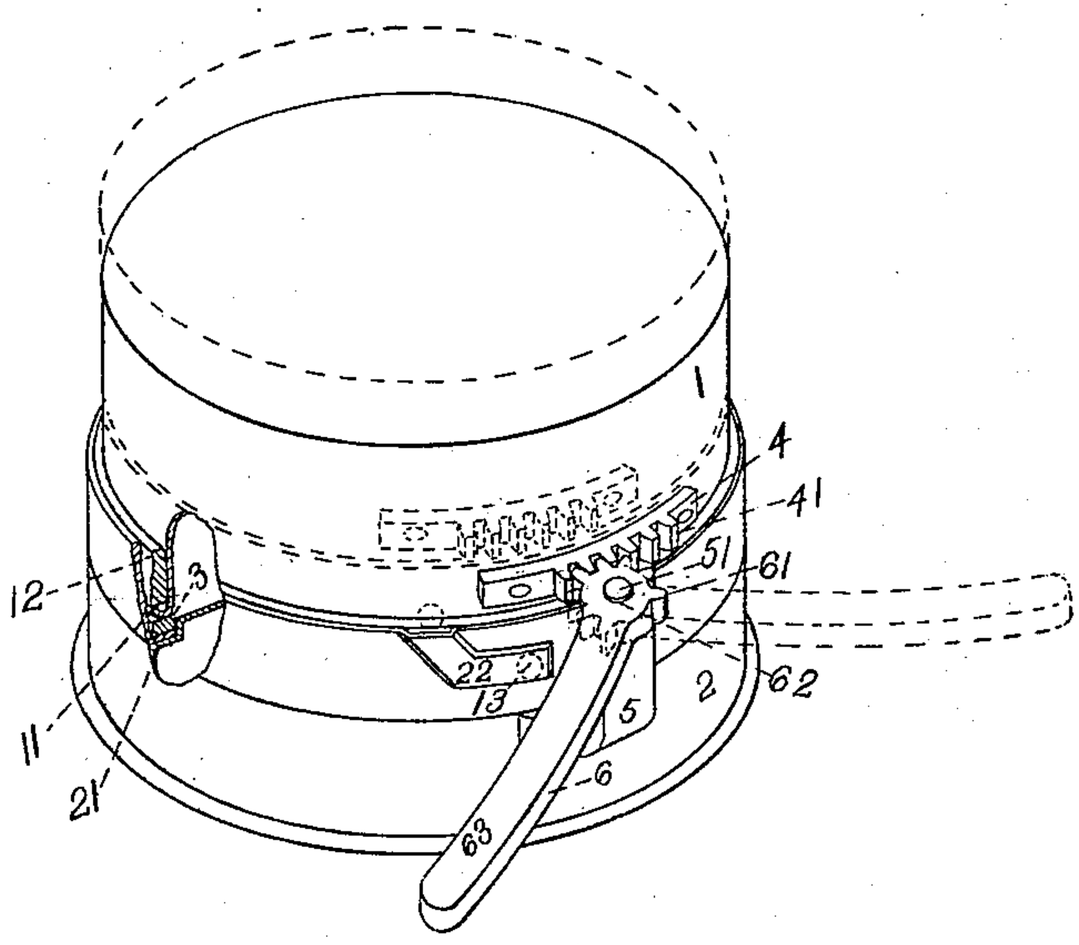
No. 631,820. Patented Aug. 29, 1899.

F. RHIND.

LAMP.

(Application filed Apr. 5, 1899.)

(No Model.)



WITNESSES:

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FRANK RHIND, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF ONE-HALF TO THE BRIDGEPORT BRASS COMPANY, OF SAME PLACE.

LAMP.

SPECIFICATION forming part of Letters Patent No. 631,820, dated August 29, 1899.

Original application filed August 5, 1898, Serial No. 687,767. Divided and this application filed April 5, 1899. Serial No. 711,733. (No model.)

To all whom it may concern:

Be it known that I, FRANK RHIND, a citizen of the United States, residing at Bridgeport, Connecticut, have invented a new and useful Improvement in Lamps, of which the following is a specification.

My invention relates to a form of coupling used to connect two parts of a lamp or the like where a fluid-tight joint is required. It is especially applicable to joints in acetylene-lamps, which are liable to be "stuck" by chemical erosion or mechanical action.

In the accompanying drawing, which represents in elevation, partly broken away, so much of an acetylene-lamp as is necessary to show my invention, 1 and 2 respectively designate the upper and lower portions of a lamp-body; 11 an outturned flange, 12 a band, and 13 a pin, all at the lower end of the wall of the portion 1; 21, an inwardly and upwardly turned flange within the portion 2; 22, a lock-recess at the upper end of the wall of the portion 2; 3, a resilient washer; 4, a rack having teeth 41; 5, a lug having cylindric portion 51; 6, a wrench having teeth 61, aperture 62, and handle 63.

In the example of my invention illustrated in the drawing the upper portion 1 of the lamp is shown as having a cylindric lower end, turned outward to form a flange 11. A band 12 encircles the portion 1 immediately above the flange 11. A plurality of projecting lugs or pins 13 are formed from or firmly secured to the wall 1 below the band 12. Near the upper cylindric end of the lower portion 2 is an internal flange 21, forming a groove adapted to contain a resilient washer 3. L-shaped external locking-recesses 22 in the upper edge of the wall 2 correspond in number and position to the pins 13. A segmental toothed rack 4, having radial teeth 41, is secured on the wall 1 near its lower end. At the upper end of the wall 2 is secured a lug 5, the cylindric vertical tip 51 of which extends above the wall. A wrench 6, consisting of a toothed segment 61, having a central aperture 62, and of a handle 63, is clearly shown in the drawing.

The operation of my device will be readily understood from an inspection of the drawing. To couple together the parts 1 and 2, the upper part 1 is inserted into the part 2, the lugs 13 engaging in the bayonet-locks 22. The joint is then tightened by setting the wrench 6 in position, its aperture 62 engaging the lug portion 51 as a fulcrum and its teeth 61 engaging with the rack-teeth 41 and turning the wrench to force the pins 13 farther into the lock-recesses 22. The flange 11 is thus pressed very firmly against the washer 3 in the flange 21 and a gas-tight joint secured. The band 12 serves to stiffen the lower end of the wall 1 and to prevent undue strain on the flange 11. It is found in practice that the joints in a lamp or other generator of acetylene gas are apt to "stick" or adhere together in use. This adhesion is so considerable as to render it difficult to separate the parts by hand or with an ordinary spanner. In a construction of the size or proportion shown in the drawing a leverage of ten to one is obtained by means of the wrench 6, applied as shown.

While I prefer the coupling shown, in which the projecting lugs, as 13, engage in corresponding inclined grooves, as 22, it is obvious that these are simply parts of an interrupted screw-thread and that a well-known equivalent of a bayonet-lock may be employed, if desired.

I am aware of various couplings in which a toothed rack is employed. In a cycle-lamp, however, cast-metal walls would be inadmissible on account of their weight. My device combines in a sheet-metal construction stiffness, a firm pressure on the packing by which a gas-tight joint is secured, and ease of manipulation.

This case is filed as a divisional application of Serial No. 687,767, filed August 5, 1898.

What I claim is—

1. In a lamp-coupling in combination two portions having substantially cylindric walls of different diameters, an annular flange within one of said walls adapted to seat a resilient washer, the other of said walls adapted to abut against said washer, means as projections on one of said walls and inclined grooves on the other of said walls for rotatably locking said portions together, a rack on one of

said portions and a fulcrum-lug on the other of said portions which affords a bearing for a lever or wrench engaging with said rack to rotate one of said portions relatively to the other, substantially as described.

2. In a lamp-coupling in combination two portions having substantially cylindric walls of different diameters, an annular inwardly-projecting flange within one of said walls adapted to seat a resilient washer, an outturned flange on the other of said walls adapted to abut against said washer, means as projections on one of said walls and inclined grooves on the other of said walls for rotatably locking said portions together, a rack on one of said portions and a fulcrum-lug on the other of said portions which affords a bearing for a lever or wrench engaging with said rack to rotate one of said portions relatively to the other, substantially as described.

3. In a lamp-coupling in combination two portions having substantially cylindric walls of different diameters, an annular flange within one of said walls adapted to seat a resilient washer, the other of said walls adapted to abut against said washer, means as projections on one of said walls and inclined grooves on the other of said walls for rotatably locking said portions together, a rack on one of said portions and a fulcrum-lug consisting of a vertical pin adjacent to and in the same plane with said rack on the other of said portions which affords a bearing for a lever or wrench engaging with said rack to rotate one of said portions relatively to the other, substantially as described.

4. In a lamp-coupling in combination two portions having substantially cylindric walls of different diameters, an annular flange within the outer of said walls, a resilient washer in said flange, means substantially as described for locking said portions together so that the end of said inner wall abuts on said washer and means for rotating said parts to increase the pressure of said end of said inner wall against said washer.

5. In a lamp-coupling in combination two portions having substantially cylindric walls of different diameters, an annular flange within one of said walls adapted to seat a resilient washer, the other of said walls adapted to abut against said washer, means as projections on one of said walls and inclined grooves on the other of said walls for rotatably locking said portions together, a rack on one of said portions, a fulcrum-lug on the other of said portions and a wrench adapted to engage said lug and said rack and to rotate one of said portions relatively to the other, substantially as described.

6. In a lamp-coupling in combination two portions having substantially clyindric walls of different diameters, an annular flange within one of said walls adapted to seat a resilient washer, the other of said walls adapted to abut against said washer, means as projections on one of said walls and inclined grooves on the other of said walls for rotatably locking said portions together, a rack on one of said portions, a fulcrum-lug on the other of said portions and a segmentally-toothed wrench adapted to engage said lug and said rack and to rotate one of said portions relatively to the other, substantially as described.

FRANK RHIND.

Witnesses:
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