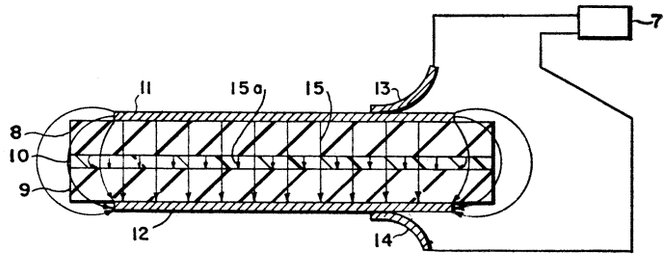
# current patents

## CHARGED BODIES

### Electrets Reach Commercial Stage

Electrets are to electricity what permanent magnets are to magnetism—they exert a force on other electric bodies and don't lose their charge.

It has been known for several decades that some materials when melted and allowed to solidify in a strong electric field acquire a permanent electric charge. More




recently it was found that plastics such as Mylar, Teflon and some polycarbonates were suitable electret material.

With the discovery of these more economical materials, electrets became commercially practical.

Last week a method for inexpensively mass producing electrets was patented by Peter Fatovic of the Northern Electric Co., Montreal, Canada.

Electrets produced by the new method are being field-tested in condenser-type microphones for telephones, a Northern Electric spokesman says.

Condenser mikes, which are more sensitive than other kinds, use the fact that the capacitance of a condenser depends on the distance between its plates. One plate is made flexible so it vibrates with sound pressure, changing the distance.

Ordinary condenser microphones need a separate power source to charge the capacitor plates. With an electret as the plate, however, the cumbersome power supply can be eliminated.

Other promising uses for electrets include filters for auto air intakes, industrial smokestacks and even cigarettes, according to Northern Electric.

Patent 3,354,373.

## COMMUNICATIONS

### Typewriter Remembers Letter

One trouble with margin controls on typewriters is that the operator can't always judge exactly when the line will end. Often an extra key is struck after the keyboard locks up.

With a good typist, who builds speed by keeping a constant rhythm, this interruption disrupts the smooth flow of operation. Even if she doesn't run over, merely thinking about the margin can upset the automatic operation of her fingers.

A patent issued last week eases the margin problem on electric typewriters by storing one character after the margin has been reached and printing it after the carriage has returned. That way, cleaner copy can be produced with fewer struckover letters.

Inventor Richard J. Young assigned the patent to IBM Corp.

Patent 3,353,646.

## IRRIGATION

### Self-Propelled Nozzle

A self-propelled irrigation system that can distribute water over a 1,300-foot radius gained a patent last week for Leo J. Dowd of Columbus, Neb.

The irrigating pipe, with nozzles attached, is fitted to a well standpipe by a rotary joint. Cable-driven supports rotate the pipe, spraying as it goes.

A special feature senses when one of the supports is lagging behind, causing the pipe to bend, and speeds it up until the pipe is straight again.

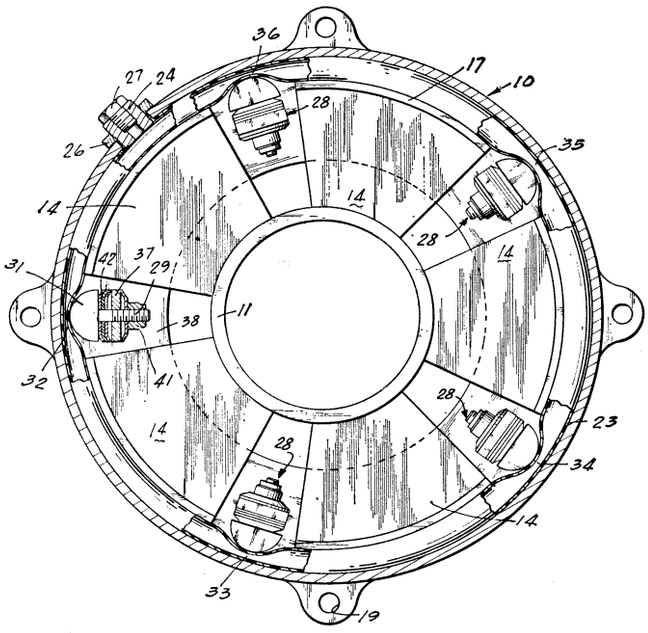
Patent 3,353,750.

## HEAVY MACHINERY

### Damping Drive Shaft Vibrations

When drive shafts in machinery reach a critical speed, vibrations tend to be reinforced to a dangerous point. With heavy shafts, such as those in electric turbines, this kind of vibration can cause the assembly to fly apart.

Damping the vibration of the shaft at critical speeds can be done by surrounding it with a jacket of fluid




under pressure. Vibration increases the pressure on the fluid, pushing it out of the jacket and suppressing the vibration. But this method cuts vibration by friction, which is inefficient and can cause heat problems, and also requires replenishment of fluid lost during operation.

A newly patented damper eliminates these problems. A collar around the drive shaft has five arms which press against a flexible sealed jacket containing fluid. When the shaft starts vibrating the collar moves, compressing the liquid on one side and allowing it to expand on the other. The movement of the liquid tends to restore the collar to its central position, damping the drive shaft vibration.

The patent was assigned to Houdaille Industries, Inc., of Buffalo, N.Y., by inventor John M. Perhach.

Patent 3,353,632.