ENGINEERING

Water Flows Under Divide

Long tunnel carries water for irrigation from Grand Lake to Mary's Lake. Will supply low-cost electric energy for use in area.

➤ WATER is now pouring under the Continental Divide in northern Colorado through the Alva B. Adams tunnel, longest ever driven by drilling from only two openings.

The tunnel, 13.06 miles long, carries surplus Colorado River water from Grand Lake to Mary's Lake, near Estes Park, Colo. The tunnel is cut 3,800 feet beneath the hump of the Rockies. Water flows downhill through the $7,000,000 tunnel without mechanical help from pumps.

This Bureau of Reclamation project will irrigate more than 615,000 acres in the Big Thompson River region. It will also supply over 700,000,000 kilowatt-hours of low-cost electric energy for use in the area.

Three reservoirs to control the Colorado River are operating on the western slope of Colorado's Divide. At one of these, Green Mountain Reservoir, a power plant is being built.

Horsetooth Reservoir is now under construction on the Rockies' eastern slope near Fort Collins, and plans are underway for two more control reservoirs nearby.

Water from the tunnel will drop through seven power stations on its way to the plains. Work has started on the stations at Mary's Lake and Estes Park. Part of the electricity will be used to pump water from one reservoir to another in water control operations. The rest of the power will serve the surrounding region.

Total cost of the giant project, to be completed by 1952, is estimated at $128,000,000. Most of this will be repaid by the sale of power, the Bureau of Reclamation predicts.

Science News Letter, July 12, 1947

HORTICULTURE

Dandelion Survivors Are Deformed by 2,4-D

➤ THE NEW weed-killer 2,4-D usually lays its victims low in a short time. This gives all the greater interest to this picture, which shows what happened to some dandelions that survived a late-fall spraying and tried to produce flowers and seeds.

DEFORMED—These fantastic shapes are caused by weed-killer.

Late last fall, when the weather was already cold, 2,4-D was sprayed on several acres of lawn at the U. S. Plant Industry Station at Beltsville, Md., to kill plantains and dandelions growing there. It got the plantains 100 per cent, but a few of the dandelions survived. When they tried to blossom this spring, they produced monstrosities like those shown here.

Outstanding effect was a pronounced "siamesing" of stems and production of multiple flowerheads, closely resembling the type of freak growth sometimes found occurring naturally and known to botanists as fasciation, from its suggestion of the faces, or bundle of rods, of ancient Roman heraldry.

Most completely fasciated stem is shown at the left, which seems to have borne almost completely aborted flower structures. Strangest effect is shown at the right, where a nearly normal stem bore a frustrated flower-head, which in turn produced from its center a secondary, miniature stem and flower-head.

Science News Letter, July 12, 1947

PHYSICS

Spectrograph Records Light from Atoms

➤ A NEW infra-red spectrograph, first instrument especially designed to record with a photo-electric cell the light given off by excited atoms, has been developed by Dr. Richard C. Nelson, Dr. R. J. Cashman and Wallace R. Wilson of Northwestern University.

The new device is a combination of mirrors mounted on a heavy steel base. It breaks down infra-red light into separate wavelengths, just as a prism splits white light into its colors.

A photo-electric cell detects these individual wavelengths and converts the light energy into electrical energy which is recorded on a graph.

The scientists said that the new infra-red spectrograph almost doubles the range of atom-emitted light on which exact measurements can be made. With this spectrograph, which will give valuable information about the nature of the atom, observations that once took a month can now be made in an hour, they declared.

Construction of the spectrograph required bearings of unusual design, machined to accuracies of a millionth of an inch in some cases.

Science News Letter, July 12, 1947