

Toying with New Ideas

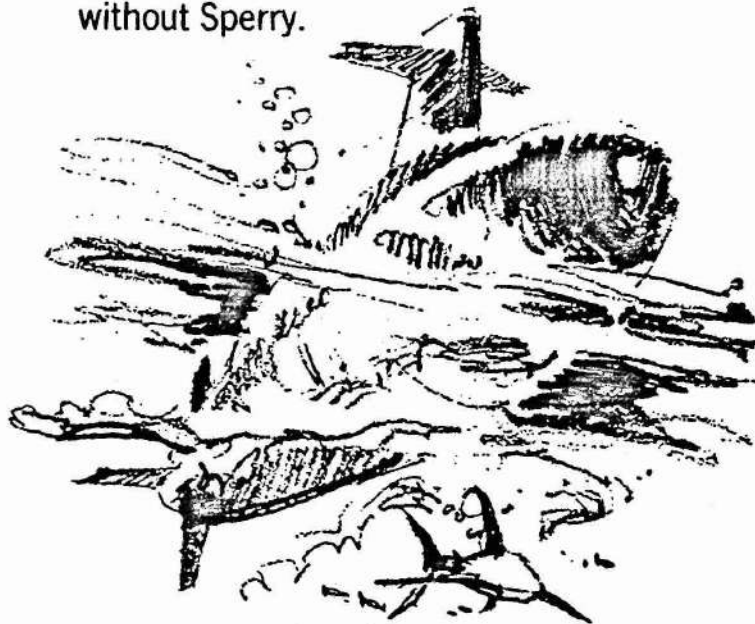
Elmer Ambrose Sperry, an inventor from New York, has created many things, including electric mining machinery and electric railways. He also developed the high-intensity lighting used for street lamps and searchlights. The idea for his best-known invention came from a simple toy. His children were spinning a top and wondered why the top could stand without falling over.

Their question started Sperry thinking. The gyroscope, a mechanical device which defies the force of gravity, is much like a child's spinning top. The gyroscope is basically a spinning wheel with an axle through the center. The wheel rotates on bearings within a moveable frame. Another child's toy, the bicycle, can also be compared to the gyroscope. The spinning wheels keep the bike upright. When the frame of the wheel is turned, the bike goes in the direction of the turn. Sperry thought this motion could be put to many good uses.

Sperry developed new uses for the gyroscope. First he made a large gyroscope to help steady ships and keep them from rolling from side to side. In 1908, Sperry used this same idea to invent the gyrocompass. Steel used in

manufacturing ships interferes with magnetic compasses. The gyrocompass isn't affected by steel or other magnetic forces. Its needle always shows a true north. Sperry also developed gyroscopes for submarines and aerial torpedoes, which were used during World War I.

Sperry's son, Lawrence, took his father's idea even further. He developed an automatic gyropilot to stabilize airplanes. Lawrence demonstrated his gyropilot by taking his hands off the steering wheel of a flying airplane and walking out on the airplane's wing! Many fighting methods used by today's army and navy would not be possible without Sperry.



Main Idea

11. Elmer Sperry is best known for his development of
 - a. electric mining machinery
 - b. airplanes
 - c. gyroscopes

Significant Details

12. The gyrocompass is better than the magnetic compass because
 - a. magnets on a magnetic compass point north
 - b. the gyrocompass is not affected by magnetic forces
 - c. the gyrocompass is bigger

Context Clues

13. The gyropilot was used to *stabilize* airplanes. This means:
 - a. make steady
 - b. manufacture
 - c. fly without power

Inferences

14. What did Lawrence prove by walking on the wing of an airplane?
 - a. He was an experienced flyer.
 - b. The plane could fly without gas.
 - c. The gyroscope could keep the plane automatically on course.

Drawing Conclusions

15. Why would the army and navy use Sperry's invention?
 - a. Enemies can't use magnets to interfere with navigation.
 - b. It's more expensive than the magnetic compass.
 - c. Soldiers can hang out on the wings of planes during war.

Constructed Response— Answer on notebook paper

Write a paragraph of at least 5 sentences explaining what the author's purpose of this passage is (PIE). Use text evidence to explain your answer. Use the RACE strategy to write your paragraph on notebook paper.

Weekly Quiz #11

Please do not write on this quiz. This is a class set.
Please mark all answers on your bubble sheet.

Spelling & Vocabulary

1. Which word correctly completes the sentence?
Ever _____ gym class, your shoes have been emanating an awful odor!
a. scents b. sense c. since d. cents
2. Which word correctly completes the sentence?
My _____ of smell has never been the same.
a. scents b. sense c. since d. cents
3. Which word correctly completes the sentence?
You must finish this quiz in the _____ amount of time.
a. predecessor b. allotted
c. emigrated d. capitulation
4. Which word correctly completes the sentence?
After hearing the beach vacation was cancelled, we fell into a _____ mood.
a. melancholy b. mediocre
c. superfluous d. speculation
5. Which word correctly completes the sentence?
Being a(n) _____ supporter of animal rights, she won't be pleased you are wearing snake skin boots.
a. albeit b. picket
c. ardent d. allotted

Skills and Concepts

6. Which of the following is **NOT** a primary source?
a. speech b. diary c. photograph d. encyclopedia
7. Textbooks, articles, essays, summaries, and biographies are all examples of:
a. primary sources b. secondary sources c. tertiary sources d. all of the above
8. The book we are currently reading, Anne Frank: Diary of a Young Girl, is considered a:
a. primary source b. secondary source c. tertiary source d. all of the above
9. Which pronoun correctly completes the sentence?
Between you and _____, pronouns are really confusing.
a. I b. my c. me d. mine
10. Which of the following is a simple sentence?
a. Swimming and dancing, though tiring, are my favorite forms of exercise.
b. Swimming is fun, but dancing is even better.
c. Swimming and dancing are great forms of exercise, because some people lack motivation to get healthy.
d. Swimming and dancing, two forms of fun exercise.