

U. S. COAST GUARDED BY AUTOMATIC BUOYS

America Has Largest Number of Devices in World.

Washington.—The United States lighthouse service now has in commission more automatic apparatus than any other country in the world, according to the annual report of Lighthouse Commissioner George R. Fithian, submitted to Secretary Hoover and released by the Department of Commerce. Of 4,047 coast and lake lights, 1,005, or 24 per cent, are automatic, doing the work of 705 lighthouse keepers and assistants. In addition 688 lighted buoys which could be maintained by human attendants and which are invaluable aids to mariners are automatically operated. During the year, 30 stations have been changed to automatic, with an annual saving of 76 per cent of the cost of the changes.

The total number of aids to navigation now operated by the lighthouse service is 10,888.

Among notable improvements of the service during the fiscal year are increased number of radio fog signals, a new lightship on Nantucket shoals, new lights in Baritan bay and connected waters of New York and New Jersey, automatic lighthouses on Molokai reef and Pacific reef (two, important unlighted stretches of the Florida reefs), 19 additional lights in Alaska, etc. Twenty-five fixed lights were changed to flashing lights. Two mine planters obtained from the War department were converted into towers at a saving of \$448,000 and many other economies in operating costs were made, especially by steady improvement of plant and service.

During the year, three lighthouses were added during the year, one at Cape Henry, Va.; one on the Diamond shoals lightship in North Carolina, and one on the Blounts reef lightship off Cape Mendocino, Cal. Five additional radio fog signals are being installed in lightships at Boston, Mass.; Five Fathom bank, Del.; Swiftsure bank, Wash., in the Columbia river, and off the straits of Fuca. These instruments furnish, with proper precautions, bearings approaching the accuracy of visual bearings, and are available at greater distances.

Recommendations for the further betterment of the service, include replacement of certain light vessels, improvements at certain lighthouses, and supply depots, and legislation extending the retirement law and relief of personnel in other ways, especially in adjustment of pay schedules.

Erect 30,000 Monuments to War Heroes in France

Brioules, France.—The track of war along the river Moselle, between Verdun and this little city, where there stands a monument commemorating the capture of this place, October 9, 1918, by the Third American corps, furnished evidence of the stimulation that the war has given to the marble cutting trade.

Thirty thousand monuments have already been erected by the French to their dead, and this department of the Moselle, where the French fought the battle of Verdun and where the Americans fought the battle of the Argonne and Meuse, has its share of them. The marble cutter has work ahead for him there for many years.

It is in this region, also, that the Americans find more occasions than anywhere else to commemorate the participation of their troops in the war. It was here that the American forces, as separate units, did the greater part of their fighting. Some monuments have been put up by American divisions and American corps.

Twin Brothers Tied for Scholarship Prize

Rochester, N. Y.—A case of twin brothers who have gone through preparatory school "neck and neck" in scholastic and extra-curricular activities, entered college together, participated in the same college activities, pursued the same courses, made identical grades and now have won the same prize for scholarship was brought to light at the University of Rochester. President Bush Rice announced that the Rosenbergs prize for the man in each junior class whose work has shown the greatest improvement during the freshman and sophomore years had been given jointly to Edwin W. and Alexander L. Donnelly, twin brothers of New York city, because of the inability of the faculty committee to find a trustee of a per cent difference in the standings of the brothers.

Both boys also won their numerals in football in their freshman year.

U. S. to Provide for Boy, Massachusetts

Mass.—The will of Eita M. Mather of Uxbridge contains this clause: "To my son, Frank H. I give no bequest because he was wounded at the battle of the Marne, and I rely upon the bounty of a grateful government to provide for his necessities in case he is unable to provide for himself." The estate is distributed to his children.

Madeline Horn, Cal.

Madeline Horn, Cal.—Madeline Horn, of age, No. 2513 Traverser street, says that she has been writing letters in duplicate and sending them to the litigious attorneys who are litigating with her home in Los Angeles. She found the letters when she found her husband's papers.

HOUSING SITUATION BEING MET IN U. S.

Majority of City Folks Prefer Apartment Buildings.

Washington, D. C.—Homes for 370,848 families in the United States were provided by the national building program of 1922 in cities and towns with a population of 25,000 or more. A detailed compilation of all building in the country by the Department of Labor has just been completed. It does not include farm dwellings and those in small communities.

Unless American families are multiplying faster than census figures indicate, however, the housing situation in the country is being met.

The department figures show an increasing tendency on the part of urban dwellers to concentrate in apartment houses and two-family dwellings. The figures cover 272 of the 288 cities with 25,000 or more of population. They show that more than half of the building construction, 51.6 per cent, was for residence purposes, and that real-estate buildings ran 64.6 per cent of the total cost of a building construction program which ran nearly \$2,000,000,000.

Of the 235,001 residential buildings projected in 1922, 188,593, or 40 per cent, were one-family dwellings. Original estimates of cost of these dwellings made a total of \$772,359,303, or less than a third of the total cost of new buildings.

The average estimated cost per one-family house was \$4,203. The average estimated cost in 1921 was \$3,937. Attention is called to the fact that costs are frequently underestimated.

Permits issued during the year called for 183,838 one-family dwellings, 99,827 two-family dwellings, 3,011 dwellings with stores combined, 9,610 apartment houses, 1,128 apartment houses or flats with stores combined and several hundred hotels and lodging houses.

More Churches Than Theaters.—Among non-residential buildings the greatest number erected were private garages. There were 161,202 of them, or more than a third of the new dwellings, but their cost was only 8 per cent of the total cost of building operations in the cities. Such garages are now rated in government figures as necessities.

The department report says: "In spite of the fact that the present has been denounced as a 'jazz age,' it will be noticed that in 1922 in cities having a population of 25,000 or over there were built more churches than amusement buildings, but while there were more churches than amusement buildings built, over \$10,000,000 more was spent for the construction of amusement buildings than for churches."

River Channel Yields Up Carven Stone Fish

Oregon City, Ore.—Deep in the original channel of the Willamette river here was found recently a "stone fish," which has been added to the possession of O. A. Hollingsworth. The shape was uncovered when excavation was being made for an addition to a local paper mill.

The stone, about 16 inches long and 7 inches high, is roughly carved in the shape of a fish, with mouth, eyes, gills and fins. Hollingsworth believes the stone, which shows signs of being worn by water, was carried along the river in floods of bygone years from the upper Willamette, possibly from the region of the mound builders near the present site of Albany, Ore. In his opinion, some early day savage with an artistic bent saw the stone by chance and noting its general shape was that of a fish, took his rough instruments and carved in the eyes, gills and fins.

Japan's Expenditures Reduced by \$50,000,000

Tokyo.—The diet passed the reconstruction estimates, as reduced in conformity with the demands of the Seiyukai, its majority political party. The reduction had previously been approved by the cabinet, conditioned upon the formal approval of the diet, already granted by that body as a committee, and provided the reduction did not prevent the work of restoration of the regions damaged by the earthquake from going forward.

The reduction amounted to 100,000,000 yen (\$50,000,000). Facing dissolution or the possibility of resigning, the cabinet decided to accept the curtailment of the reconstruction program.

Figuring in Trillions Results in Illness

Berlin.—"Zero stroke" or "cipher stroke" is the name created by German physicians for a prevalent nervous malady brought about by the present fantastic currency figures. Scores of cases of the "stroke" have been reported among men and women of all classes, who have been prostrated by their efforts to figure in thousands of billions.

Many of these persons apparently are normal, except for a desire to write endless rows of ciphers and engage in computations more involved than the most difficult problems in logarithms.

One of World's Most Famous Mountain Roads

Overlooking Los Angeles, Cal., is one of the world's most remarkable mountain roads, extending from Laurel canyon to the summit of Lookout mountain. While just wide enough for one vehicle, the road is perfectly safe for automobiles, as it is built to ascend by one route and descend by another.

The curves, hairpin turns, switchbacks, etc., are numerous, but all built so scientifically that there is no danger. The road is carved from the side of a hill which is so precipitous that in one place there are six levels rising one above the other, all visible from the same point; in fact, the hill appears to be terraced with the zigzag of highway. The surface is of decomposed granite and the outside edge has been fenced with stout timbers.

From the summit—occupied by a summer hotel—one has a view that is without a rival on the Pacific coast. The ocean is but a few miles distant, with the Santa Catalina and San Clemente islands on the horizon, while along the shore are the scores of towns and resorts built upon the sands. About thirty cities and towns are visible from the summit, with Los Angeles almost directly below.

Immense Freak Boulder in the Berkshire Hills

Among the Berkshire hills of Massachusetts, near Pittsfield, is to be seen a tremendous boulder, weighing some 170 tons, perched upon a flat rock, apparently so nicely balanced that a glance at it almost convinces a person that but little force is needed to throw it over.

It is called the "Balance rock," but, despite its name and appearance, it is firmly fixed and makes no movement whatever. Another strange feature of this freak is that the boulder is of an entirely different formation from that of the Berkshire limestone upon which it rests, and it is supposed that in some prehistoric age it was torn from some mountain height by a glacier and at last delicately placed on the limestone bed.

At Cheyeyo, in Burma, British India, nature has superimposed an immense boulder upon a rocky elevation, and the natives have seized upon it as a fit place for a temple of worship. Here they have erected a small pagoda. So evenly balanced is this great stone that it sways, temple and all, back and forth when a strong wind is blowing.—Detroit News.

Definition of Factory

In modern usage the term factory covers any establishment, with its buildings and equipment, used for the manufacture of goods. The legal definition, however, varies widely in different states, but is usually based upon the number of workers. One such extreme definition makes a factory "any place where two or more persons are engaged in working for hire or reward in any handicraft." C. D. Wright's definition reads: "A factory is an establishment where several workmen are collected for the purpose of obtaining greater and cheaper conveniences for labor than they could procure individually at their houses; for producing results by their combined efforts which they could not accomplish separately, and for preventing the loss occasioned by carrying articles from place to place during the several processes necessary to complete their manufacture." Another distinguishing mark of a factory is the ownership of all the tools or implements of production by the employer.

Yucatan's Vehicles

Yucatan clings to antiquated means of transportation, which include the carreta, the coche, the volan and the volante, although the introduction of automobiles bids fair to eliminate these vehicles. The carreta is a heavy two-wheeled truck; the coche, a light four-wheeled, rubber tired, rigid topped carriage, with body supported on heavy leather straps, for travel on the rocky country roads, similar to the stagecoach of America's old west, and the volante, a very heavy four-wheeled vehicle somewhat like a victoria, but with the body supported on heavy leather straps, used for rough travel in the rural districts.

Solving the Problem

A young salesman had embezzled from his kind hearted employer a considerable sum of money, and had lost every cent of it on the races. He was apprehended, and the boss didn't know just what to do about it.

"Keep him on the job and deduct what he owes you from his pay," counseled the adviser.

"But," wailed the victim, "the amount is too large. He could never make it up that way. His wages are too small."

The other ruminated for a moment. Then his face cleared.

"Well, then, raise his salary," he suggested.

The Problem

As he was going on a prolonged trip around the world

WHY

"Wooden Soldiers" Must Be Removed.

The nondescript "wooden soldiers," gracing every crossroad in the country, are to go, the Post Office department at Washington has ruled. They are to be replaced with community mail boxes of a neat design.

The Postal Guide supplement states: "The Post Office department is being pressed to replace these shabby guardians with some trim device which shall not disgrace the country roads. Every city now strives for beauty, declare those who urge the improvement, and the rural districts want to look their best, too. There is little question that 15 or 20 undecorated tin boxes, some on thin posts, some on round posts, some on thick posts, some on short posts and some on long posts, are a blot on the crossroads."

One design submitted is an artistic tiny house on a shapely post, accommodating three mail boxes, which can be built at about the same cost as three separate boxes.

Why Schools Are Needed

"Do you think it pays to give to a public school?" writes William McAndrew in World's Work.

"My boy, our community has already responded. It is building another school alongside this. My wife and I and our three children will build a third, with an athletic field, a swimming pool, and a farming plant. Why? Because the people want this sort of thing. It has doubled the number of children going to school here. The citizens have organized a bus service to get the youngsters from the farms. The school has become the center of community life. Does it pay? Who was the chap that praised the man who made two blades of grass to grow where one grew before? Our new farm school will tend to that and, besides, our good teachers can count on the proceeds and say 'here are two happy hearts for every one there was before.'"

Why Philosopher Laughed

Just why Democritus, a Greek philosopher who lived in the time of Socrates, was called the laughing philosopher is not known for certain. His moral philosophy was very stern, and taught the absolute subjection of all passions. Tradition says Democritus put out his own eyes in order not to be diverted from his meditations. Some ancient writers say that Democritus became so perfect in his teachings that he went around continually with a smile on his face, and hence the title "laughing philosopher." But others give a different reason. They say the inhabitants of Abdera, the Thracian colony where Democritus was born, were noted for their stupidity, and that he was called the "derider," or laughing philosopher, because of the scorn and ridicule he poured on his townsmen for their ignorance. Still others say he received the name from his habit of laughing at the follies of mankind in general.

How to Make Invisible Ink

Ever want to use a secret ink for writing? If so, the two simplest are milk and lemon juice. Just take a bit of milk or a bit of lemon juice and put it in a clean inkwell.

A clean new pen must also be used, so that no trace of black will appear on the "invisible letter." Dip the pen in the ink often so as to be sure it is writing, and after the letter is finished, do not blot it, as that will absorb some of the invisible ink and the blotted portions will not show up well when it is desired to read the message.

To make either of these invisible inks visible, all that has to be done is to get the paper on which they are used good and warm and they will both show up plainly. Care must be taken when heating the paper not to burn it or scorch it.

Why Turks Failed

The tradition is that some bakers were working in a cellar one night in the year 1629. One happened to hear a muffled sound of digging. At that time the city was besieged by the Turks under Soliman the Magnificent. Guessing that the enemy were tunneling a way into the city, the bakers gave the alarm. The aroused garrison was able to baffle the enemy. Eventually the Turks were badly defeated. In commemoration of these events, the Vienna bakers thereafter molded their rolls in the shape of a crescent, the sacred emblem of Turkey.

Why Pacific Is Calmer

The fact that the Pacific ocean is less subject to storms than the Atlantic is due to various reasons. Partly because of its great extent and partly because there is no wide opening to the arctic region, the normal wind circulation is on the whole less modified in the north Pacific than in the Atlantic. The trade winds are generally weaker and less persistent in the Pacific than in the Atlantic and the intervening belt of equatorial calms is greater.

Why Maine Is Colder

Maine is colder than France on account of the ocean currents. Off the coast of Maine there is a cold current coming from the polar regions and flowing southward. It cools the air and makes the climate colder. Off the coast of France is the Gulf stream. This gives a warmer climate.

HOW

TO TEST HOLLOW TILES WITH HYDRAULIC DEVICE.

In a series of tests made by the bureau of standards in a 10,000,000-pound hydraulic testing machine, and described in Technological Paper No. 238 of that bureau, walls made of common fireclay tiles 12 inches long, 12 inches wide and either 6, 8 or 12 inches thick were tested to the point of failure. These tiles were first tested individually and their strength was found to be much greater than that of those usually used in building construction. Their design was such that all the net area was in bearing when carefully set on end in the wall. Owing to the fact that the walls were very carefully set by an experienced mason they are considered to have been stronger than those usually used in buildings.

Of the 32 walls which were tested about half were built with the cells of the tile vertical and the other half with them horizontal. A few walls of each construction were tested under an eccentric load 2 inches off center.

It was found that considerable differences in the strength of the tile did not have an appreciable effect on the strength of the walls. No relation was found between the ultimate strength and the load at first crack. Walls having the cells of the tile vertical had, on the average, more than twice the strength of those having the cells horizontal. Walls loaded with an eccentricity of 2 inches had about one-half the strength of similar walls axially loaded. Apparently this ratio is independent of the thickness of the wall.—Scientific American.

How to Photograph Clouds With Camera

A few weeks ago the French meteorological office invited photographers to submit photographs of the sky taken in varying circumstances, with a view to making use of the pictures in the study of weather conditions.

Clouds are said to be difficult to photograph, but this is only the case where one wishes to photograph a landscape at the same time. When the object is to make negatives of clouds only a quick exposure with an ordinary camera will do the work.

Amateurs with cheap cameras which have only one snapshot speed can get over the difficulty by stopping down the lens to less than half its usual opening. Then they must be careful to develop the film or plate until the image of the clouds is just beginning to show on the back, when it will be time to put the film in the fixing bath.

Those with better-class cameras may use self-screen plates, stopping down to F16 and making an exposure of one-fifth part of a second. Even better work may be done by using orthochromatic plates and a color screen on the front of the lens. When using a three-times screen the lens may be stopped down to F11 and an exposure of one-tenth second, or, if weather is bright, one-twenty-fifth second may be given. The rule for development mentioned above applies in all cases.—London Tit-Bits.

How Sea Nettles Sting

The sting is caused by the discharge of minute cells known as nematocysts. Each nematocyst, or stinging capsule, consists of a tough oval capsule filled with fluid, and invaginated at one end in the form of a hollow process which is continued into a long, coiled, hollow thread. At one point of its outer surface there is developed a delicate trigger hair known as the onidocil. When the onidocil is touched the surrounding tissues suddenly contract, thus causing the coiled thread to be discharged. The end of the thread is provided with minute barbs. These threads are poisonous, and are the immediate cause of the sting. It is not thought that these animals purposely bring themselves into contact with persons when in the water. What happens is that they are simply brought in by the tide, and are so numerous at times that it is impossible to avoid contact with them.

How U. S. Got Hot Springs

Hot Springs, Ark., is widely noted for the hot waters that flow from 72 springs, included in a space of ten acres on the west side of Hot Springs mountain. The waters of these springs range in temperature from 78 degrees Fahrenheit to 157 degrees Fahrenheit, and are especially beneficial in the treatment of chronic diseases. In 1832 four sections of land were set off by congress as a government reservation. Since then the government has established on the mountain the army and navy general hospital.

How Expression Originated

Judge Halliburton, author of "Sam Slick," popularized the interesting fact that Job's turkey had but one feather in his tail, and had to lean against the fence to gobble. Obviously, the reference is to the deplorable indigence to which Job was reduced when delivered over to Satan. The fact that Job couldn't have a turkey (for the bird is a native of America) was probably not present in the mind of the originator of the expression.

"INTRODUCING MR. KEN BLAIR"

By GRACE CANFIELD

THE young man on the doorstep moved big hat and beamed at the girl in the doorway.

"I've come from Tom Rice," he remarked, informally. "I'm in town for a month, and he gave me a letter of introduction to you."

A shadow of wonder crossed Peg's face. From Tom, of all men, the most jealous! But she held out her hand, frankly. "Do come in," she smiled.

"I'm always glad to meet a friend of Tom's." Some imp of mischief, recalling to her mind Tom's rather dull and insistent formality, prompted her to add: "And if you are to be in town only a month, you must call me Peg right off. Everyone does."

"Dear Peg," the letter read. "This is to introduce Mr. Ken Blair, an awfully good scout, but a bit shy with girls. Show him it isn't worth while. Tom."

She bit her lip with amusement and annoyance. Such expressions had never formed under Tom Rice's carefully trained pen in his whole life.

"Good Old Tom!" she hazarded, and when his quick nod of assent assured her that he had never set his eyes on Tom's sleeky combed head, she laughed aloud, and the game was on. After the first hour of lively chat, she discovered that he did not know her last name, a rather ridiculous oversight, she thought. Still, by this time the game had grown sufficiently interesting for her to take her part with zest, and she was very careful to avoid the necessity of mentioning surnames.

Ken was introduced, in proper season, to her mother, as Tom's friend, and thus considered a duly accredited escort in the days following.

Tom was a favorite subject of discussion between the two. Ken seemed to be a great admirer of the mythical letter writer, who was, Peg was amused to note, everything—that the real Tom was not.

"I hope Tom can come down here before you go," said Peg.

"So do I!" agreed Ken, so warmly that Peg was slightly chilled.

"By the way"—Ken walked to the piano, aimlessly touching the keys—"have you written to Tom?"

"Not since you came," Peg flushed. "Why?"

"He turned and looked directly into her eyes. 'Oh, I just wondered,' he said quietly, and left soon after, leaving the girl strangely disturbed. For the first time a vague doubt crept into her mind.

For two days he failed to come to the house or call her up, and suddenly Peg knew that it had long since ceased to be a game to her, and that Ken's good opinion was very much to be valued. She must tell him that she had known all along; she must find out what had caused the alteration in his manner toward her. Swallowing her pride, she called him up and asked him to dinner the next night.

"To her mortification," he hesitated. "Thanks, Peg, I'd like to come, but I have a guest."

"Bring him along," replied Peg, recklessly.

A pause. "All right," he said. Who was Ken Blair? Peg, combing her hair for the third time the next evening, found that her hands were trembling at the thought of finding this out at last. For to find out something she was determined.

He greeted her rather gravely and turned to introduce the bluff, tanned-haired young man who followed him.

"Of course, you remember Tom Rice, Peg?" said Ken.

"The girl stood electrified. 'But you aren't Tom Rice!' she cried.