

Current Patents

TRANSPORTATION

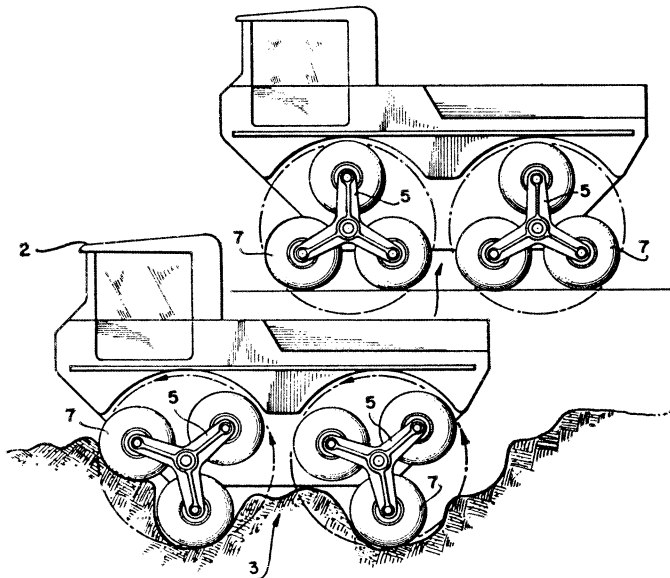
Three wheels for rough going

The search for a vehicle that can take the rough with the smooth equally well may be approaching an answer.

A vehicle patented last week can do 40 to 50 miles an hour on the highway, and still get through the most rugged, sloppiest territory, says a spokesman for Lockheed Aircraft Corp., the assignee of the patent.

Besides that, it can move in water at twice the speed of previous amphibious craft.

Secret of the all-purpose vehicle is a star-shaped



wheel assembly with three ordinary-sized wheels attached to the arms of the star. A wheel assembly takes the place of each wheel of a standard truck.

On rough ground the whole wheel assembly rotates, allowing the vehicle to walk from one small wheel to the next. But on smooth surfaces, the star assembly is locked so that two of the three small wheels are on the surface.

In the water, the whole wheel assembly rotates, acting like a paddle wheel.

The truck, invented by Lockheed engineers Robert W. Forsyth and John P. Forsyth, has been tested at the Army's Aberdeen, Md., Testing Grounds and, says Lockheed, passed with flying colors. An evaluation model is now being built for the Army.

PATENT 3,348,518

PLASTIC

Waterproof, but it breathes

Plastic sheets are generally waterproof but can't breathe, so they tend to be uncomfortable to wear. Plastics have been made that will pass air or water vapor, but these aren't waterproof.

A process patented last week produces a plastic that is waterproof and still is permeable to gases such as air and water vapor.

The permeable quality is produced by pressing plastic granules between hot, fibrous sheets until the granules stick together but don't melt into a continuous sheet. This leaves tiny pores through which gas can escape.

Before being formed in a sheet, the granules are mixed with a plasticizer and a water repellent so that each granule will repel liquids. When the granules are formed into a sheet, the repellent causes any liquid to bead up rather than spread over the surface. If the beads are large enough, they won't go through the tiny pores that pass vapor or gas.

Invented by Jerrold J. Abell and Richard C. Berry of Rogers Corp., Rogers, Conn., the plastic is already in use in ski mittens and children's slippers. Berry, Rogers' technical director, says that the material is now too heavy to be used in raincoats and other large garments, but the company is working on a production method that will allow thinner sheets to be made.

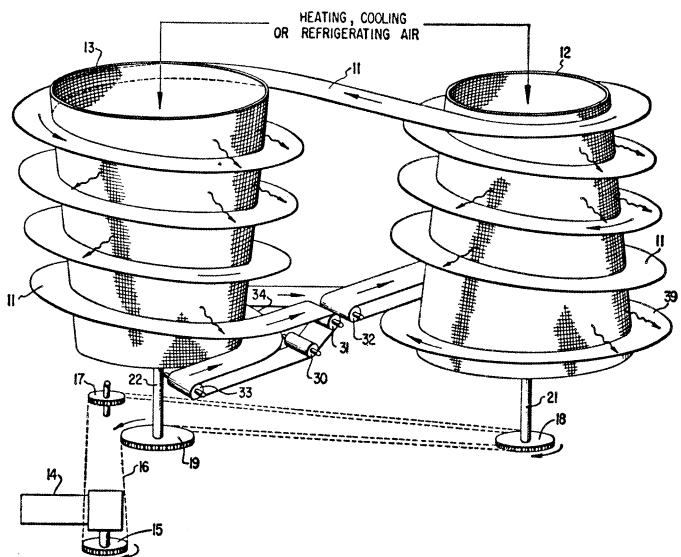
PATENT 3,348,991

INDUSTRIAL ENGINEERING

Long belts in small space

In some industrial processes, where a product has to be heated, cooled or frozen, a great length of endless conveyor belt in a small space is useful. That way, the belt can move quickly, speeding up output, and the product still remains in the temperature zone long enough.

In a belting system patented last week, the conveyor



belt is spiralled up and down on two cone-shaped drums which rotate and drive the belt by friction on the inside edge of the belt. Track supports keep the belt horizontal.

By driving the belt by friction along its whole length, instead of by pulleys at widely spaced intervals, the tension on the belt is reduced, easing wear.

One problem with friction drive has been that the belt sometimes hangs up on uneven places, causing it to jerk or curl.

But inventor Gerald C. Roinestad, who assigned the patent to Ashworth Bros., Inc., Fall River, Mass., found that by keeping the friction between the drum and the belt fairly high, and that between the belt and the supports fairly low, the jerking problem could be eliminated.

PATENT 3,348,659