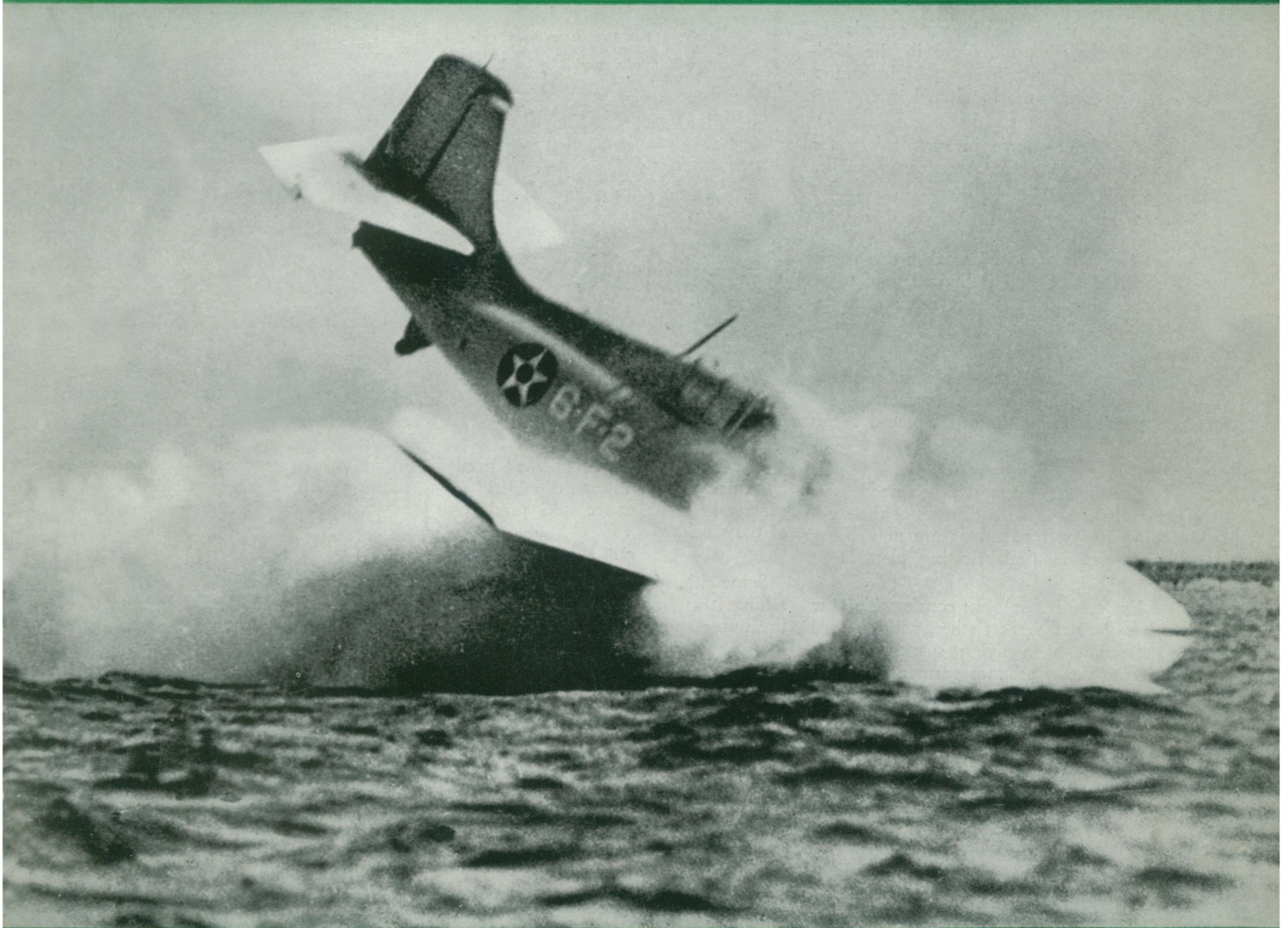


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# SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE • JANUARY 9, 1943



How Can It Be Saved?

See Page 26

A SCIENCE SERVICE PUBLICATION

## Do You Know?

Explosive liquid *ozone* is a deep indigo blue in color.

Even *rice pudding* has now been dehydrated for troops overseas.

*Synthetic sapphires* have been developed to replace imported jewel sapphire bearings.

States with the lowest records of *tuberculosis* mortality are in the Midwest and mountain areas; highest mortality is along the Mexican border.

A special course in *meteorology* for students in all the American republics is being offered by the U. S. Weather Bureau.

The *bulrushes* in Jerusalem are a new source for pressed wallboard, said to be better than cork for the interior insulation of tanks.

A new transparent *plastic window-pane*, laminated with wire mesh, withstands explosion of a 150-pound bomb eight feet away.

Special machines which spread *glue* simultaneously on both sides of the studing for wall partitions are now being employed in prefabricating plants.

For women welders: comfortable new *flameproofed* work clothes, which afford protection from flying sparks, are replacing bulky asbestos garments.

## Question Box

### Page numbers of Questions discussed in this issue:

#### ARCHAEOLOGY

Who was the "King of the World"? p. 24.

#### ASTRONOMY

How many stars shine in the sky? p. 20.

#### CHEMISTRY

How is soda pop gas helping to win the war? p. 26.

What happens to the stockings turned in for war use? p. 19.

#### DENTISTRY

Why do dentists dislike the foot-controlled electric drill? p. 29.

#### ENGINEERING

How much has tire wear been reduced? p. 29.

What will trucks probably be like after the war? p. 24.

#### GENERAL SCIENCE

What fellowship is available to women desiring to get a doctor's degree in mathematical, physical or biological science? p. 21.

#### INVENTION

What can be used in place of gunpowder on practice ranges? p. 24.

#### MEDICINE

How are the Russians stopping the bleeding of their wounded soldiers? p. 21.

Most articles which appear in SCIENCE NEWS LETTER are based on communications to Science Service, or on papers before meetings. Where published sources are used they are referred to in the article.

When death follows severe burns, what may be the cause? p. 25.

Why is it important for women to wear identification? p. 21.

#### NUTRITION

What should you eat every day? p. 30.

#### PHARMACY

What is deadly nightshade good for? p. 25.

#### PHYSICS

How can a bicycle rider steer without touching the handlebars? p. 25.

How is electron bombardment being used to save tin? p. 25.

How will America's new ration books be protected from the counterfeiter? p. 19.

What precautions can be taken to reduce the wear on elevator ropes? p. 24.

#### PSYCHIATRY

Why do some men suffer breakdown when they are promoted? p. 23.

#### PUBLIC HEALTH

What will 1943 probably hold for America's health? p. 22.

#### RESOURCES

Of what material can fireplace grates now be made? p. 24.

#### WILDLIFE

What food should be provided for birds? p. 30.

When syrup, honey or molasses replace sugar in a baked dish, a lower *temperature* should be used.

The 86 million tons of *steel* needed by American war industries in 1942 represents half the entire steel production of the world.

Some cities dispose of their sewage by selling it as *fertilizer*, after draining off the water and reducing the sludge to a fine powder mixed with potash and phosphate.

Fuselage bullet holes in airplanes can be repaired quickly by using new *explosive rivets*.

Natural rubber for the Americas is being produced from *Cryptostegia*, a flowering vine which grows wild in California, Mexico and Florida.

Tests for new *airplane tires* duplicate the wear and tear of landings and take-offs, by repeatedly plunging the tire against a huge flywheel under 15,000 pounds of pressure.

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Unretouched pictures  
photographed directly  
from RCA television  
receiver screens.

## FROM TELEVISION'S ALBUM OF PROGRESS

Felix the Cat had a bewildered look on his face in 1929 when he swung around for hours on a phonograph turntable in front of television's early scanning disks. Felix's image was slashed into 60 horizontal lines—60 streaks of light and shade. Engineers of RCA watched the antics of Felix as he was tossed through space to receiving screens. They realized that all streaks and flicker must be removed.

Scientists of RCA Laboratories abandoned mechanical scanners and developed an all-electronic system of television, featuring the Iconoscope and Kinescope, electronic "eyes" of the radio camera and the receiving set. Motors and high-speed disks were eliminated both at transmitter and receiver. Electronic television became as quiet and fool-proof in operation as a home radio set.

By 1936, the number of lines per picture had been increased to 343, with marked improvement in quality. But the research men still were not satisfied. They

continued to experiment, and to develop new equipment, for finer pictures of 441 lines. Before Pearl Harbor, 525-line television pictures were on the air from the NBC station atop the Empire State Building.

The streaks had vanished. Television at last had the texture of rotogravure. Now, faces and scenes are photographed directly from television screens without betraying the presence of scanning lines.

Brought to life by electronic tubes, and given wing by radio, television emerged from RCA Laboratories to reveal its practical usefulness. Today, knowledge gained from years of television research is contributing vitally to the war effort.

Recognizing the importance of television as a post-war industry and useful public service, RCA is continually pioneering in the science of radio sight. Television's album of progress has only begun.



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