

Technology Notes

HYDRODYNAMICS

Lubricated Water for Easier Flow

More efficient central heating and longer range Naval torpedoes may result from experiments with "lubricated" water. Friction between flowing water and solid bodies has been reduced up to 40 percent by addition of certain substances such as guar gum and polyethylene oxide in concentrations of less than 100 parts per million.

Lubricated water might allow the use of smaller, more inexpensive pipes for central heating, or faster circulation with bigger pumps, according to researchers at the Heating and Ventilating Research Association, London, England. One problem is that present lubricants break down under heat and repeated circulation.

COMPUTERS

Scotland Yard Goes Modern

Tradition-frocked Scotland Yard has succumbed to the pressures of modern crime by installing an electronic memory that can keep track of 999 emergency calls at one time.

Installed at the Yard's London headquarters, the system has display-and-control panels for 34 operators, each of whom can tell at the touch of a button the availability of police cars, ambulances, fire fighting equipment and other public service vehicles.

INSTRUMENTATION

Air Analyzers for Nuclear Subs

Automatic air-sampling devices that set off an alarm in the presence of contaminants and provide a complete air analysis every 15 minutes are being installed aboard U.S. nuclear submarines at a cost of about \$23,000 each.

Nuclear submarines, because they must spend such long periods submerged, are equipped to clean and recycle air, but certain gases, such as freon from air conditioning equipment, are difficult to eliminate once they are in the atmosphere. The new instruments, made by Beckman Instruments, Inc., Fullerton, Calif., can help pinpoint leaks before they become hazardous.

OPTICS

Playing It Cool With Ice Polish

A Russian engineer has developed a technique for high-speed optical glass polishing using powdered polishing compounds suspended in ice.

Besides reducing the problem of heat, reports the Soviet Novosti press agency, the ice method ensures that the entire zone of polishing is evenly covered, in contrast to the conventional technique which "often . . . does not ensure uniform feeding of the suspension."

The face of the ice tool can be given any shape, and its hardness regulated by changing the temperature.

Space Notes

APOLLO

First Lunar Lander Flight Delayed?

The National Aeronautics and Space Administration may be losing another battle to keep its Apollo flight schedule intact.

Following the Jan. 27 spacecraft fire which cost the lives of three astronauts and has probably set the manned flight program back from six months to a year, NASA had hoped to keep a grip on the reins by going ahead with the original calendar of unmanned developmental missions.

Now there are indications that even that schedule is slipping. The report from the Manned Spacecraft Center in Houston is that the unmanned maiden flight of the lunar landing vehicle, originally set for mid-May, may be delayed by changes that have to be made as a result of modifications to the Apollo capsule. Changes to the lunar craft will push back the date of its delivery to Cape Kennedy, but NASA still looks for a flight by the end of June.

SOLAR ASTRONOMY

Sun-Watching Satellite

Carefully scrutinizing the sun through a myriad of

electronic eyes is the third Orbiting Solar Observatory satellite successfully launched by the U.S.

Placed in a roughly circular, 350-mile-high orbit on March 8, the spacecraft had eight of its nine experiments working by the week's end. OSO-1, launched in 1962, was originally designed to operate for six months but lasted almost a year and a half. OSO-2 transmitted data for nine months in 1965.

LUNAR PHYSICS

Dusting Off the Moon

When astronauts bring back samples of dust from the moon for analysis, scientists expect to have trouble separating the real lunar material from space dust that fell on the moon in the form of micrometeorites. An Ohio State University study of long-term fallout in Antarctica may help.

OSU scientists are taking samples of Antarctic ice and snow, melting them down and measuring the rate of fallout deposited there over the years. Then the fallout is analyzed. Preliminary results show that the fallout has the same proportion of nickel as large meteorites, which indicates that it comes from outer space, rather than from the earth's atmosphere. This means that the Antarctic fallout is the same stuff as the space dust which is probably present on the moon's surface.