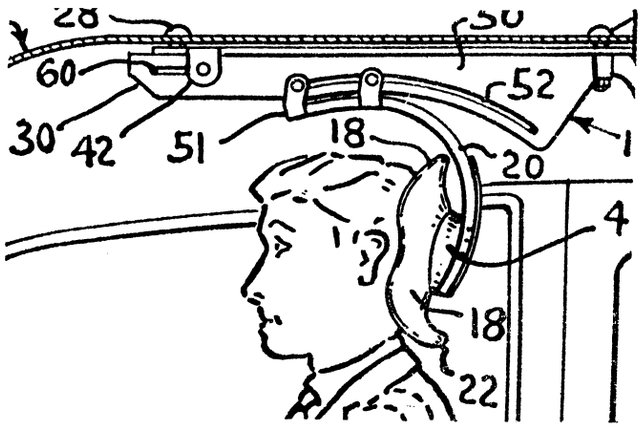
Current Patents

SAFETY ENGINEERING

Headrest Combats Whiplash



A roof-mounted head support designed to prevent neck injuries when the automobile is struck from the rear received patent No. 3,310,342 last week.

Inventor Kazimierz Drelichowski of Union City, Conn., claims his device overcomes defects present in regular headrests, which, he says, are worse than no headrest at all.

In a rear-end collision, says Drelichowski, the hit car moves forward, carrying the rider with it, but his unsupported head lags behind, causing strain in the neck. Conventional headrests catch up with the head before too long, but, claims Drelichowski, their spring action snaps the head forward again almost as violently as the first rearward movement. This can cause even more damage because of the sudden reversal of direction, says the inventor.

His roof-mounted head support is fastened to a bar which is slowed down by a spring as the head pushes back. Ratchets on the bar keep it from moving forward again, so the head isn't thrown forward from the force of the headrest spring.

Another defect in conventional headrests is that they push the head straight forward, which causes strain because the natural movement is a downward curve, Drelichowski claims. The patented head restraint is designed to move in an arc, to accommodate that natural motion.

AGRICULTURE

Harvester Blows Fruit from Trees

Citrus trees are being planted closer together these days to save space, and branches are trimmed short to let in the sun. The short thick foliage makes it hard to pick the fruit either by hand or by conventional mechanical tree-shakers.

An invention patented last week by Lee W. Winninger and assigned to FMC Corp., of San Jose, Calif., blows the fruit off the trees. The harvester, patent No. 3,310,231, is narrow enough to pass through crowded rows without damaging the roots, and can penetrate the densest foliage, according to the inventor.

The blast of air from the harvester is regulated by a vertical row of rotating disks or vanes that are set at various angles. The air flow is scattered in different directions by the row of vanes, and the direction of each jet is varied as the row of vanes rotates. This provides a constantly changing blast of air which shakes the tree branches in every direction.

According to the inventor, the harvester has the added advantage that it doesn't have to be fastened to the tree, as do shakers, but can harvest the fruit while moving.

MECHANICS

Trampoline Diving Platform

A portable diving board that uses a trampoline to give the diver his spring was patented last week by Dwight S. Howe of Atlanta, Ga. The patent is No. 3,310,305.

In the invention, a lightweight but rugged metal platform is attached to a lower section holding a trampoline, which is angled toward the water. The diver jumps from the platform onto the trampoline, which takes the place of the traditional flexible diving board. The trampoline makes it unnecessary to bounce on the board in order to get enough spring.

REACTOR ENGINEERING

Advanced Control for Breeders

An advanced system for controlling nuclear breeder reactors was patented last week by Dr. Warren E. Winsche of the Brookhaven National Laboratory, Upton, N.Y. Dr. Winsche assigned patent No. 3,310,473 to the Atomic Energy Commission.

Breeder reactors have the advantage over present power stations that they produce more plutonium than they consume fuel by fission. Liquid sodium is used to take the heat from the fissioning plutonium and produce steam to drive electric turbines.

In Dr. Winsche's invention, Lithium is mixed with the sodium coolant to control the amount of fission that takes place. Lithium slows down the fission process. By varying the amount of lithium it is possible to increase or decrease the fission rate. Graphite control rods are now the usual method.

ELECTRONICS

Artificial Intelligence System

An electronic logic system designed to simulate intelligence functions in speech recognition and other devices was patented last week by Franz L. Putzrath, who assigned patent No. 3,310,783 to Radio Corporation of America.

The logic system makes selections on the basis of probability and uses logic elements that are called artificial neurons because they imitate the behavior of biological nerve cells or neurons. The main characteristic of the neuron is that it cuts off at high and low operating points, and reacts gradually to increasing stimuli in between.