

current patents

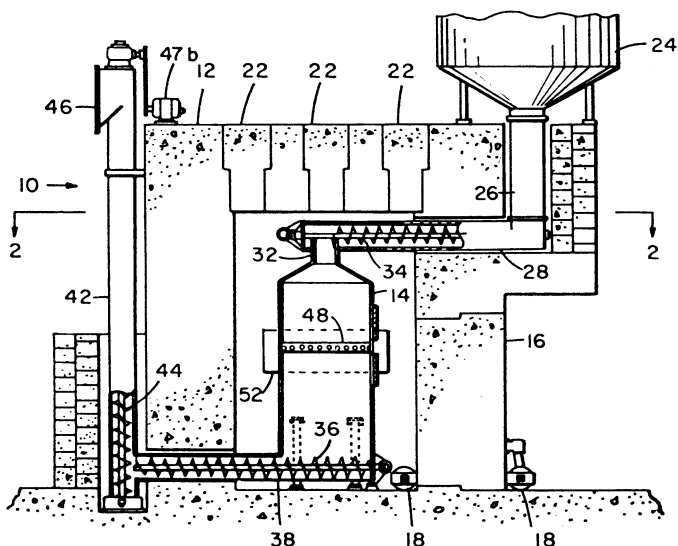
GAMMA RADIATION

Cobalt 60 Fights Weevils

Weevils, beetles and other tiny insects can destroy as much as 10 percent of a stored wheat crop in a season. They are hard to kill with chemicals because they feed within the grain kernels.

One promising technique for controlling the pests is to expose the wheat to gamma radiation.

A prototype wheat irradiator is now in operation at



the Department of Agriculture's Savannah, Ga., research center. The design for the new plant won a patent last week for Earl M. Reiback and Otto A. Kuhl of Vitro Corp.

The Agriculture experiment is being carried out to see how effective the 50,000 rads of gamma radiation allowed by the Food and Drug Administration can be in killing various insects at the various stages of their life cycles.

Preliminary results show that the insect eggs are most susceptible to the radiation, followed by larvae, pupae, and adults. Sensitivity also differs for different species, according to Dr. Hamilton Laudani, director of the Agriculture project.

Major problem in designing the irradiator was to insure that all the grain gets an equal amount of radiation. This is achieved by passing the cereal through a grid of parallel rods containing flat strips of radioactive cobalt 60. Because of the thinness of the strips, most of the radiation is in the vertical direction and absorbed completely by the grain as it flows down to the level of the radiation tubes. The patent was assigned to the Atomic Energy Commission.

Patent 3,360,646

PLASTICS

Irradiation Strengthens Insulation

Plastic insulation on cables can be made more durable and heat resistant by electron irradiation. The bombardment causes cross-linking between the long chains of

molecules in plastics such as polyethylene and polyvinyl chloride.

When the cable to be treated is fairly thick, there is a problem of getting uniform irradiation throughout. An invention patented last week overcomes this difficulty by rotating the cable back and forth through 180 degrees as it pass through the electron beam.

Inventors Eric H. Cornish, Alan R. Gilbert and Derek M. Cutting, all of London, England, assigned the patent to International Standard Electric Corp., a part of International Telephone and Telegraph Corp. An ITT spokesman said the cable oscillator was in use in England.

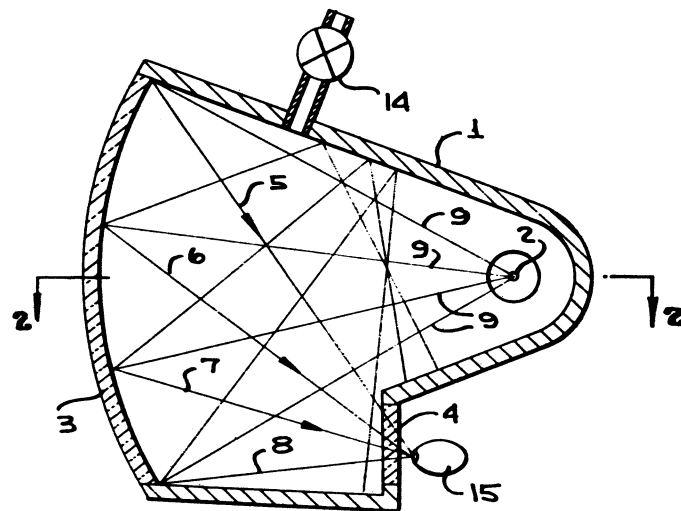
Patent 3,360,648

SAFEGUARDS

Flash Blindness Preventer

The fireball from an atomic explosion can temporarily blind soldiers as much as 35 miles away, as well as burn their retinas. Blinking doesn't help, since the flash penetrates the eyelids.

Mechanical shutters don't act fast enough to protect



the eyes; but a newly patented device that explodes a wire within a transparent screen can react within the 50 microseconds or less that is needed to prevent flash blindness.

A metallic ribbon in an evacuated space between two layers of a mask is connected to a circuit that puts out a powerful electric charge when a phototube receives a burst of light, as from an atomic blast. The electric charge causes the wire, of magnesium or other low-resistance metal, to vaporize, covering the transparent face plate of the mask with an opaque coating that shuts out the light.

The mask has a baffle arrangement so that the light from the exploding wire itself doesn't reach and damage the wearer's eyes.

Inventor Charles T. Pike assigned the patent to Isomet Corp., Palisades Park, N.J. Isomet president Dr. Warren Ruderman says the firm is developing the device to improve its size and weight characteristics.

Patent 3,360,328

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