

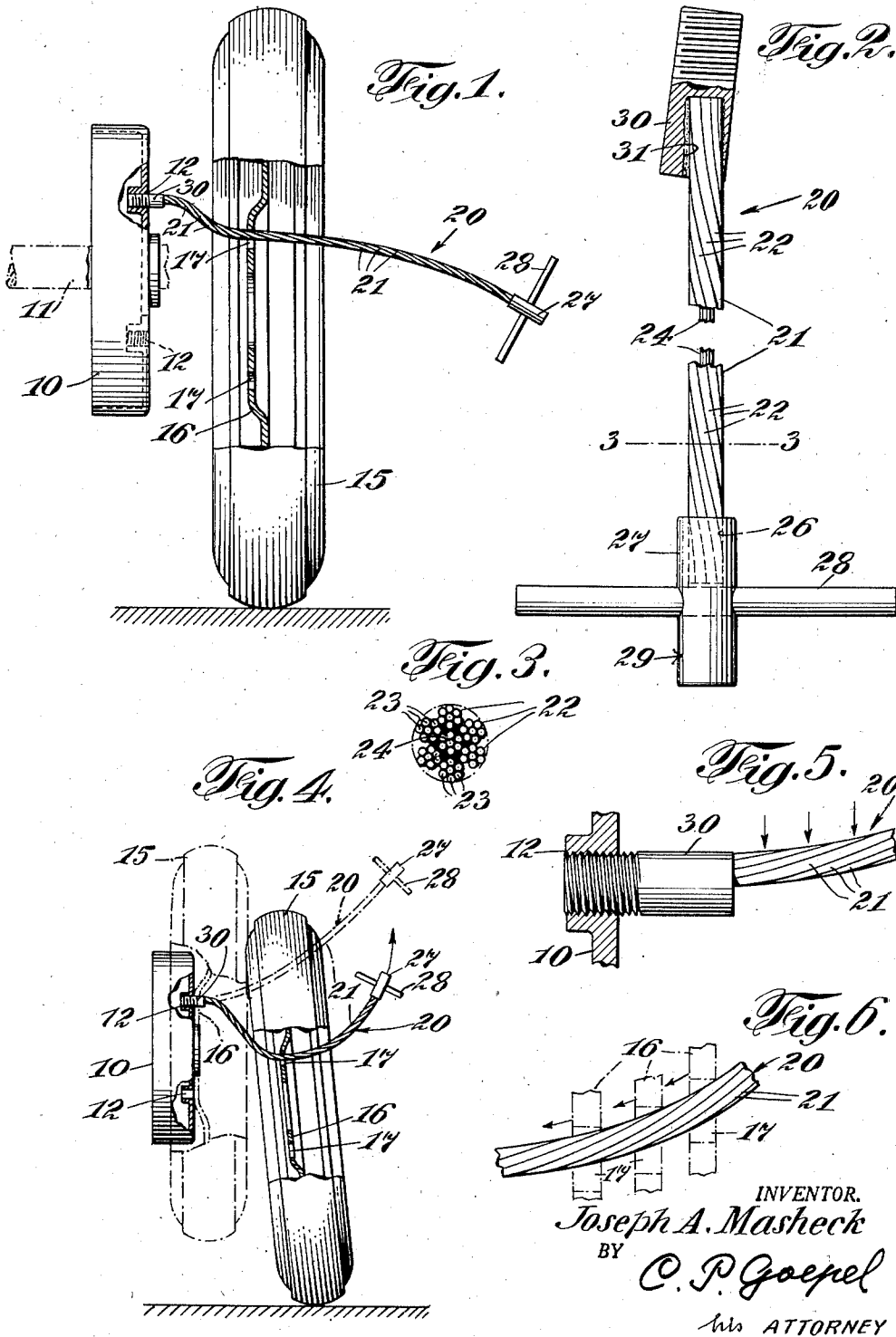
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APPLICATOR FOR AN AUTOMOBILE WHEEL TO A WHEEL DRUM

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APPLICATOR FOR AN AUTOMOBILE WHEEL
TO A WHEEL DRUM

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1 Claim. (Cl. 29—273)

1

This invention relates to wheel applicators.

The object of the invention is to provide an applicator upon which a wheel to be applied to a wheel drum may ride freely, while being lifted and being moved into proper position, with the least inconvenience to the user of the applicator.

For this purpose, the invention consists of an applicator having a flexible, rounded or cylindrical body about, though less than, the diameter of the bolt hole in the disc of the wheel, with an exterior screw threaded end portion adapted to fit into an interior screw threaded hole of the wheel drum, and a handle portion having a cross-bar at the other end of the body portion, the exterior body having helically disposed sliding portions.

The invention will be further described, an embodiment thereof shown in the drawing, and will be finally pointed out in the claim.

In the accompanying drawings,

Fig. 1 is an end view, partly broken away, of a known wheel drum, or known wheel, and the improved applicator applied thereto, with the wheel in lower position ready to be lifted;

Fig. 2 is a side view of the improved applicator;

Fig. 3 is a transverse section taken on line 3—3 of Fig. 2;

Fig. 4 is an end view with the wheel in lower position in full lines, and the wheel shown in dotted lines, when applied to the wheel drum, by means of the improved applicator, and

Fig. 5 is a detail view of one end of the applicator and a part of the wheel hub, showing diagrammatically the manner in which the wheel rides on the helical strands of the body of the applicator.

Similar characters of reference indicate corresponding parts throughout the various views.

Referring to the drawings, the known wheel drum 10 has the usual shaft portion 11, the drum having the circumferentially disposed and spaced openings 12, which are interiorly screw threaded as known, for the reception of the fastening bolts.

The known wheel 15 has the usual disc 16 with circumferentially disposed and spaced openings 17, all as known.

The improved applicator 20, consists of a body portion 21, which is composed in the embodiment shown of a plurality of strands, each strand 22 being formed of a plurality of wires 23. One of these strands acts as a central core 24, which is longitudinally straight, and the others, six in number, are helically wound around the central or core strand.

One end of the body portion is provided with a

2

cam member 30 which has a diameter substantially equal to the diameter of the openings 12 in the wheel drum, and is exteriorly threaded to engage the interior screw threads of said holes. The outer end of the cam member 30 (considered from the outer surface of the wheel drum) is flush with one surface of the body portion 21, so as to provide a smooth and unimpeded guideway for the disc of the wheel. The cam member 30 is suitably secured to one end of the body portion 21 by soldering or the like, the end of the body portion fitting a bore 31 at the outer end of the cam portion. The other end of the body portion 21, is secured to a handle portion 29 having arms 28, by inserting the end into a bore 26 of the metallic sleeve 27, and is preferably held therein by soldering.

The manner of using the applicator is as follows:

The cam member end is inserted into an opening of the disc of the wheel, and the body portion partially drawn through said opening, and then the cam member 30 is inserted into the screw threaded opening of the wheel drum, until it is engaged therewith by the intermeshing of the screw threads, a sufficient distance, when the cam member is turned until that surface which is flush with the body portion of the applicator is presented uppermost. The handle portion is then raised and the wheel is lifted from the ground, until it reaches a position where the upper surface of the wall of the disc of the wheel forming the opening is about level with the upper surface of the wall of wheel drum forming the opening. By this lifting of the wheel, the slides on the helical strands, such helical arrangement of the strands assisting or exhilarating a sliding action towards the wheel drum, of the wheel. The handle is then still further raised and the body portion of the applicator is raised above the level of the cam member 30, as a result of which the wheel slides from the body portion uninterruptedly upon the cam member. The wheel is then pushed longitudinally on the cam member sliding on the same, whereby the openings of the wheel drum and of the disc of the wheel, are in alignment with each other, and the vertical disc of the wheel abuts against the vertical drum of the wheel drum. The cam member or plug 30 is then unscrewed, and a bolt is inserted in the registering openings. Other bolts are passed through the other openings, which necessarily are also in registration.

The helical disposed strand is of importance as it provides a sliding action of the wheel, and

3

the flush connection is of importance as it provides an unimpeded guide way for the movement of the wheel on the cam member.

The important point is that the plug and body portion has a diameter less than the diameter of the openings in the wheel and substantially equal to the diameter of the openings in the wheel drum, to enable passage of the plug and body portion through the openings in the wheel and engagement of the plug with the wheel drum opening, whereby when so passing and the plug is attached to the wheel drum, the wheel may be lifted from the ground to a position in registration with the wheel drum by the wheel sliding on the body portion, by solely lifting the handle, that is, without separately grasping or lifting the wheel.

I have described several forms of my invention, but obviously various changes may be made in the details disclosed without departing from the spirit of the invention as set out in the following claim:

I claim:

In an applicator for an automobile wheel with openings to a wheel drum with openings, having a flexible body portion composed of a central core of a strand of wires, and surrounded by a plurality of strands of wires helically wound around the core, and having at one end a handle and at the other end a plug, said plug and body portion each having a diameter substantially equal to but less than the diameter of the wheel openings, to enable passage of the plug and body

4

portion through any one of said wheel openings, and said plug to engage an opening of the wheel drum, the combination of a plug of cylindrical external contour exteriorly screwthreaded at its free end, and smooth at its other end, and having a bore extending from the last named end into the plug, to receive and secure one end of the body portion, the axis of the bore being at an angle to the axis of the plug, and one side of the smooth end of the plug being flush with an adjacent surface of the body portion to form a smooth unbroken obtuse angular surface with the contiguous end of the body portion inclined upwardly to said side of the plug when the plug is in horizontal position engaging the wheel drum, whereby the wheel sliding on the inclined portion of the body portion on to the plug, receives a gravity action thrust to fit it closely against the wheel drum.

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