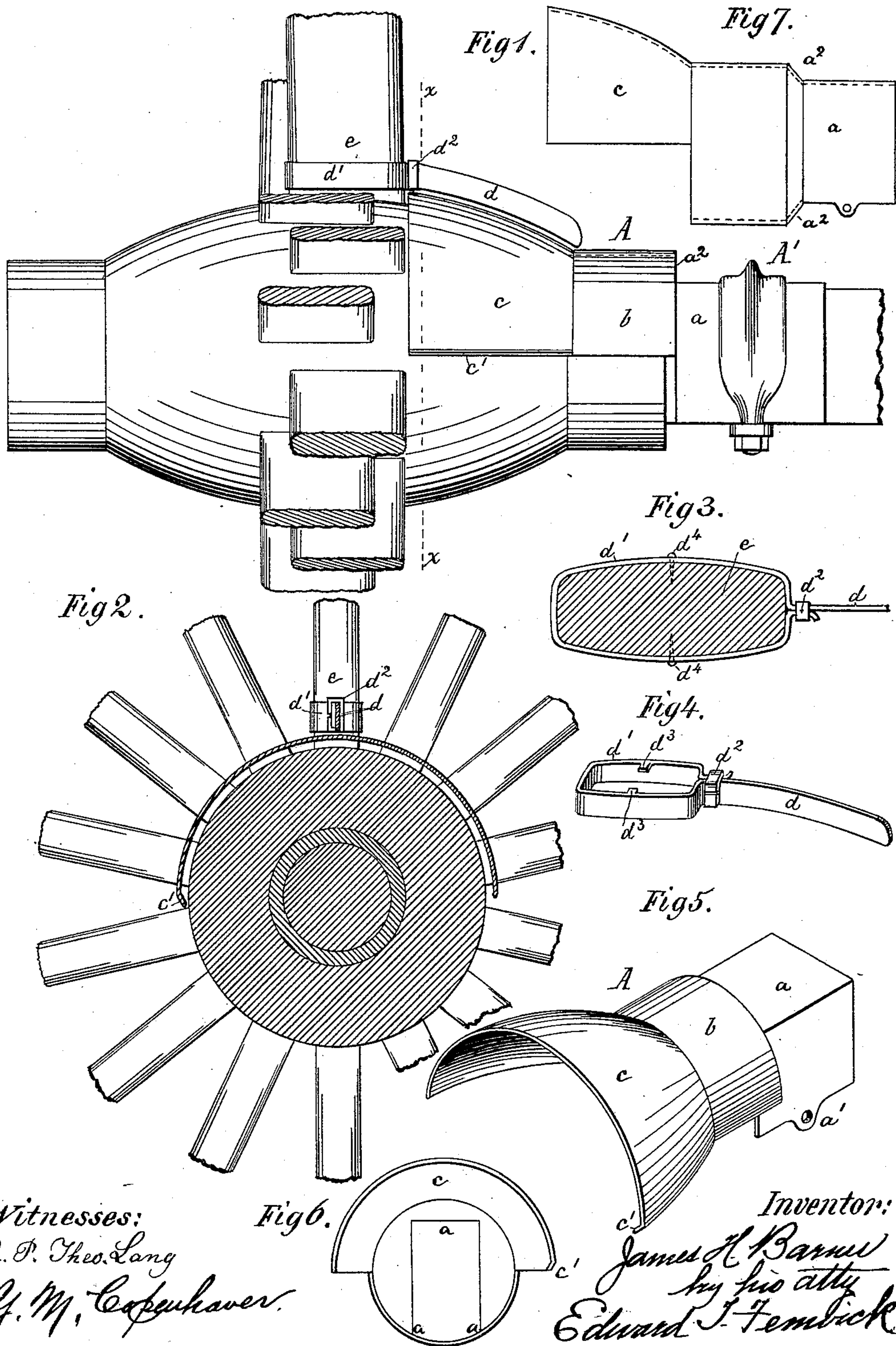


(No Model.)

J. H. BARNES.
SAND BAND FOR VEHICLES.

No. 429,713.

Patented June 10, 1890.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES HENRY BARNES, OF HARMONY VILLAGE, VIRGINIA.

SAND-BAND FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 429,713, dated June 10, 1890.

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To all whom it may concern:

Be it known that I, JAMES HENRY BARNES, a citizen of the United States, residing at Harmony Village, in the county of Middlesex and State of Virginia, have invented certain new and useful Improvements in Mud and Sand Guards for Axles of Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists in certain new and useful improvements in a mud or sand guard for axles of vehicles, whereby mud and dirt are prevented from getting into the inner end of a hub, and also in a great measure from insinuating themselves between the end of the guard onto the hub; and it also consists in a novel scraper to be used with said guard, whereby mud is prevented from accumulating on top of the guard, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is an elevation of a wheel-hub with a portion of the spokes broken off, and showing the improved guard and scraper as they appear when in use. Fig. 2 is a section in the line x of Fig. 1, looking toward the hub. Fig. 3 is a section through a spoke to which the scraper is attached, the section being taken above the scraper, showing means for securing the ends of the scraper and pins for holding the scraper in place upon the spoke. Fig. 4 is a detail perspective view of the scraper. Fig. 5 is a detail perspective view of the mud or sand guard. Fig. 6 is a cross-section of the axle, looking toward the hub; and Fig. 7 is a diagram of the guard, showing the hub-band portion and shoulder of the shank portion completely surrounding the hub-band and inner end of the hub.

A in the drawings represents my improved mud or sand guard, which is preferably constructed of a single piece of thin metal, either wrought or cast, and is adapted to fit the axle and of a contour to fit over the hub; or the guard may be made of several pieces of metal suitably united and adapted to fit over the axle and hub. The shank portion a of the guard is made to fit the axle snugly, or, if a wagon-bed rests upon the axle, to fit both the bed and axle, said shank portion being pref-

erably in the form of a sheath open at both ends and at bottom, as clearly shown in Fig. 5. This shank portion is provided with a shoulder a^2 , which extends perpendicularly or diagonally from the same and completely surrounds the axle; or its ends may simply meet or overlap each other at the bottom of the axle, as shown in Fig. 7. This shank portion, when made as in Fig. 5, may be extended downward at points to form ears a' , which are perforated, and through which a bolt is passed and secured by a nut; or the guard may be secured to the axle by an ordinary clip and nut, as shown in Fig. 1.

If the guard is formed with perforated ears a' , it might be desirable to form them of slightly thicker metal than that of which the other parts of the guard are constructed, which would prevent the ears being drawn out of shape and toward each other when the nut is screwed up; or the ears may be made of like thickness with the rest of the guard and the same object secured by placing in between the perforated ears a piece of tubular metal and passing through the same a bolt provided with a nut; but while rigidity is thus secured to the ears by either of the above constructions, yet sufficient flexibility will exist to allow the guard to be securely fastened on the axle and to prevent its moving horizontally on the same away from the hub. The shoulder of shank a extends within a short distance of the inner hub-band, sufficient space only being left between it and the said band to prevent frictional contact. From this shoulder extends a semi-cylindrical, cylindrical, or nearly cylindrical hub-band portion b of the guard, and the same is of greater diameter than the shank and is adapted to encircle the upper half of or the entire hub-band, and from this hub-band portion b the mud-guard portion proper c extends in a flaring form to within a very short distance of the spokes, and this portion is in cross-section semicircular from its inner to its outer end and of greater diameter than the hub, except at its lower rear edge, where it is gradually decreased in diameter by bending said edge inward, so as to have the same almost touch the hub, as clearly shown in Fig. 2. By thus forming the guard at its lower rear edge it practically serves for preventing

mud, dirt, and sand insinuating themselves between the hub and guard, while the guard portion proper *c* prevents the major portion of the mud, dirt, and sand from getting upon the same, said substances being prevented from entering the eye of the hub by the hub-band and shank portions. In the event of mud or dirt getting in under the lower rear edge *c'* of the guard portion proper *c* or under the guard at the open side end next to the spokes they will not be permitted to accumulate on the hub, as with every revolution of the wheel they will be removed or trimmed off by said lower rear edge.

For preventing an accumulation of mud upon the guard portion proper *c* a scraper *d* is provided, and the same is adapted to be securely fastened upon a spoke *e* of the wheel by a clasped loop *d'* or by any other suitable contrivance. This scraper is preferably of curved form, corresponding to the curved form of the guard portion proper *c*, and is preferably constructed of a piece of flat thin metal, say about one inch in width and of a length suitable for extending over the guard portion proper *c*. For securing the scraper in position it may be bent in the form of a loop *d'* around one of the spokes and the end of this loop portion secured against the scraper proper by means of a metal clasp *d''*, said clasp being bent around the said end of the loop and also the scraper, and is made secure by clamping or compressing it and then turning outward the extreme end of the loop, as illustrated in Figs. 3 and 4, or the scraper may be inserted between the ends of a clasp-loop which encircles the spoke and fastened with rivets or nuts. In this last-mentioned construction it is obvious that the scraper will be made separate from the clasp-loop which encircles the spoke. For preventing any incidental movement of the scraper on the spoke, by reason of shrinkage of the parts, spurs, as *d''*, Fig. 4, may be formed on the inner surface of the loop and the same made to penetrate the spoke a short distance; or, as a substitute for these spurs, screws or pins, as *d''*, Fig. 3, may be employed for the same purpose.

What I claim as my invention is—

1. A guard for axles of vehicles of greater diameter than the hub or hub-band having its rear edge turned inward radially, or nearly so, substantially as and for the purpose described.

2. A guard for axles of vehicles of greater diameter than the hub or hub-band, said guard having its lower edge turned inward radially, or nearly so, and provided with a shank having ears for securing the same to the axle, substantially as described.

3. The described mud or sand guard, comprising an axle-clipping portion, the hub-band shielding portion, and the hub-guard portion proper, which latter is set off some distance from the hub and has its lower rear edge turned inward radially close to the hub, so as to shed mud and dirt as well as to prevent its entrance under the guard, and also to trim off any incidental mud which may accumulate on the hub, substantially as described.

4. The described mud or sand guard, comprising an axle-clipping portion provided with a cylindrical or nearly cylindrical shoulder; a hub-band shielding portion, said shoulder and hub-band portion surrounding or nearly surrounding the axle and hub-band, respectively, and the hub-guard portion proper, substantially as described.

5. The mud and sand guard of the type specified, in combination with a scraper, substantially as described.

6. The scraper *d*, adapted to be secured to a spoke, whereby mud and dirt may be removed from the top of the guard, substantially as described.

7. The scraper *d*, provided with holding-spurs, substantially as described.

8. The scraper formed of a piece of metal bent into a loop and having one portion clasped upon the other, said clasp being retained by a bent end of the loop portion, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JAMES HENRY BARNES.

Witnesses:

P. T. WOODWARD,
E. TOPPING.