No. 609,793. Patented Aug. 30, 1898.

J. D. COPPERFIELD.

BARREL HEAD.

(Application filed Sept. 4, 1897.)

(No Model.)

FIG. 1

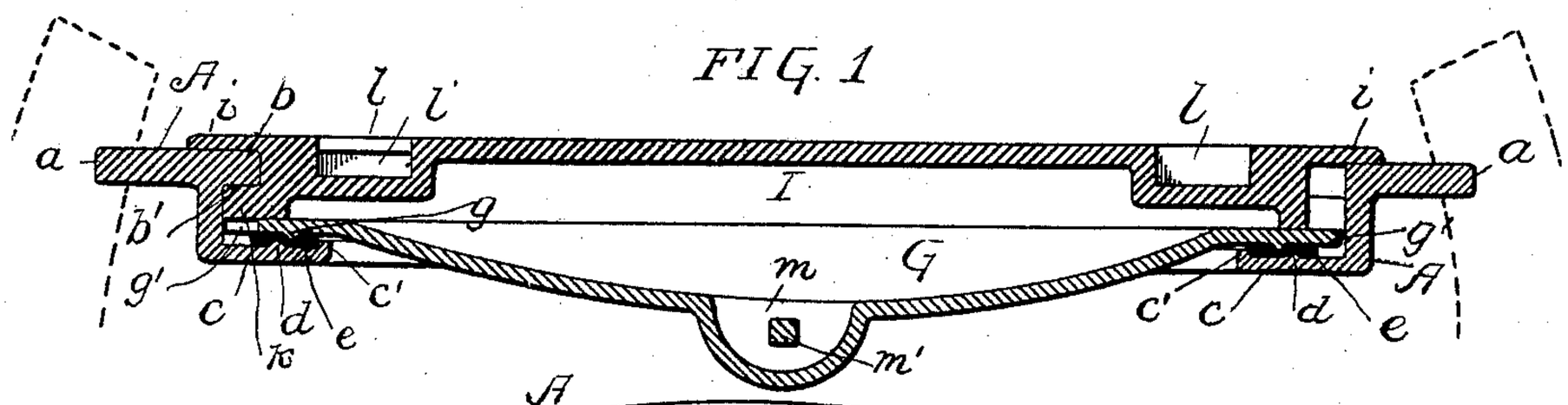


FIG. 2

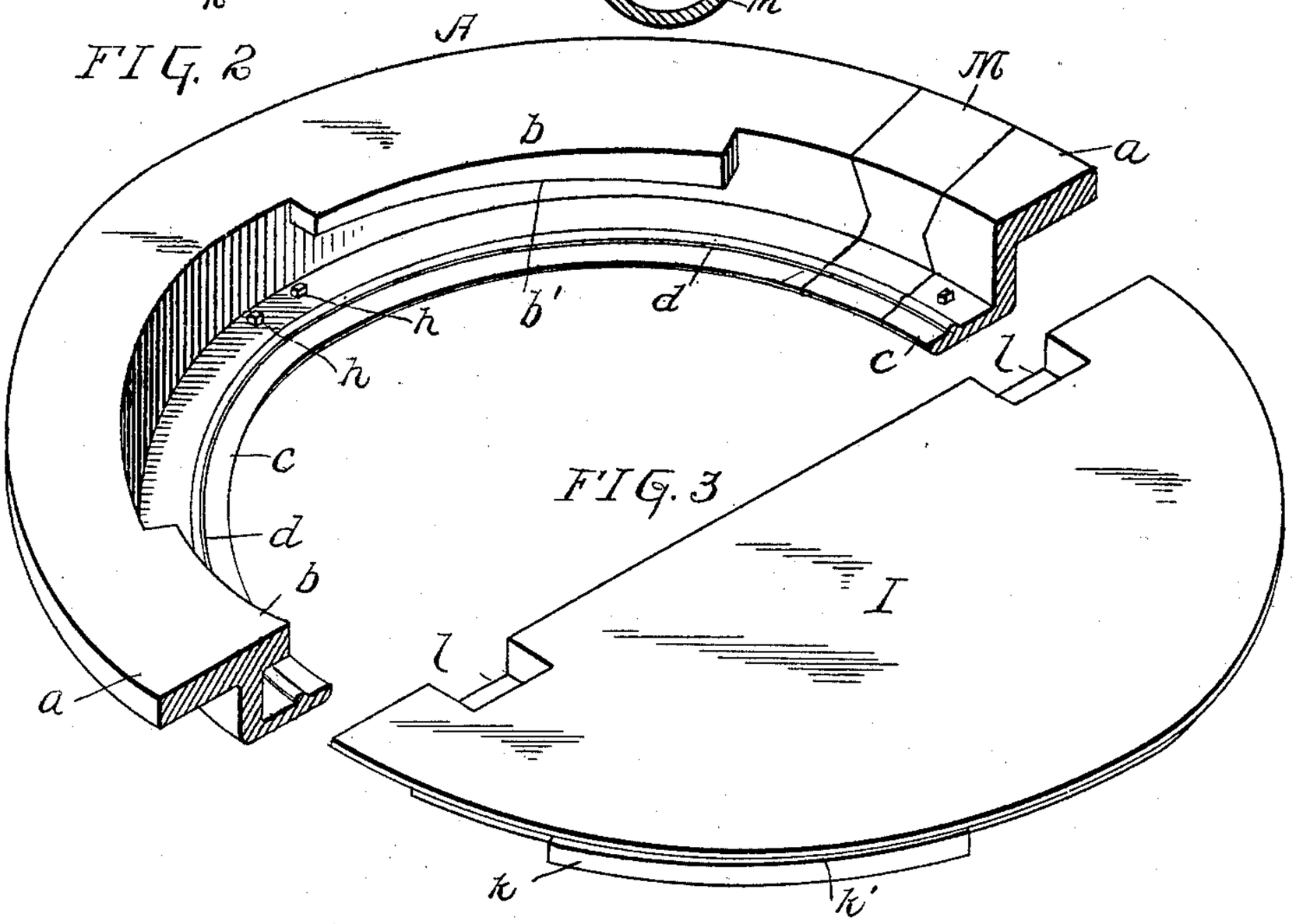
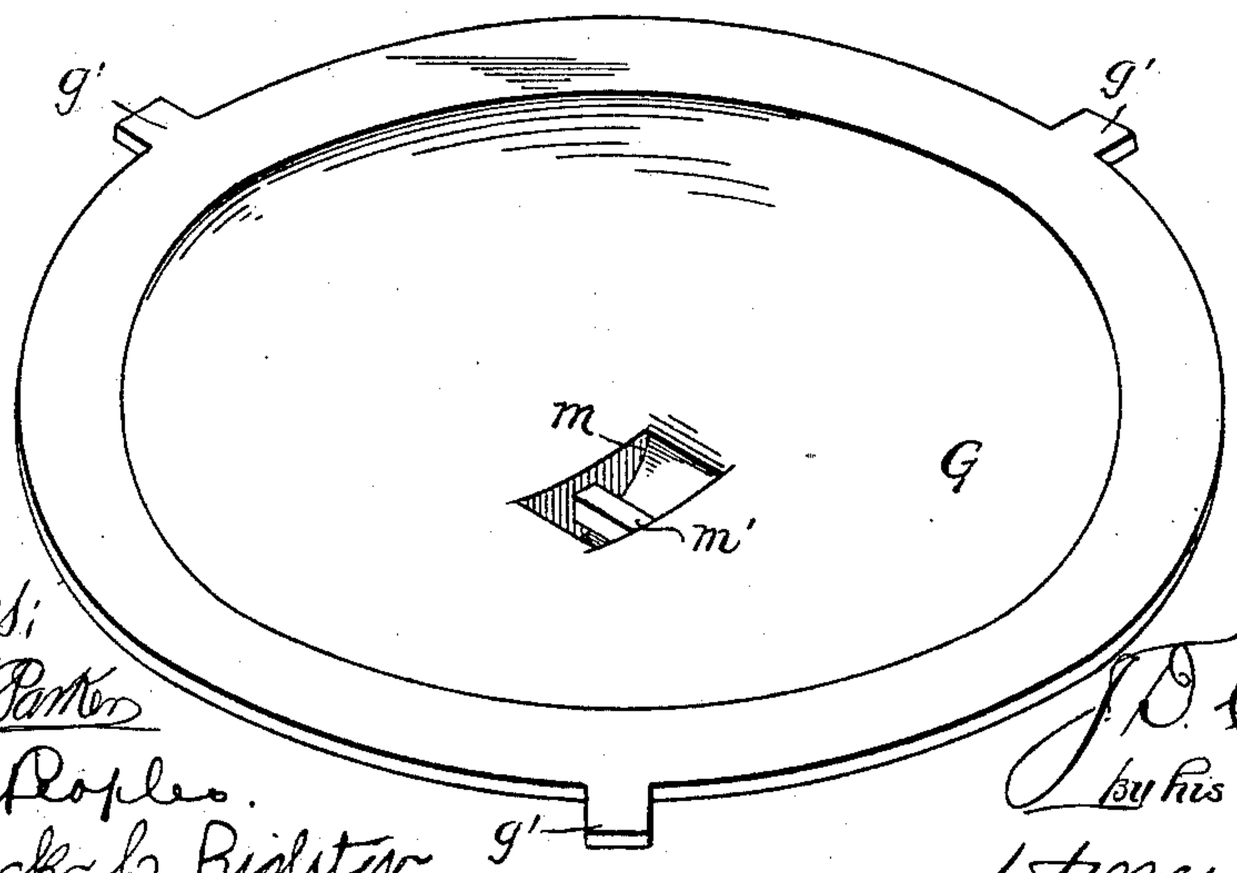


FIG. 3

FIG. 4



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UNITED STATES PATENT OFFICE.

JAMES D. COPPERFIELD, OF PHILADELPHIA, PENNSYLVANIA.

BARREL-HEAD.

SPECIFICATION forming part of Letters Patent No. 609,793, dated August 30, 1898.

Application filed September 4, 1897. Serial No. 650,576. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. COPPERFIELD, a citizen of the United States, and a resident of the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Barrel-Heads, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to certain improvements in barrel-heads of that class employed in barrels for containing beer or other liquids, and has for its object to provide a barrel-head with a top or cover which may be readily removed from position and which when in place will form a tight seal or joint with the head proper and prevent the passage of liquid or air and will withstand high pressure.

A further object of my invention is to provide for the removal of the head as a whole when it is desired to make repairs, as more fully set forth hereinafter.

In the accompanying drawings, Figure 1 is a sectional elevation of a barrel-head provided with a removable cap or cover in accordance with my invention. Fig. 2 is a sectional perspective view of the ring forming the head proper. Fig. 3 is a similar view of the cover-disk forming part of the removable cap or cover, and Fig. 4 is a perspective view of the sealing-disk.

In barrels for containing liquids, especially beer-barrels, it is found desirable to gain access to the interior of the barrel for washing purposes and at times when it becomes necessary to reline the inner surface of the barrel. In the relining of barrels as ordinarily constructed the end hoops must be removed in order to free the edges of the barrel-head from the stave-croze, an operation which materially increases the cost of keeping the barrels in good repair and tends to shorten the life of the barrel.

In carrying out my invention I provide the barrel-head with a sealing cap or cover which will preserve the tankage and may be readily removed to allow access to the interior of the barrel, while when secured in position it will permit the carting or rolling of the barrel from place to place without danger of spilling its contents.

Referring to the drawings, A represents the barrel-head, made in the form of a ring and provided with an external flange *a*, adapted to fit into the usual internal grooves provided near each end of the barrel-staves, as illustrated by dotted lines in Fig. 1. On the inner surface of the ring are a series of blocks *b*, having inclined lower surfaces *b'*, and at a point below these blocks is an inwardly-projecting flange *c*, having on its upper surface an annular bead *d*.

On the flange *c* is placed a sealing-ring *e*, formed of rubber or other yielding material, and on top of the sealing-ring is a sealing-disk G, having a bead *g* on its under surface at a point just within the bead *d*, so that the ring *e* will be caught between the two beads and between the upper surface of the flange *c* and the lower surface of the disk G, so as form a joint. To prevent contact of the contents of the barrel with the ring *e*, I may provide an upwardly-projecting flange *c'* at the inner edge of flange *c*, as shown in Fig. 1. To keep the sealing-disk in a central position, I provide on its periphery a number of fingers *g'*, which extend nearly to the inner surface of the ring A, and to prevent any turning of the sealing-disk lugs *h* are provided on the upper surface of flange *c* to make contact with the opposite edges of these fingers and hold the disk in proper position.

I represents a cover-disk having an outwardly-projecting flange *i*, which extends over a portion of the upper surface of the ring A and forms a comparatively tight joint therewith to prevent the access of liquid to the interior of the barrel. The cover-disk I has a downwardly-projecting flange, which fits within the ring A and is provided on its periphery with a series of spaced wedge-blocks *k*, having inclined upper surfaces *k'*, adapted to coact with the inclined lower surfaces of the blocks *b* and produce a wedging action, which will force the sealing-disk G tightly against the yielding ring *e* and so form a liquid-proof joint.

The cover-disk I is provided at diametrically opposite points with openings *l*, each being recessed at *l'* for insertion of any suitable operating-tool by which the cover-disk may be screwed or turned into or out of position. To provide for the removal of the sealing-disk G, the latter is provided with a central

recess *m*, across which extends a bar *m'*, which may be caught by a hook and readily lifted from position.

To provide for the removal of the ring A without altering the position of the staves, said ring is made in sections, which are connected together by double dovetailed blocks M, adapted to fit between the adjacent correspondingly-shaped ends of the various sections of the ring.

With a barrel-head constructed in accordance with my invention the yielding ring *e* will last for a considerable period of time owing to the fact that the sealing-disk G is pressed upon it in a vertical direction only and there is no twisting or screwing of the ring, such as would result if the sealing-ring were turned in forcing it in position.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination a barrel-head having its central portion cut away to form a ring, an inwardly-projecting flange at the lower portion of said ring, wedge-blocks having inclined lower surfaces provided in the internal face of said ring overhanging said flange, a sealing-disk seated on the inwardly-projecting flange and means to prevent rotation of said disk, a cover-disk adapted to said ring above and upon the sealing-disk and wedge-blocks provided on the inner face of said cover-disk adapted to coact with the wedge-blocks of the ring, substantially as described.

2. In combination a ring for barrel-heads having an external flange adapted to fit in the croze of the barrel-staves, an inwardly-projecting flange at the lower portion of said ring, wedge-blocks provided on the internal face of the ring at or near the upper portion of the same having inclined lower wedge-shaped surfaces overhanging said inwardly-projecting flange, a sealing-disk on the inwardly-projecting flange having a portion of its periphery cut away to pass said wedge-shaped blocks on assembling, spacing-fingers *g'*, and a cover-disk having outwardly-extending flanges, of greater diameter than the internal diameter of the ring adapted to the face of said ring, wedge-blocks provided on the lower face of said outer cover at intervals having an inclined upper surface adapted to the inclined lower surface of the overhanging wedge-blocks for binding upon the upper face of the sealing-disk when in position, substantially as described.

3. In combination a ring for barrel-heads and means for securing said ring to the barrel-head, an inwardly-projecting lower flange at the lower portion of said ring, wedge-blocks having inclined lower surfaces provided on the internal face of said ring overhanging said lower flange, a sealing-disk seated on said inwardly-projecting flange and spacing-fingers provided upon the periphery thereof, a cover-disk provided upon said sealing-disk having at intervals near its periphery on the lower face wedge-shaped blocks having inclined upper faces adapted to coact with the wedge-blocks of said ring and means for adjusting said disks, substantially as described.

4. In combination a barrel-head having a ring, A, outwardly-extending flange, *a*, inwardly-extending flange, *c*, encircling bead, *d*, upon the face of the flange, *c*, sealing-ring, *e*, a sealing-disk, G, having spacing-fingers, *g'*, wedge-blocks, *b*, provided in said ring, A, having inclined lower surfaces, cover-disk, I, having external flange, *i*, adapted to the outer face of the ring, A, inner wedges, *b'*, provided at intervals upon the periphery of the inner portion of the disk, I, said wedges having upper inclined faces adapted to the upper inclined wedges, *b*, and means for adjusting said disks, substantially as described.

5. In combination, a barrel-head having its central portion cut away to form a ring A adapted to a seat within the stave-croze, an inwardly-projecting flange *c*, at the lower portion of said ring, wedge-blocks *b* having inclined lower surfaces provided on the internal face of said ring, a sealing-disk G, having peripheral spacing-fingers *g'*, adapted to form a sealing-joint with flange *c*, a cover-disk I, provided on a periphery with wedge-blocks *k*, and having an outwardly-projecting flange *i*, adapted to fit over a portion of the upper surface of the ring A, the upper surface of the cover-disk being provided with diametrically opposite recessed openings *l*, substantially as specified.

6. In combination, a barrel-head made in the form of a sectional ring, the adjacent edges of each section being dovetailed or recessed for the reception of a correspondingly-shaped filling-block whereby on the removal of said block or blocks the sections of the ring may be removed from position, and a cap or cover adapted to a seat in said ring, substantially as specified.

In testimony whereof I have hereunto set my hand this 26th day of August, A. D. 1897.

JAMES D. COPPERFIELD.

Witnesses:
ELIAS H. WHITE,
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