

E. FINKING.
ANTISKIDDING DEVICE.
APPLICATION FILED MAY 20, 1910.

1,038,737.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 1.

Fig. 1

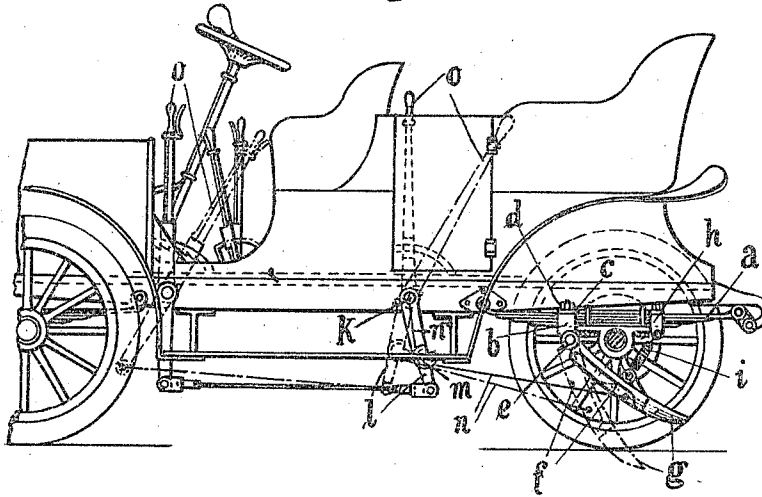
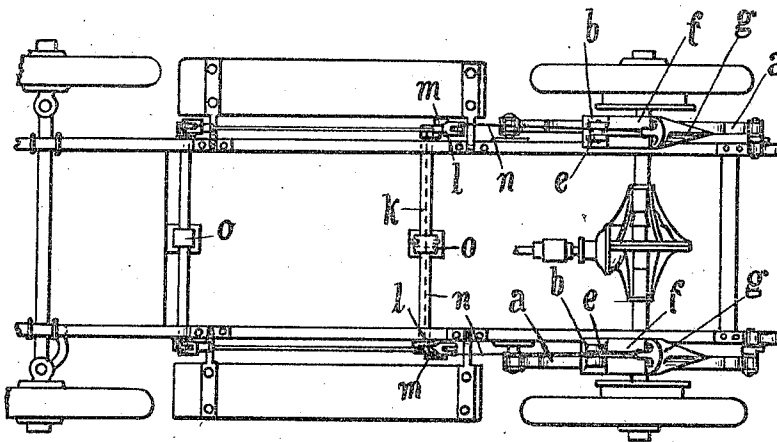


Fig. 2



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Fig. 3

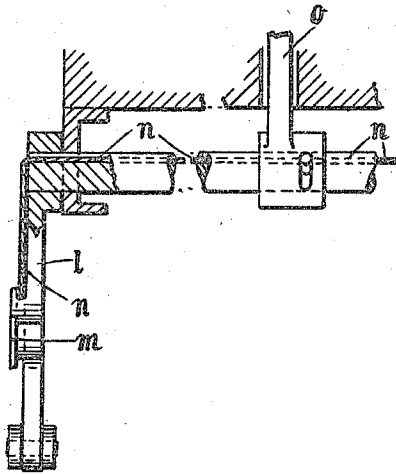


Fig. 4

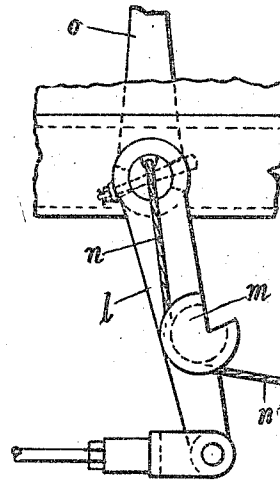


Fig. 5

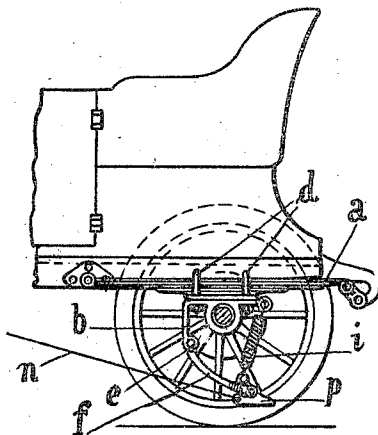
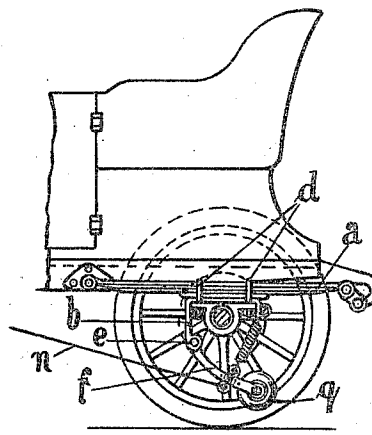


Fig. 6



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UNITED STATES PATENT OFFICE.

ERNST FINKING, OF LEIPZIG, GERMANY.

ANTISKIDDING DEVICE.

1,038,737.

Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed May 20, 1910. Serial No. 562,334.

To all whom it may concern:

Be it known that I, ERNST FINKING, a subject of the Emperor of Germany, residing at 6 Nordplatz, Leipzig, Germany, have invented certain new and useful Improvements in Antiskidding Devices, of which the following is a specification.

The tendency of motor cars or like vehicles to skidding when traveling at high speed along curves or in turning a corner is, as is well known, due to the fact that not all parts of the car can simultaneously follow its movements. On slippery, snowed-up and frozen roads this skidding is very dangerous, as on roads of this kind the car is at times entirely deviated from its track and very often thrown across the road or against trees, mile-stones and the like. These drawbacks cannot be remedied by the application of the ordinary brake, as this would still more increase the danger occasioned by the skidding. It has been statistically proved that of all the accidents in connection with motoring, about seventy per cent. are due to skidding. The fact that during the skidding of the car the application of the ordinary brake is very dangerous, has led to the idea to provide such vehicles with broad brake shoes adapted to be lowered against the ground at the will of the operator. It has however been found that these devices do not fulfil the purpose aimed at, as they only act by friction, and on roads which are slippery or frozen fail to act entirely or efficiently.

Now according to the present invention, use is made also of brake shoes capable of being lowered against the ground at will, but the drawbacks above mentioned are remedied by providing the brake shoes with an exchangeable cutting edge or blade or a plurality thereof, located in the direction of travel, and on coming into contact with the ground penetrating into the latter to a certain depth and thereby preventing the skidding of the car.

Several constructional forms of the antiskidding device according to the present invention are shown by way of example in the accompanying drawings.

Figure 1 is a side elevation of an auto-car with the anti-skidding device applied; Fig. 2 is a bottom plan view of the same. Fig. 3 is a detail sectional view of the rocking shaft and attached lever or crank, partly in elevation and with portions broken away; Fig.

4 is a side elevation in full lines of the parts illustrated in Fig. 3; Fig. 5 is a side elevation of the rear of the car showing a modification of the invention; Fig. 6 is a similar view showing another modification.

In the example shown in Figs. 1 and 2, a hoop or collar *b* is attached on each side to the spring *a* from which the bearings for the rear axle are suspended, these hoops or collars *b* being firmly secured to the springs *a* by plates *c* and screws *d*. Each collar *b* is provided with a downwardly depending lug *e* to which a lever *f* is pivotally connected. Each lever *f* carries at its lower end a sword-shaped member or blade *g* capable of being easily exchanged, and provided with a downwardly directed cutting edge. The levers *f* are held in suspension by means of traction springs *i* which are attached to collars *h* likewise secured to the springs *a*. Beneath the car and located about centrally thereof is a transverse rocking shaft *k* which, as shown in Figs. 3 and 4, is provided with a longitudinal groove or slot and at each of its outer ends carries a lever *l* provided with a grooved sheave or roller *m*. Inserted in the groove or slot in the shaft *k* is a cord *n* or the like running over the grooved sheaves *m* of the two levers *l* to each of which one of the ends of the cord is attached. Connected to the shaft *k* is a lever *o* arranged within the reach of the occupants of the car and capable of being so operated as to cause the cord *n* or pulling medium to either exert a pull on the lever *f* or to free the same. In pulling the cord *n* by the operation of the lever *o*, the free ends of the levers *f* are drawn down against the action of the springs *i* and consequently the blade-shaped brake shoes *g* which are attached to the levers *f* are caused to cut into the ground and to thereby counteract the skidding of the vehicle. The lever *o* is sleeved on the rock-shaft *k* and its hub is formed with a slot *o'* in which fits a pin *o''* on the shaft so that the shaft can be turned by the lever when the pin is in contact with the end wall of the slot. This also makes it possible to operate the device by a lever *o''* located at the front of the car, which lever will be connected by a rod or link *o'''* to the lower end of the rock-shaft crank-lever *l* below the sheave *m*. When operated by the lever *o''* the pin *o''* on the rock-shaft *k* will move in the slot *o'* and the lever *o* will not be moved.

By the construction described the device

can be operated by occupants of either the front or the rear seat of the car.

In the place of the sword-shaped point *g* on the brake shoes a hatchet-shaped member *p* may be attached to the levers *f* as shown by way of example in Fig. 5, or a roller *q* as shown in Fig. 6, and provided with a cutting edge or edges or surfaces may be made use of. As the cutting brake shoes are detachably connected to the levers *f* they can be easily exchanged and sharpened or otherwise repaired without necessitating the dismounting of any other parts.

It will of course be understood that the invention is not to be limited to the constructional forms of the anti-skidding means hereinbefore described, or illustrated, but that it could be used in providing a motor car or like vehicle with a ground brake of which the parts engaging with the ground are provided with cutting or penetrating parts or edges so as to effectually enter the ground and thereby to avert the danger of skidding.

What I claim and desire to secure by Letters Patent is:

1. An anti-skidding device comprising a pair of pivoted levers carrying cutting brake-shoes and supported at opposite sides of the vehicle to which the device is applied, springs for holding the levers and their shoes normally in an elevated position, a rock-shaft to extend transversely beneath the vehicle and formed with a longitudinally extending groove and provided at

each end with a depending crank-arm lever each provided on its side with a grooved sheave, a cable lying in the groove of said shaft and in engagement with the grooved sheaves on the crank-arm levers and attached to the pivoted brake-shoe carrying levers, and an operating lever connected with the rock-shaft for lowering the shoe carrying levers in opposition to the tension of said springs, the springs being operable to restore the parts including the operating lever to normal position on release of the operating lever, substantially as described.

2. An anti-skidding device comprising a pivoted lever provided with a brake-shoe having a cutting-edge, a spring to normally hold the shoe and its carrying lever in an elevated position, a rock-shaft provided with a crank-arm lever operatively connected with the brake-shoe lever, an operating lever sleeved to the rock-shaft and having a slotted hub receiving a pin connected to the rock-shaft, and a second operating lever connected with the crank-arm lever of the rock-shaft to enable the shoe carrying lever to be operated by either of said two operating levers as desired, substantially as described.

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

ERNST FINKING.

Witnesses:

MORITZ SPREER,
RUDOLPH FRICKE.