A NEW REMEDY FOR SEASICKNESS.

The well-known traveler and writer Eugen Wolf says, in one of his books, that the best remedy for seasickness is the application to the head of a wet compress, as hot as can be borne. This suggestion, however, is difficult to carry out in practice unless the traveler is provided with a sea-proof servant or companion, for in a seaway the stewards are apt to be too busy to furnish fresh hot compresses, at short intervals, to all who are in need of them.

A device which enables the desired result to be attained without the steward's intervention has recently been put upon the market. It consists of a leather cap lined with a thick cushion of wet felt, which can be fastened very tightly about the head. The wet compress is kept hot by wires, which may be connected with the electric lighting system of the ship. Its effect is an increased flow of blood to the brain, and, therefore, the removal of the cerebral anæmia which is the cause of seasickness. This appliance has the advantage that the patient can enjoy absolute rest, as no renewal of the compress is necessary. As the compress is aseptic, it may be used for many patients, though the apparatus is not too costly or cumbrous to be carried by every passenger. Its effect is said to have been very beneficial in every case in which it has been employed, so that it would appear to be destined to come, very soon, into general use. The same prophecy, however, has been made in regard to many other remedies for seasickness, and has not been fulfilled.

A NEW REMEDY FOR SEASICKNESS.

A GASOLINE-PROPELLED ROAD ROLLER.

The accompanying illustration represents an interesting industrial application of the gasoline motor to a vehicle which possesses many prominent features. This is a 42-inch roller which is of sufficient weight to render it serviceable for rolling light roads and sidewalks or lawns, where the ordinary type of locomotive roller or lighter animal-drawn implement cannot be satisfactorily employed. As will be seen from the engraving there are two rollers, the front cylinder being connected to the steering column, while the rear cylinder, which is 42 inches in length by 36 inches in diameter, constitutes the main roller. The frame is of channel steel throughout, with a central member of T-section, and is of stout construction to insure complete rigidity and immunity from the effects of vibration and oscillation stresses, such as are encountered when traveling over rough or uneven ground. At the front the frame narrows sharply to carry the pivot upon which the front cylinder is suspended centrally by means of a bridge connected to the axle on either side for steering purposes. By this means the machine is afforded a sharp turning angle, so that it can be turned in a short radius. The steering is effected by means of chains wrapping on a transverse spool geared from the steering column, which is of the ordinary automobile wheel steering type, the ends of the chains being attached to the side forks of the forward roller. The flooring is composed of stout steel plates.

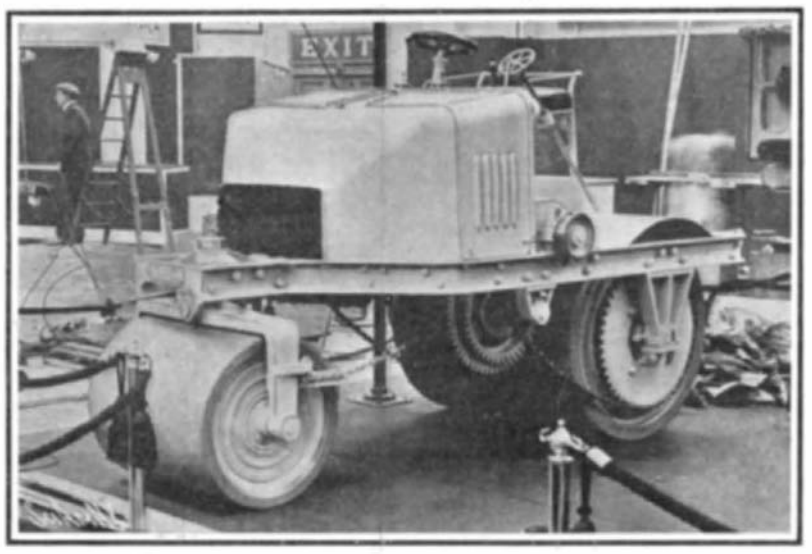
The gasoline motor is of the Fafnir water-cooled, vertical, twin-cylinder pattern, developing 8 horsepower. The engine is fitted with mechanically-operated inlet valves, and these for purposes of complete accessibility are placed in a convenient point on the tops of the cylinders. A divergence from usual practice in the case of vertical engines is adopted in placing the motor transversely in the engine frame, on the extreme right-hand side. On the opposite side of the frame are placed the gasoline and water tanks, the orifices for filling which project from the side of the bonnet, so that the latter need not be disturbed for replenishing the water and fuel supplies. High-tension electric ignition, with accumulator and coil, is fitted, the wipe contact being so placed that it is readily accessible. The water cooling is carried out on the usual lines with centrifugal pump and radiators. The whole of the mechanism, including the gasoline and water tanks, is inclosed in a large bonnet which affords complete protection to the working parts.

The power is transmitted from the motor to the rear driving roller by means of a bevel wheel fitted to the engine shaft, and thence through shafting to the change-speed gear and finally by side roller chains. There are two forward and one reverse speed fitted, the former being of one and three miles per hour, respectively. The differential gearing is placed inside the rings which form the driven side of the gear. The sprockets on the rear roller are of the solid type and are bolted direct to the side walls of the cylinder. The axle of this rear roller is provided with square ends, while the bearings on which it rests have oblong apertures, which arrangement enables the driving roller chains to be easily adjusted by means of two side bolts and nuts on either side of the machine.

The driver's seat is placed on the right-hand side, over the driving roller, so that he can easily follow the track of the main roller and watch the line along which he last traveled.

The change-speed lever quadrant is placed on the left-hand side of the driver, transversely, while the ignition-control lever, throttle, and switch, are attached to the dash. The machine is fitted with one powerful brake controlled by a second wheel and oblique pillar similar to that for steering, set conveniently near the driver. This brake acts directly upon the surface of the rear roller and constitutes an efficient means of quickly bringing the machine to a stop. In the illustration may be seen a small pulley mounted on the chassis frame. This is a belt pulley fitted to the end of the gear shaft, and in direct connection with the engine.

With the gears placed in neutral position, the machine by the aid of this belt pulley may be employed for stationary purposes, such as the driving of a pump, or other auxiliary machinery. The complete weight of the roller is approximately 5,000 pounds, the weight being so distributed that about two-thirds of the weight is imposed upon the rear driving roller.



A GASOLINE-PROPELLED ROAD ROLLER.

SHOEING AN OX.

The animal is lifted in slings and all the feet (with the exception of that to be shod) are tied.

AN OX-SHOEING SHOP IN THE WOODS.

In some portions of the Pacific Northwest teams of oxen and bulls are still used for hauling out logs from the forest. To prevent the animals from slipping on the wet skid roads and in the swamps, they are sometimes shod. The bulls, however, are so difficult to shoe that it is necessary to tie them securely before the operation; otherwise they would kick over the farrier and do other damage in their efforts to release themselves. The accompanying photograph shows one of the novel blacksmith shops, which is designed for shoeing bulls in one of the Washington lumber camps. The animal is led into a framework of stout timber underneath a beam, to which is attached a sling of heavy canvas. This sling, which is fastened by chains to the beam, is placed around the bull, and the animal lifted a few inches from the ground by turning the beam and winding up the chains by which the sling is fastened. In short, the bull is lifted in the same manner as a hand windlass is turned on board a ship, iron bars being used to revolve the beam in its socket. The feet, with the exception of the one to be shod, are then tied to the framework of the "cradle," as it is called. Only in this way can the shoeing be safely done, and frequently two men are required, one to hold the foot while the other adjusts the shoe and drives the nails.

A New African Fly.

A new African fly, whose larva lives parasitically upon the skin of rats, is described by W. Dönitz under the scientific name *Cordylobia murium*, in the Berlin Sitzungsberichte der Naturforschenden Freunde. Robert Koch in his explorations in East Africa heard in Morogoro of sickness, suspected of being plague, among the rats in the Roobeno Mountains. After an eight days' march he found on the spot that the mortality among the rats was not caused by plague bacilli, but by parasitic fly-maggots living upon the skin. From these maggots Koch bred flies, which W. Dönitz is now scientifically studying. The chrysalis stage of the fly reared by Koch lasted almost exactly a month. Nothing is known of its life in freedom; but from the conditions under which it was found upon the rats, an idea may be formed how it lays its eggs. The swellings or boils caused by the larvæ are always found only on such places upon the body of the rats as touch the ground, on the under-side of the legs and on the belly. From this we may at once conclude that the fly does not first lay its eggs in the fur of the rats, but deposits them upon the earth, perhaps in the rat-holes themselves, where the larvæ hatching out can certainly come in contact with a rat and crawl upon it. Should the fly be in this way specially suited to the rat, then it will not be particularly dangerous to men. Yet parasitic fly-maggots have repeatedly been found in Africa in boils of men and many mammals, and been described by Blanchard and Grünberg as another species of the same genus, *Cordylobia anthropophaga*. This fly is often found in Guinea upon the people employed in railroad building, and by their dogs has been spread far into the interior. French savants observed that from one and the same dog daily for weeks five to six specimens of this larva (called *ver du cayor*) were taken. The dogs thus substantially contribute to the spread of the fly. He who in such a region in Guinea stretches himself out, between April and October, for a rest upon the earth must expect that such a fly larva will crawl upon him. At the beginning of the drought in October the fly disappears, and is first seen again in March. In what manner the species is maintained during the interval is not known.

The Area of the United States.

The United States Geological Survey has just issued Bulletin 302, by Henry Gannett, which represents the result of conference and co-operation of the Land Office, Census Bureau, and Geological Survey in an effort to agree on what constitutes "the area of the United States." The absence of a standard of measurement for determining the area led to a discrepancy between the tables of the Census Bureau made in 1887 and those of the General Land Office prepared in 1899. The result of the co-operation of the departments is that the area of the United States proper, which is given as 3,026,789 square miles, has been increased over the census figures by 1,188 square miles. The bulletin gives the area of Alaska as 590,884; the Philippines, 115,026; Hawaii, 6,449; Porto Rico, 3,435; Guam, 210; Samoa, 77, and the Panama Canal strip, 474 square miles.

All of the detached territory is subject to change as the limits become more correctly defined.