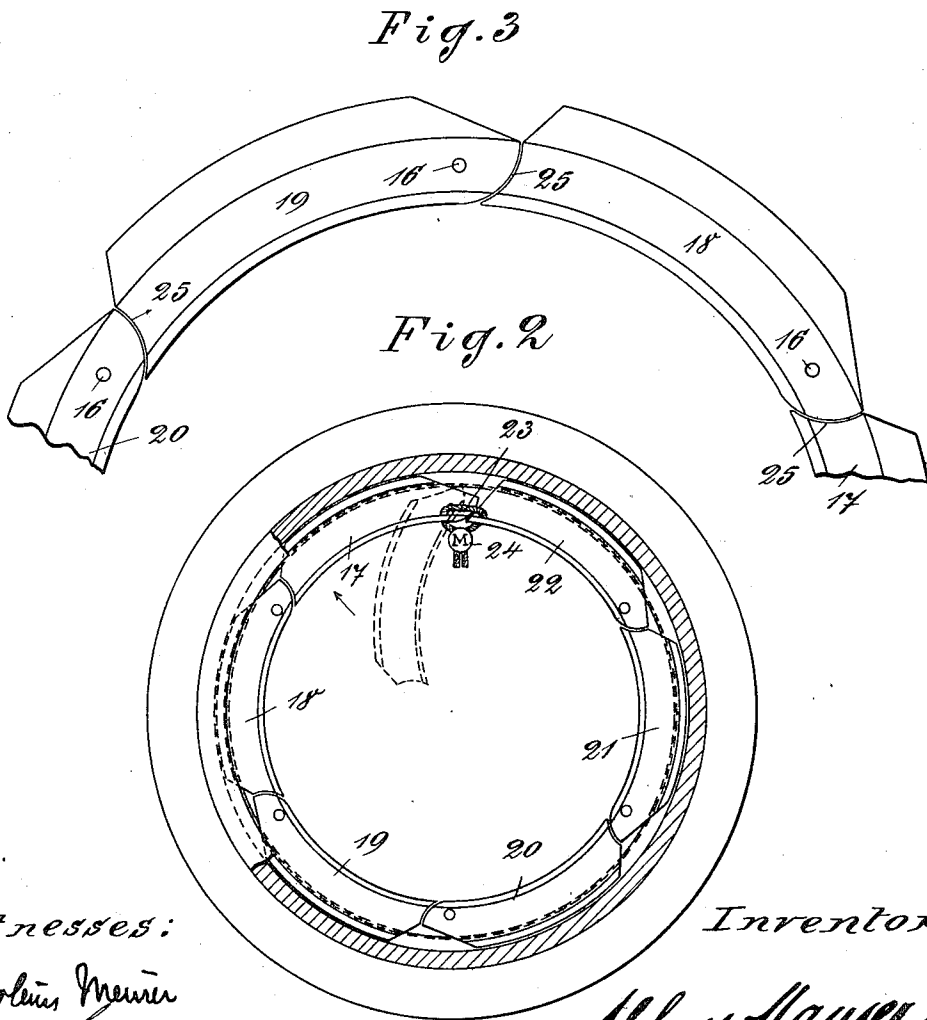
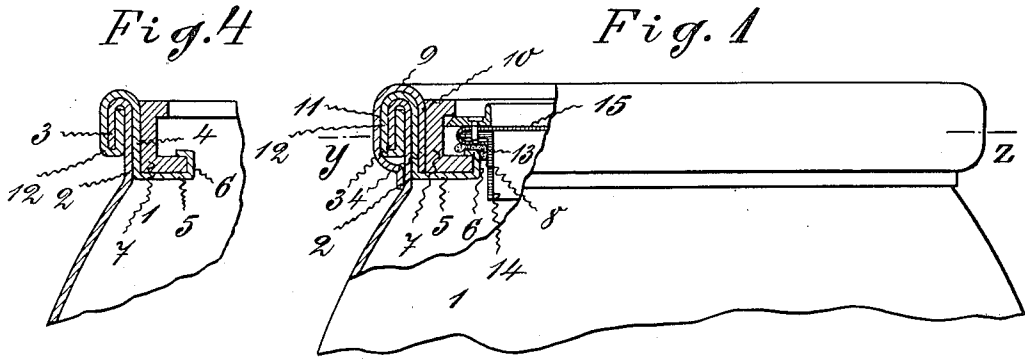


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LID FOR METALLIC VESSELS.
APPLICATION FILED JULY 26, 1909.

990,448.

Patented Apr. 25, 1911.



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LID FOR METALLIC VESSELS.

990,448.

Specification of Letters Patent.

Patented Apr. 25, 1911.

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To all whom it may concern:

Be it known that I, ALFONS MAUSER, a citizen of the Empire of Germany, residing at Ehrenfeld, Cologne-on-the-Rhine; in the Empire of Germany, have invented a new and useful Lid for Metallic Vessels, of which the following is a specification.

My invention relates to a recessed seat on the neck of a metallic vessel and a lid, which in combination with a packing ring can be placed on the seat and secured therein by means of several turnable locks that can engage one after the other in the recess of the seat and can secure one another, while the last lock can be connected with the first lock by means of a piece of cord or wire and a leaden seal. After taking off the leaden seal the turnable locks can be turned inward one after the other in the reversed order for withdrawing them from one another and from the recess of the seat, so that the lid can be removed and thus the vessel opened.

I will now proceed to describe my invention with reference to the accompanying drawing, in which—

Figure 1 is partly a vertical section through and partly an elevation of the neck of a metallic vessel provided with a recessed seat and a lid, Fig. 2 is a horizontal section through the line $y-z$ in Fig. 1, the outer portion of the seat and a part of its inner portion being shown in a plan view, Fig. 3 shows on an enlarged scale a few of the turnable locks, and Fig. 4 is a vertical section through a modified seat.

Similar characters of reference refer to similar parts throughout the several views.

1 denotes a part of a metallic vessel of any known shape and construction. Its neck 2 is so turned over as to form a border 3. A ring 4 of sheet metal is in any known manner so bent as to form a bottom flange 5, which at its inner periphery is bent upward to form a border 6. Into the annular channel so formed a seat 7 of a U-cross section is inserted, whereupon it is secured by turning the upper edge 8 of the border 6 over, so that this edge 8 overlaps the inner periphery of the lower flange of the seat 7. The upper part of the ring 4 is so turned over, that its border 12 incloses the outside of the border 3 and engages in the recess between the neck 2 and the border 3. Thus the ring 4 is rigidly connected with the neck 2 of the vessel 1. Where so preferred, a ring

9 of a U-cross section may be so put over the outside of the ring 4, that its vertical inner wall 10 engages between the inside of the ring 4 and the outside of the seat 7. The lower part of the outer wall 11 is further so bent over the lower edge of the outer border 12, that it engages beneath the same and incloses the neck 2, as is clearly shown at Fig. 1. However, the ring 9 may be dispensed with, if desired, in which case the seat 7 is brought into close contact with the inside of the ring 4, as is shown at Fig. 4.

It is essential, that the upper flange of the seat 7 has a larger diameter in the clear than its lower flange, so that a packing ring 13 (of rubber for example) can be inserted through the upper flange and placed on the turned-over edge 8 of the bottom flange 5 and also on a portion of the lower flange of the seat 7. Afterward a metallic lid of any known construction can be inserted and placed on the packing ring 13. In Fig. 1 this lid is shown to consist of a ring 14 of angular cross section and of a disk 15 of sheet metal secured on the ring 14 by turning its edge over the top flange of the latter. Along the periphery of the lid 15, 14 several (here six) bolts 16, 16 are disposed, on which locks 17, 18, . . . 22 are mounted to turn. These locks are preferably made arch-like, so that they on being turned outwardly in the direction of the arrows in Fig. 2 can form a ring and engage beneath the upper flange of the seat 7. Preferably the edges of the locks 17, 18, . . . adapted to engage beneath the said upper flange are beveled off (see Fig. 1), so as to enable the locks 17, 18, . . . to better move beneath the upper flange and to press the lid 15, 14 on the packing ring 13 and the latter on the turned-over edge 8 and a portion of the lower flange of the seat 7. The locks 17, 18, . . . are near their fulcrums eccentrically rounded and beveled off, as is clearly shown at Fig. 3, so that they on the one hand can freely turn in the recess of the seat 7 and on the other hand can engage in corresponding recesses 25, 25 at the free ends of the neighboring locks. Only the last lock 22 (Fig. 2) is at its free end simply beveled off, so that it can be pushed against the nave of the first lock 17. Preferably the locks 17, 18, . . . are made of an angular cross section, so as to stiffen them.

Normally the locks 17, 18, . . . are turned inward on the lid 15, 14, so that they oc-

cupy the position indicated by the dotted lines in Fig. 2, when it is possible to insert the lid 15, 14 through the opening of the upper flange of the seat 7 and to place it on the packing ring 13. Then all the locks 17, 18, . . . may be preliminarily turned outwardly in the direction of the arrows until they are at a short distance from the seat 7 and still remain clear of one another. Afterward first the first lock 17, then the second lock 18, next the third lock 19, and so on, is forced beneath the upper flange of the seat 7. In this manner the several locks 17, 18, . . . can be made to engage the seat 7 and to secure one another with the exception of the last lock 22, the free end of which is simply pushed against the nave of the first lock 17 and requires to be specially secured, for example by means of a cord 23 or wire passed through holes in the ribs of the two locks 17 and 22 and closed by a leaden seal or the like.

For opening the vessel, it is only necessary to cut the cord 23 and to take off the leaden seal 24, after which first the last lock 22, then the last but one lock 21, and so on is turned inwardly into the position indicated by the dotted lines in Fig. 2, when the lid 15, 14 with the locks 17, 18, . . . on it can be withdrawn.

The lid described and its seat can be varied without departing from the spirit of my invention.

I claim:

1. The combination with a metallic vessel having on its neck two superposed flanges projecting inwardly and leaving a space between them, the upper flange having a larger opening than the lower flange, of a lid adapted to be inserted through the upper flange and placed on the lower flange, arch-like locks pivoted at one end to said lid and adapted to engage beneath the upper flange, they having at the pivoted ends cams and all with the exception of one lock at the free ends recesses, so that by turning the locks one after the other into engagement beneath the upper flange each lock engages with its cam in the recess of the preceding lock for securing the latter, while the last lock is merely pushed with its free end into contact with the cam of the first lock, and means for securing the last lock.

2. The combination with a metallic vessel having on its neck two superposed flanges projecting inwardly and leaving a space between them, the upper flange having a larger opening than the lower flange, of a lid adapted to be inserted through the upper flange and placed on the lower flange, arch-like locks pivoted at one end to said lid and adapted to engage beneath the upper flange, they having at the pivoted ends cams and all with the exception of one lock at the free ends recesses, so that by turning the locks

one after the other into engagement beneath the upper flange each lock engages with its cam in the recess of the preceding lock for securing the latter, while the last lock is merely pushed with its free end into contact with the cam of the first lock, and a detachable connection between the free end of the last lock and the pivoted end of the first lock.

3. The combination with a metallic vessel having a neck, of a seat secured to the neck of said vessel and consisting of a ring with two inside flanges at top and bottom, the top flange having a larger opening than the bottom flange, a lid adapted to be inserted through the top flange and placed on the bottom flange of said seat and provided with pins along its periphery, arch-like locks mounted to turn at one end on the pins of said lid and adapted to engage beneath the top flange of said seat, they having at the pivoted ends cams and all with the exception of one lock at the free ends recesses, so that by turning the locks one after the other into engagement beneath the top flange each lock engages with its cam in the recess of the preceding lock for securing the latter, while the last lock is merely pushed with its free end into contact with the cam of the first lock, and means for securing the last lock.

4. The combination with a metallic vessel having a neck, of a seat secured to the neck of said vessel and consisting of a ring with two inside flanges at top and bottom, the top flange having a larger opening than the bottom flange, a lid adapted to be inserted through the top flange and placed on the bottom flange of said seat and provided with pins along its periphery, arch-like locks mounted to turn at one end on the pins of said lid and adapted to engage beneath the top flange of said seat, they having at the pivoted ends cams and all with the exception of one lock at the free ends recesses, so that by turning the locks one after the other into engagement beneath the top flange each lock engages with its cam in the recess of the preceding lock for securing the latter, while the last lock is merely pushed with its free end into contact with the cam of the first lock, and a detachable connection between the free end of the last lock and the pivoted end of the first lock.

5. The combination with a metallic vessel having the edge of its neck turned over to form an outer border, of a ring from sheet metal so secured to the neck of said vessel as to engage in its border and to present an inner bottom flange abutting upon the inside of the neck, a seat consisting of a ring with two inside flanges above and below, the upper flange having a larger opening than the lower flange, said seat being secured to said ring by turning over the inner edge of the bottom flange of the ring over the lower

flange of the seat, a lid adapted to be inserted through the upper flange of said seat and placed on the turned-over edge of the bottom flange of said ring and provided with pins along its periphery, arch-like locks
 5 mounted to turn at one end on the pins of said lid and adapted to engage beneath the upper flange of said seat, they having at the pivoted ends cams and all with the exception
 10 of one lock at the free ends recesses, so that by turning the locks one after the other into engagement beneath the upper flange each lock engages with its cam in the recess of the preceding lock for securing the latter, while the last lock is merely pushed with its
 15 free end into contact with the cam of the first lock, and means for securing the last lock.

6. The combination with a metallic vessel
 20 having the edge of its neck turned over to form an outer border, of a ring from sheet metal so secured to the neck of said vessel as to engage in its border and to present an inner bottom flange abutting upon the inside
 25 of the neck, a seat consisting of a ring with two inside flanges above and below, the upper flange having a larger opening than the lower flange, said seat being secured to said ring by turning over the inner edge of the
 30 bottom flange of the ring over the lower flange of the seat, a lid adapted to be inserted through the upper flange of said seat and placed on the turned-over edge of the bottom flange of said ring and provided
 35 with pins along its periphery, arch-like locks mounted to turn at one end on the pins of said lid and adapted to engage beneath the upper flange of said seat, they having at the pivoted ends cams and all with the exception
 40 of one lock at the free ends recesses, so that by turning the locks one after the other into engagement beneath the upper flange each lock engages with its cam in the recess of the preceding lock for securing the latter, while

the last lock is merely pushed with its free
 45 end into contact with the cam of the first lock, and a detachable connection between the free end of the last lock and the pivoted end of the first lock.

7. The combination with a metallic vessel
 50 having the edge of its neck turned over to form an outer border, of a first ring from sheet metal so secured to the neck of said vessel as to engage in its border and to present an inner bottom flange abutting upon
 55 the inside of the neck, a second ring from sheet metal so secured to said first ring as to bear against its inner cylindrical wall and to inclose its outside and also a portion of the outside of the neck of said vessel, a seat consisting of a ring with two inner flanges
 60 above and below, the upper flange having a larger opening than the lower flange, said seat being secured to said first and second rings by turning over the inner edge of the
 65 bottom flange of the first ring over the lower flange of the seat, a lid adapted to be inserted through the upper flange of said seat and placed on the turned-over edge of the bottom flange of said first ring and provided
 70 with pins along its periphery, arch-like locks mounted to turn at one end on the pins of said lid and adapted to engage beneath the upper flange of said seat, they having at the pivoted ends cams and all with the exception
 75 of one lock at the free ends recesses, so that by turning the locks one after the other into engagement beneath the upper flange each lock engages with its cam in the recess of the preceding lock for securing the latter, while
 8 the last lock is merely pushed with its free end into contact with the cam of the first lock, and means for securing the last lock.

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