No. 771,740. PATENTED OCT. 4, 1904.

G. A. McKEEL.

DUST OR MUD CAP FOR VEHICLE HUBS.

APPLICATION FILED JUNE 10, 1904.

NO MODEL.

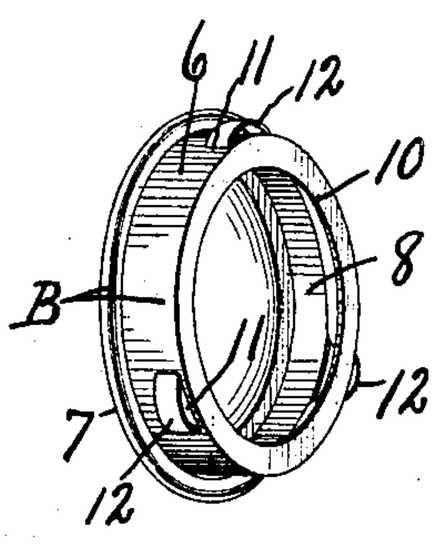

FIG. 1.

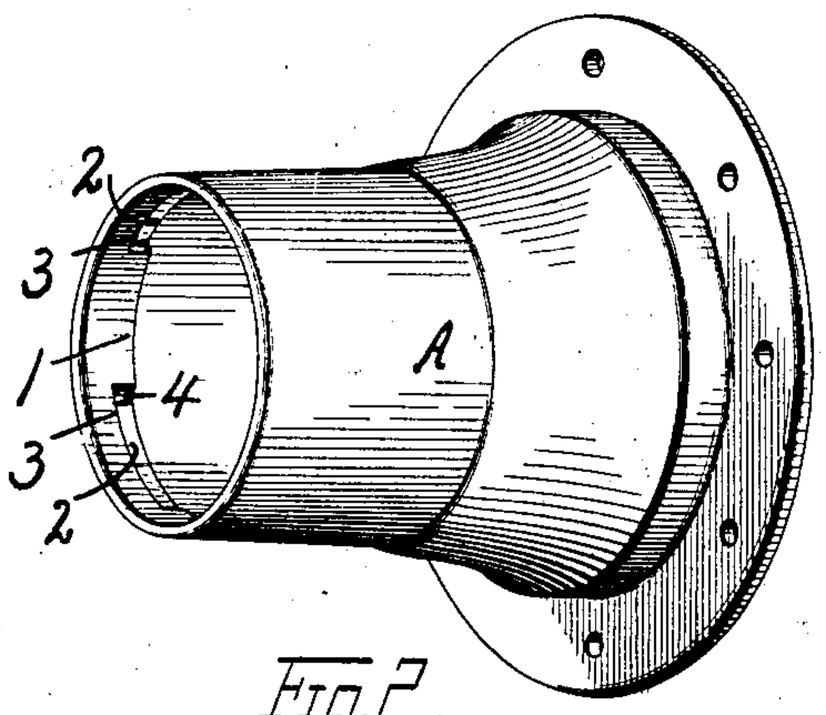

FIG. 2.

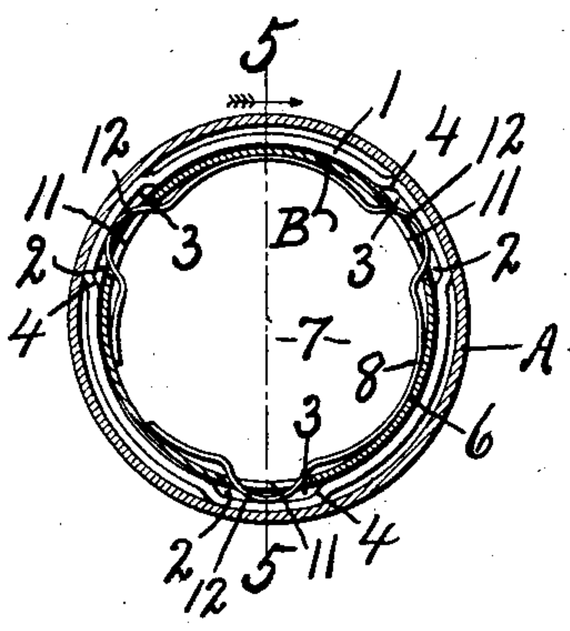

FIG. 3.

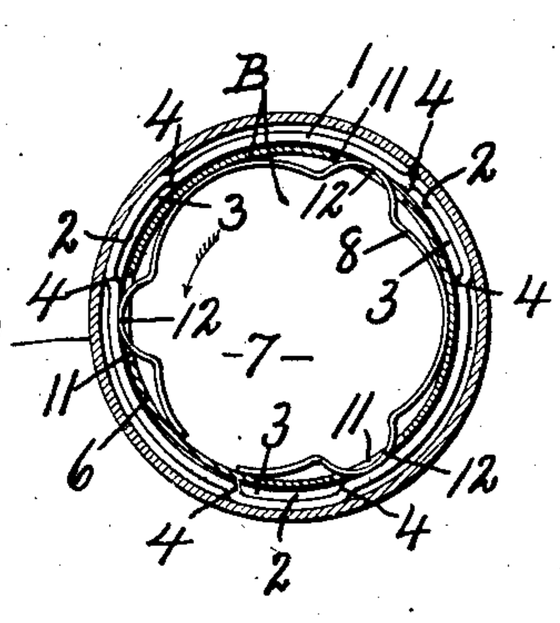

FIG. 4.

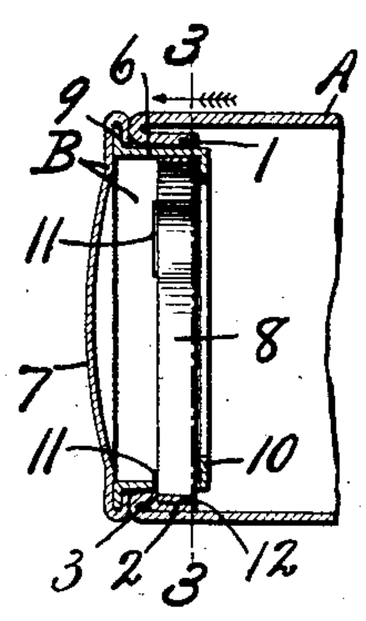

FIG. 5.

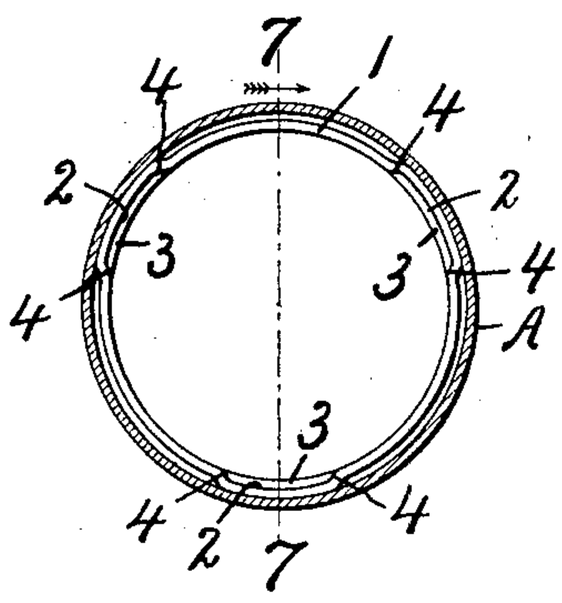

FIG. 6.

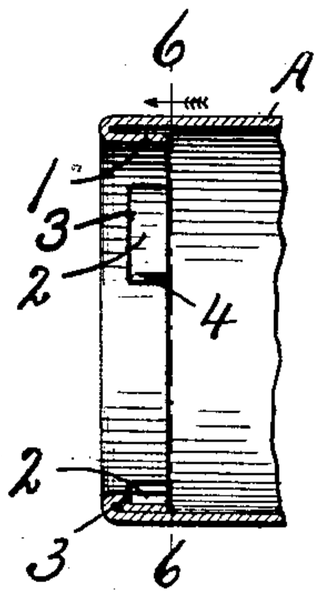

FIG. 7.

FIG. 8.

WITNESSES.

B. E. Robinson.

F. E. Arthur.

INVENTOR.

George A. McKeel

BY,

Howard P. Denison

ATTORNEY.

No. 771,740. Patented October 4, 1904.

UNITED STATES PATENT OFFICE.

GEORGE ASA McKEEL, OF JACKSON, MICHIGAN, ASSIGNOR TO GEORGE A. McKEEL & COMPANY, LIMITED, OF JACKSON, MICHIGAN, A PARTNERSHIP ASSOCIATION OF MICHIGAN.

DUST OR MUD CAP FOR VEHICLE-HUBS.

SPECIFICATION forming part of Letters Patent No. 771,740, dated October 4, 1904.

Application filed June 10, 1904. Serial No. 211,893. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ASA McKEEL, of Jackson, in the county of Jackson, in the State of Michigan, have invented new and useful Improvements in Dust and Mud Caps for Vehicle-Hubs, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in dust and mud caps for metal vehicle-hubs or point-bands, and refers more particularly to the construction of the cap and adjacent end of the hub with which it interlocks.

My object is to produce a dust-cap which may be manufactured at a minimum cost and may be placed in the point of the band and positively interlocked therewith without adding any parts to the hub-band and may be readily removed after partial rotation.

Other more specific objects and uses will appear in the following description.

In the drawings, Figures 1 and 2 are perspective views showing, respectively, the detached cap and a metal hub-band which is adapted to receive the cap. Figs. 3 and 5 are sectional views taken, respectively, on lines, 3 3, Fig. 5, and 5 5, Fig. 3, showing a portion of the point-band with the dust-cap in operative position. Fig. 4 is a sectional view similar to Fig. 3, except that the cap is partially rotated to compress the locking-spring preparatory to the removal of the cap. Figs. 6 and 7 are sectional views taken, respectively, on lines 6 6, Fig. 7, and 7 7, Fig. 6, showing particularly the flange and depressions in the outer end of the hub-band into which the cap is fitted. Fig. 8 is a transverse sectional view through one of the spring-loops.

Similar reference characters indicate corresponding parts in all the views.

A represents a metal hub or point band having its outer end provided with an inturned flange 1, which in turn is formed with a series of (in this instance three) depressions 2, spaced equidistant apart and of sufficient length to receive the yielding shoulders of an expansion-spring presently described. This flange 1 is circular, and the depressions 2 are formed by pressing portions of the inner edge outwardly, thus forming abrupt retaining-shoulders 3 and inclined or beveled faces 4 at the ends of each depression, the object of which will be brought out in the following description.

A metal dustproof cap B is constructed to fit in the open outer end of the band A and preferably consists of a cylindrical sheet-metal shell or ring 6, a sheet-metal cover 7 for one end of the ring, and a split spring-ring 8.

The sheet-metal ring 6 is provided at one end with an outturned flange 9 and at its opposite end with an inturned flange 10 and is provided with a series of (in this instance three) openings 11 through its sides between the flanges 9 and 10, said openings being spaced equidistant apart and correspond with the depressions in the inturned flange 1 of the metal band A. The diameter of the sheet-metal ring 6 is substantially the same or slightly less than the diameter of the flange 1 and has an easy sliding fit in said flange, so that the cap may be readily inserted and removed.

The split spring-ring 8 is placed within the cap-shell 6 and is tensioned to expand laterally against the inner wall of said shell. This spring is formed with a series of (in this instance three) loops 12, which are pressed outwardly in forming the spring and are spaced equidistant apart and project through the openings 11 some distance beyond the periphery of the shell 6. The spring is flat, and the openings 11 are substantially the same width as the spring, or rather as the loop which projects through the openings, although sufficient clearance is left to permit the loops of the spring to move easily in their openings.

The space between the outer edges of the openings 11 and also the loops 12 and the inner face of the flange 9 is substantially equal, but slightly greater than the distance between the outer end of the point-band and shoulders

3, so that when the cap is inserted in the outer end of the point the loops readily expand into the recesses 2 and behind the shoulders 3, whereupon the cap is automatically locked in place. In order to facilitate the insertion of this cap, the inner edges of the loops are beveled at 13, and in forming the inturned flange 1 the outer edge of the point-band is rounding in cross-section, so that when the beveled edges are brought into engagement with this rounded edge and a slight pressure is brought to bear upon the cap said beveled faces ride inwardly upon the rounded edge, thereby compressing the spring and permitting the cap to enter the point of the band, after which the cap is rotated until the loops 12 are brought into registration with the recesses 2, whereupon the spring expands and forces the loops into the recesses and under the shoulders 3, thus locking the cap in place.

The cover 7 is also circular, and its marginal edge is crimped over and upon the outturned flange of the shell 6 to lock the two parts together, the edge of said cover being serrated or knurled to afford a secure grip for the hand. In removing this cap it is rotated by hand in either direction, thus causing the curved sides of the loops 12 to ride upon the beveled faces 4 of the flange 1, which forces the loops inwardly against the action of the spring until they are within the periphery of the shell 6, whereupon the cap may be readily withdrawn endwise.

The operation of my invention will now be readily understood upon reference to the foregoing description and the accompanying drawings.

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

1. A metal hub-band having an annular flange depressed at intervals to form retaining-shoulders, in combination with a dust-cap fitting in the flange and having openings through its sides, and a compressible spring in the cap and having portions thereof protruding through the openings to enter the recesses in the flange and engage the retaining-shoulders, the ends of the depression being inclined to engage and compress the spring as the cap is rotated to permit the withdrawal of said cap.

2. The combination of a metal hub-band, with a cap removably inserted in the point or outer end of the band and provided with openings in its sides, of a continuous spring compressed in the cap and having portions thereof depressed and projecting through the openings and frictionally engaging the interior of the band.

3. In combination with a hub-band, a dust-cap having openings in its sides and provided with a stop-flange, a split spring-ring within and expanding against the inner sides of the cap and having portions thereof looped outwardly through the openings and engaging the hub-band.

4. A dust-cap for metal hub-bands comprising a metal ring having openings in its sides and an outturned annular flange on one end, a cover for the flanged end interlocked with the flange, and a split spring-ring in the cap and having portions thereof looped outwardly through the openings.

5. A dust-cap for metal hub-bands comprising a metal ring having openings in its sides and an outturned annular flange on one end, a cover for the flanged end interlocked with the flange, and a split spring-ring in the cap and having portions thereof looped outwardly through the openings, the edges of the loops being beveled to permit them to wedge into the end of the hub-band when the cap is inserted therein.

6. In combination with a metal hub-band having its outer end formed with an inturned flange portions of which are depressed outwardly to form retaining-shoulders, a cap rotatably fitted within the flange and provided with openings movable into and out of registration with the depressions, and a spring in the cap having loop portions projecting through the openings and into the recesses.

In witness whereof I have hereunto set my hand this 6th day of June, 1904.

GEORGE ASA McKEEL.

Witnesses:
WINTHROP WITHINGTON,
WM. SPARKS.