Oct. 11, 1932. F. C. WEBER 1,882,376

ANTISLIPPING ATTACHMENT FOR WHEELS

Filed Aug. 17, 1931

Fig. 1.

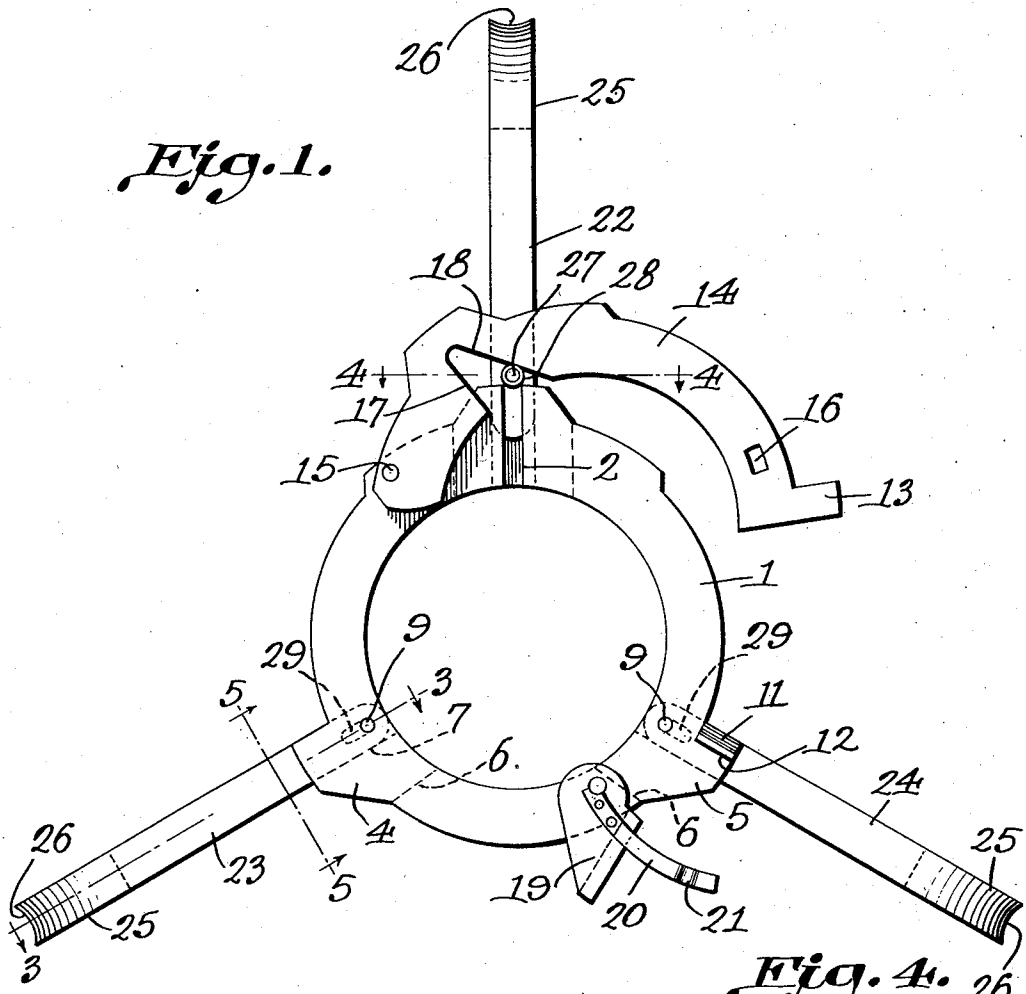


Fig. 2.

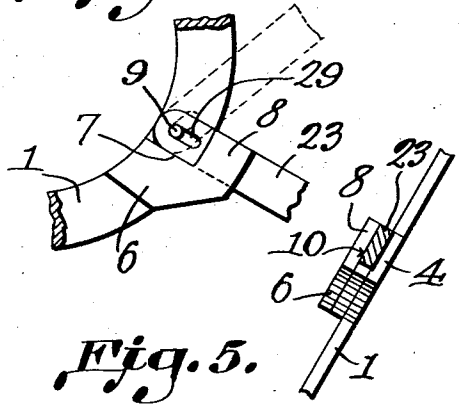


Fig. 5.

Fig. 4.

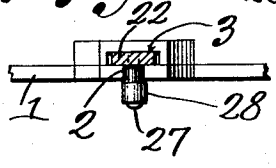
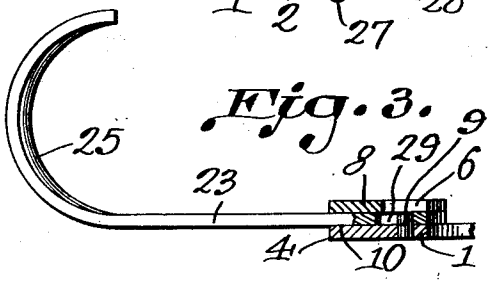


Fig. 3.



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UNITED STATES PATENT OFFICE

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ANTISLIPPING ATTACHMENT FOR WHEELS

Application filed August 17, 1931. Serial No. 557,711.

This invention relates to an attachment adapted to be applied to a wheel to prevent it from spinning while supported by ice, snow, mud, wet grass, etc. Heretofore when a motor vehicle has become lodged on surfaces of these kinds it has been extremely difficult to move it and to facilitate such movement various devices have been employed generally with unsatisfactory results.

One of the objects of the present invention is to provide a device which can be applied to a wheel without lifting or turning it, it being unnecessary to use any tools.

It is another object to provide a device of this character which is simple and durable in construction and can readily be placed in or removed from position.

Another object is to provide a structure which can be collapsed and readily stored in a small space when not in use.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in certain novel details of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims, it being understood that changes may be made within the scope of the claims without departing from the spirit of the invention.

In the accompanying drawing the preferred form of the invention has been shown

In said drawing

Figure 1 is an elevation of the device.

Figure 2 is an elevation of a portion of that side opposite the one shown in Figure 1.

Figure 3 is a section on line 3—3, Figure 1.

Figure 4 is a section on line 4—4, Figure 1, the cam lever being removed.

Figure 5 is a section on line 5—5, Figure 1.

Referring to the figures by characters of reference, 1 designates a ring provided with a radial slot 2 in one face back of which is provided a guide-way 3 parallel with the slot.

Formed on the outer margin of the ring at points substantially equally spaced from the slot 2 are ears 4 and 5. A plate 6 is formed on or secured to the back face of the ring adjacent to each ear. Each plate provides a stop shoulder 7 extending across the adjacent portion of the ring and a tongue 8 is also formed by a portion of each plate, this tongue being located beyond the outer edge of the ring back of and parallel with the ear 4 or 5. A short stud 9 is extended from the back of the ring adjacent to each stop shoulder 7 and inwardly from the center of the slot 10 formed between the ear 4 or 5 and its tongue 8.

A rib 11 is formed on the front face of the ear 5 to provide a radial shoulder 12 for engagement by a finger 13 which extends outwardly from the free end of a lever 14 fulcrumed at its other end on the ring, as shown at 15. This lever has an aperture 16 near the finger 13 and that portion of the lever movable across the slot 2 is formed in its inner edge with a cam slot 17 one wall 18 of which is inclined so as to extend obliquely across slot 2 while being moved thereacross.

A latch 19 is pivotally mounted on the ring 1 near ear 5 and has a spring finger 20 extended therefrom and formed with an offset 21.

Associated with the ring 1 are arms 22, 23 and 24. Each of these merges into a laterally extended hook 25 the outer surface of which can be channelled as at 26. Arm 22 is slidable into guide-way 3 and has a stud 27 with a roller 28 adapted to work freely within the slot 2. Arms 23 and 24 have slots 29 adjacent to their inner ends. Each slotted end is adapted to be placed against one of the shoulders 7 as shown by dotted lines in Figure 2 so that the stud 9 can enter slot 29. The arm is then swung outwardly against shoulder 7 and between tongue 8 and the adjacent ear 4 or 5. With the parts thus positioned the hooks on arms 23 and 24 are placed astride the tread of the wheel at opposite sides of its point of contact with the slippery surface on which it is mounted. Lever 14 is swung back out of the way, arm 22 is inserted into guide-way 3 and hook 25 on said arm brought to rest on the wheel tread.

Following the foregoing operation the lever 14 is swung toward the center of the wheel and this will cause the cam 18 to engage the roller 28 and pull arm 22 inwardly. Thus all of the hooks 25 will be caused to tightly

engage the tread of the wheel. Finger 13 will engage shoulder 12 and the latch 19 can then be swung against the end of the lever so that spring 20 will snap into the opening 16. The parts will all be held securely to the wheel and when the wheel is turned the hooks will engage the slippery surface thereunder and provide the necessary traction.

An important advantage present in the structure herein described is the freedom of inward movement of the hooks after they have been applied. Should the wheel pass over an unyielding obstruction any one of the hooks 25 coming into contact therewith would be free to shift inwardly radially without causing any of the parts to bind or bend. This is permitted by the slots 2 and 29.

When the device is not in use the several arms can be readily detached and stored in a small space with ring 1 which is only large enough to receive the wheel hub and allow a limited radial movement of the ring relative to the hub.

The channeled faces of the hooks can be provided with lengths of chains secured thereto in any desired manner or other suitable ground gripping means can be located thereon, although this is not essential.

What is claimed is:—

1. A device of the class described including a central member, radially disposed hooped tread-engaging arms separately slidable radially of and detachably connected to said member, and cooperating means on one of the arms and the member for drawing said arm inwardly relative to the member and tighten-all of the arms upon an engaged tread.

2. A device of the class described including a central member having a slot, tread engaging hooked members extending from said central member, an arm slidable radially relative to said central member in said slot and having a tread engaging hook, a cam lever carried by the central member, means on the arm for engagement by said lever to draw the arm inwardly and tighten all of the hooks upon the tread, and means for fastening the lever against movement.

3. A device of the class described including a ring, hooked arms slidable radially on the ring, a cam lever carried by the ring, means on one of the arms for engagement by the cam lever to draw all of the hooked arms into engagement with a wheel tread, each of said arms being movable inwardly under radial pressure independently of the other arms, while held to the tread.

4. The combination with a ring having a radial slot, studs on the ring and stop shoulders adjacent to the studs, of slotted hooked arms detachably, slidably and pivotally mounted on the studs and movable against the shoulders, a hooked arm, a stud thereon slidable in the slot, and cam means on the ring for engaging the stud on the arm to shift said arm inwardly relative to the ring.

5. The combination with a ring to be placed about the hub of a wheel, of a hooked arm slidably and pivotally connected to the ring, a hooked arm slidably connected to the ring and held against pivotal movement, all of the arms being detachable, the hooks on the arms constituting means for embracing the tread of a tire on the wheel, a cam lever pivotally connected to the ring, and means on the last named arm cooperating with the lever for shifting said arm radially toward the center of the ring, thereby to tighten all of the hooks upon the tire without interfering with their independent movement toward the center of the ring when separately subjected to pressure in the direction of the ring.

FRED C. WEBER.