

C. H. C. HÅKANSON.
DRIVING WHEEL FOR SLEIGHS.
APPLICATION FILED APR. 24, 1909.

935,104.

Patented Sept. 28, 1909.

Fig: 1.

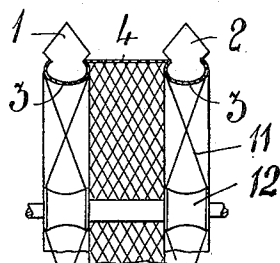


Fig: 2.

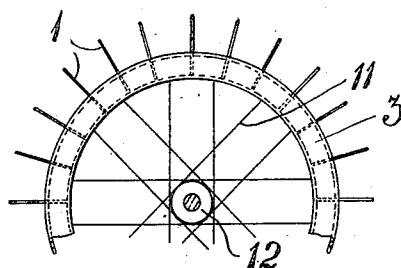


Fig: 3.

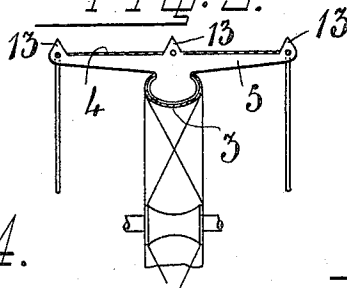


Fig: 4.

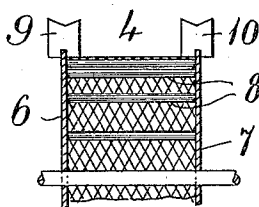


Fig: 5.

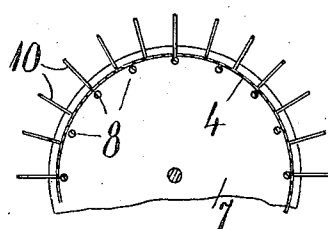


Fig: 6.

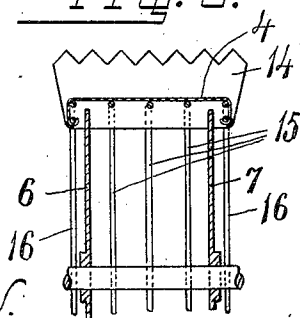
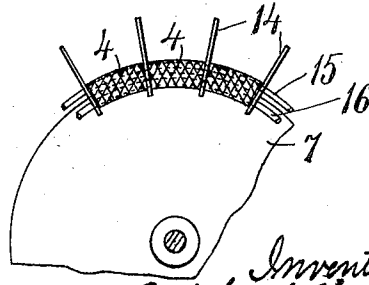


Fig: 7.



Witnesses:
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UNITED STATES PATENT OFFICE.

CARL HARALD CHRISTIAN HÅKANSON, OF VESTERÅS, SWEDEN.

DRIVING-WHEEL FOR SLEIGHS.

935,104.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed April 24, 1909. Serial No. 491,908.

To all whom it may concern:

Be it known that I, CARL HARALD CHRISTIAN HÅKANSON, a citizen of the Kingdom of Sweden, residing at Vesterås, Sweden, have invented new and useful Improvements in Driving-Wheels for Sleighs, of which the following is a specification.

This invention relates to driving-wheels for sleighs.

The object of the invention is to construct a wheel which can be used with the same advantage on usual roads covered with snow and on ice as well as on crust of snow and on loose snow.

The invention consists, chiefly, in the combination in a driving wheel of the kind in question and at the circumference thereof of an elastic and foraminous, preferably reticulated, material forming a large supporting or tread surface, and short paddles extending beyond said surface and having their free ends yielding, all as will be more particularly described herebelow.

A driving wheel embodying my present invention may be held to be a combination of a paddle wheel and a Canadian snow-shoe or racket, having the propelling capacity of the former on fixed road surfaces and the supporting and friction capacities of the latter on loose snow. The portions of the paddles extending beyond the supporting surface are comparatively short in order not to reach the bottom when running on loose snow, and they are yielding, as mentioned, in order to obviate a thrusting running which has a disadvantageous influence on the motor and tends to tear up the surface of a road, and also in order to prevent the snow from adhering to the paddles. The elastic and foraminous material at the circumference of the wheel forming the supporting surface has the capacity to pack together the snow under it and thereby to give a good adhesion against the road surface. The said material further tends to prevent the snow from adhering, and throws off the snow eventually adhering. While the paddles are working chiefly on fixed road surfaces and the supporting surface on loose snow, the combination in question has proved itself to be unexcelled on crust of snow. This is as well known very brittle and sustains comparatively small surface load while it has a great resistance

capacity in horizontal direction. The elastic and foraminous material thus supports the wheel and its load while the paddles cut through the crust as knives and work on account of their breadth against such a large wedge of the frozen snow surface, that an effective counter-pressure is obtained which would be impossible if the driving wheel were provided for instance with nails or pins instead of paddles.

In the accompanying drawing I have shown some embodiments of my invention.

Figure 1 shows a central longitudinal section of a part of a driving wheel having two tires. Fig. 2 is a corresponding side view. Fig. 3 is a central longitudinal section of a part of a wheel having a single tire. Figs. 4 and 5 are longitudinal section and cross-section respectively of a third construction form. Figs. 6 and 7 are similar views of a fourth construction form.

Referring to Figs. 1 and 2, 1 and 2 indicate paddles secured to two tires 3 which by suitable spoke systems 11 are connected, to the naves 12. 4 indicates a netting attached between the tires 3 and forming the supporting or tread surface proper of the wheel.

Fig. 3 shows a wheel having only one tire 3 in which are secured paddles 5 of comparatively large breadth each having three teeth 13 and being arranged at suitable distances from each other around the wheel. The elastic and foraminous material or netting 4 is here provided directly on the horizontal edges of the paddles between the teeth 13.

In Figs. 4 and 5 the wheel-frame is composed of two disks of metal sheet 6 and 7 which near the periphery are connected to each other by means of stays or bolts 8 arranged at suitable distances from each other. The paddles 9 and 10 are secured to the periphery of the said disks while the netting 4 is supported by the stays 8.

In Figs. 6 and 7 the wheel frame likewise is composed of two disks 6 and 7. The paddles 14, which here extend across the whole width of the wheel, are inserted in radial slots in the disks 6 and 7 and are held in position by means of wire rings 15 and 16. The netting 4 is made in sections placed between the paddles and supported by the wire rings 15 and 16.

The driving wheels described above may be modified in details without departing

from the principle of the invention and the wheel body proper may be of any desired construction.

Having now described my invention what
5 I claim as new and desire to secure by Letters Patent is:

1. In a driving wheel for sleighs and at the circumference thereof the combination, of an elastic and foraminous material, forming the supporting or tread surface of the
10 wheel, and a number of short paddles extending beyond the said tread surface, substantially as and for the purpose set forth.

2. In a driving wheel for sleighs and at the circumference thereof, the combination
15 of an elastic reticulated material forming the supporting or tread surface of the wheel,

and a number of short paddles extending beyond the said tread surface, substantially
as and for the purpose set forth. 20

3. In a driving wheel for sleighs and at the surface thereof, the combination of an elastic reticulated material forming the supporting or tread surface of the wheel, and a number of short paddles extending beyond
25 the said tread surface and having their free ends yielding.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

CARL HARALD CHRISTIAN HÅKANSON.

Witnesses:

JOHN DELMAR,
ELLEN TROVÉN.