INVENTION

Patents of the Week

An electrostatic printing process, usable on virtually any material, in which dry ink particles are screened onto the object or surface by electrical attraction, earned a patent.

➤ A NEW PRINTING invention, electrostatic printing, is expected to have a major impact on the nation's second largest industry because good quality and inexpensive impressions can be made on virtually any material, from building bricks to fresh fruits and vegetables.

In the new process dry ink particles instead of wet ink are screened onto the material to be printed. The particles are attracted to the object or surface by an electrically charged backing plate. The design or image to be printed forms the other electrode plate in the system.

The ink particles are then fused permanently on the surface by heat or chemical treatment. The equipment involved is simple and lightweight compared with conventional printing presses.

Clyde Childress and Louis J. Kabell of Stanford Research Institute, Menlo Park, Calif., who developed the process, assigned rights to patent 3,081,698 to the Electrostatic Printing Corporation of America.

Jet-Propelled Aircraft Field

A small "airport" no longer than two airplanes and no wider than one has been invented specifically for take-offs and landings of jet aircraft by Einar Einarsson of Bridgeport, Conn., who earned patent 3,081,970.

The platform consists of a grate having a series of spaced water-cooled tubes. The top series is provided with closed flaps that open when a jet blast is directed against them.

The heat so absorbed can be used to warm an aircraft hangar or other building, Mr. Einarsson claimed.

Balloon Launching at Sea

An invention that allows balloons of any size to be launched from relatively small boat decks earned patent 3,081,967 for David Andrew Church, Coon Rapids, Minn. He assigned rights to the Secretary of the Navy.

His invention calls for modifying the arrangement at the rear of a ship so the slightly inflated balloon can be lined up over the stern. The fantail at the stern has a hole cut out so that the balloon can trail directly over the stern, the balloon being hooked onto two large stanchions.

A snag-free guideway is thus provided, and the balloon rises over the stern as gas is pumped into it.

Other Patents

Other patents included:

A clothes dryer that destroys any lint collected by burning, for which George B. Long, Dayton, Ohio, was awarded patent 3,081,554. He assigned rights to the General Motors Corporation.

A demountable dock that can be assembled and disassembled by one man, which earned patent 3,081,601 for Arthur E. Fentiman, Stittsville, Ontario, Canada.

An attache-type carrying case that includes a writing board inside, for which Lewis Lifton, New York, earned patent 3,082,049.

A trash disposal system for an auto, which gained patent 3,081,937 for Peter A. Kreider, Whittier, Calif.

An automobile trunk, composed of a canopy-type arrangement that can fit into the rear trunk space of an ordinary auto. Benjamin A. Bosher, Owings Mills, Md., earned patent 3,082,033 for this invention.

An apparatus for retrieving water ski rope, which gained patent 3,081,733 for Jerome B. Sklenar, Long Beach, Calif.

Airplane designs for either vertical or short take-offs and landings, which won patent 3,081,964 for Henry H. W. Quenzler, Seattle, Wash.

• Science News Letter, 83:210 April 6, 1963

Stanford Research Institute

PRESSURELESS PRINTING — A prototype of the first successful high speed apple marker recently installed at the Pacific Fruit and Produce Company in Yakima, Wash. is shown here. It uses the new electrostatic pressureless printing process developed by Stanford Research Institute, which imprints apples with an edible mark at the rate of 200 per minute.

TECHNOLOGY

Laboratory Designed in Fiber Glass and Plastics

See Front Cover

➤ PLASTIC MATERIALS wherever possible have been employed in a new "hot" laboratory facility at Argonne National Laboratory, Argonne, Ill., which will be used for analyzing the highly toxic man-made element plutonium.

In areas of the laboratory where high temperatures are not encountered, all of the primary working enclosures, glove-boxes, and their supporting ventilation equipment are constructed of resin impregnated fiber glass, while as many of the interior fittings as possible—power plugs, service outlets, shelves, etc.—are made of various plastic materials.

The laboratory is equipped to perform a wide variety of analytical tests in a limited space. These include gas analysis, spectrographic, X-ray fluorescent, X-ray diffraction, and "wet chemistry" studies of plutonium metal and alloy samples and of other nuclear fuels.

Seen on this week's front cover is a general view of the "wet chemistry" facilities at the chemistry division of the laboratory. Glove boxes and ventilation ducts are constructed of resin impregnated fiber glass. At the left is Carol A. Bloomquist, senior research technician, and at right, Fred J. Schmitz, research technician. Glove boxes at left do not have heavy rubber gloves fastened to their working ports since these boxes were being used with extremely small amounts of radioactive materials.

This new design approach eliminates the presence of corroded metals in an area where a delicate analysis is being performed and improves the ease with which highly radioactive plutonium can be removed from exposed working surfaces by simple decontamination techniques.

The use of plastic materials also should add materially to the life span of the facility. It will eliminate costly and unsafe deterioration of the enclosures and fittings by corrosion. The resin impregnated fiber glass ventilation ducts should last indefinitely.

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TECHNOLOGY

Radioisotope Device Measures Water Current

➤ A RADIOISOTOPE device enables researchers to measure water current speeds and directions better than any other available instrument, the Atomic Energy Commission reports. A "deep water isotopic current analyzer" has been laboratory tested and calibrated by the National Bureau of Standards and field tested in river and bay. Performance is described as "excellent" even for currents previously described as too weak to be measured. A modified version of the device has also been developed for use at very great depths (5,000 feet) in the ocean.

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