

# Science Invention

The curious theory of M. Boyl is that N-rays keep marine animals in their native habitat. These rays enter salt water readily, but are completely stopped by fresh water, and they have the remarkable property of increasing risal power, other effects being probable.

A baker's oven heated by electricity is a novelty at Montauban, France. The heating elements—numbering twenty—are placed at the side of the interior, and heat is quickly applied and cut off at once, with a considerable saving in time. No heat is lost up the chimney, as the only opening is the door through which the bread is passed.

Calculation confirmed by experiment has shown that, weight for weight, pine wood is stronger than steel in both transverse and tensile strength. It is regarded as doubtful if any metal could be made into a hollow rod equalling a bamboo rod in stiffness without exceeding it in weight. In structures of wood the weak points are always at the joints.

A recent German invention to prevent suffocation of firemen in smoke-filled rooms, of rescuers entering mining shafts containing noxious gases, and of workmen cleaning chambers where the air is dangerous to breathe, consists of a leather helmet, with glass eyes and a pliable neck collar, attached to a rubber hose, through which, as in the case of a diver's outfit, fresh air can be continually forced, while the exhaled air escapes through a valve at the top of the helmet. There is also a speaking-tube, through which the operator can converse with his assistant outside the room, building or shaft in which the work is being done.

Bishop's Ring is a slightly reddish-colored circle about the sun, which is believed to be caused by fine volcanic dust floating at a great altitude in the air. It was first seen, and named from its discoverer, after the great eruption of Krakatoa in 1883. It made its appearance again after the eruption of Mont Pele and other West Indian volcanoes two years ago. Recently H. H. Clayton has observed that it is diminishing in diameter, owing as he supposes, to the slow settling of the dust toward the earth. In December, 1902, its mean distance from the sun was 40 degrees, but in December, 1903, the distance was only 29 degrees. The ring is faint and not easily seen by an unpracticed observer, but within it there is a fairly conspicuous whitish glare.

A new process of zinc production was recently the subject of a demonstration by Sir William Ramsay at the Hafna Mines, North Wales. The new process installed at the Hafna Mines will make it possible to extract the zinc direct from the ore. At present the ore is treated to make spelter, and from this white zinc is produced, a more important still, the vast heaps of refuse—locally called "tailing"—which cumber the North Wales hillsides can be worked at a high profit. The cost of production will be 50 per cent cheaper than the current rates. The discovery of this new process will enable numbers of mines now closed to resume work on a paying basis, and it is expected that the white zinc trade, which is now in the hands of the foreigner, will return to that country.

## WHITE HOUSE CHINA.

Mrs. Roosevelt Is Trying to Get Together a Complete Collection.

Mrs. Roosevelt has started a movement which, if successful, will result in the installation in the White House of at least a part of the china used by every President of the United States from Washington's time. The task which Mrs. Roosevelt has undertaken is no small one, for there are no funds with which to make the collection, and she is dependent largely upon those who hold rare pieces as relics.

Only since the days of Abraham Lincoln has the White House china been preserved after the term of the incumbent had expired. Before that time the china was the property of the President and went out of the executive mansion with him. Much of the most valuable of all the relics is scattered over the land, in the hands of relic hunters or of distant descendants of former Presidents.

To assist her in the work of collection Mrs. Roosevelt has asked the aid of Mrs. Abby G. Baker, an authority on White House china.

Recently the nucleus of the collection was installed in cabinets on the basement floor of the White House, where it may be viewed by visitors as they pass through the hallways leading to the east room, now the only room open to the reception of the public at the usual hours. Two cabinets have been filled and appropriately labeled with specimens of the china of each administration from Lincoln down. Soon the entire sets are to be placed in glass cases where they may be seen. The two cabinets already arranged contain the following pieces:

Lincoln China—Fish platters, two plates, large fruit dish, one small compote.

Grant China—Large openwork fruit dish, smaller compote, two plates, long fish platter, small butter plate.

Hayes China (from the Theodore Davis decorated set)—Turkey gravy, "bear and honey," salad dish, platter, ice cream plate, cup and saucer, dinner plate, plate with painting of

house in which Mr. Davis made the designs for the dishes.

Arthur China—Six plates from the "Gypsy set," two cups and saucers.

Cleveland China—Four plates, ten cups, gravy boat.

Harrison China—Cut glass, two plates, cup and saucer, cut glass ice cream plate, goblet, finger bowl.

McKinley China—Three plates, two cups and saucers, a small bonbon dish, in shape of the national flag.

In addition to this collection there is in the Smithsonian Institution some of the china used by Washington, and this may be transferred to the White House collection at an early day. In Massachusetts there is a considerable quantity of the Adams china in the hands of lineal descendants and in the collections of various historical societies.—Chicago Inter Ocean.

## BENEFITS OF CURFEW LAW.

When Enforced in New York State Results Have Been Good.

There have recently been reports from fifteen cities and villages in the State where a curfew ordinance has been adopted answers to questions as to how the plan works in these communities. It is noticeable that in the few places where the plan has not worked well the result is due to the failure of the authorities to enforce the law. Where it has been enforced the results are invariably good. The city clerk of Olean, for instance, a city of 11,000 inhabitants, writes: "It is noticeable that there are fewer children on the streets, which in our city are considered the very hotbeds of crime."

Addition, in Steuben County, with 2,000 population, adopted the ordinance ten years ago. Two months ago the Board of Trustees voted to do away with it. Apparently the law was not enforced, became a dead letter, and of course was worse than useless. Canisteo, another village of 2,000 people in Steuben County, has had the law for four years, but it, too, is letting it go by default. Le Roy, with 3,300 people, "found great trouble" in enforcing the law, but the city clerk thinks it would be a good thing if enforced.

But in those places like Hornellsville, where the first curfew ordinance in the State went into effect; Wellsville, Dundee, Salamanca, Geneva, Corning and Elmira, where the law is enforced, the results are all that advocates of the law claim. Dundee finds it "easy to enforce the law" and "results are entirely beneficial. The results are: 'Streets cleared of boys and youngsters; less noise, mischief and disturbance; the making of better citizens; raising the standard in school.'"

The village clerk of Wellsville says: "The village clerk of Wellsville says: 'I would advise the adoption immediately of a curfew ordinance.' Geneva finds nothing to object to in the law and reports that it accomplishes the desired results. Corning makes a like report. In Salamanca, where the ordinance has been in force, it is several years since there has been 'any serious offense committed by youngsters. There is no disposition to abolish the system.'"

Wayland tried the law for three years, then became careless. There was little or no objection to it so long as it was enforced. It was recognized as a good thing, but when it was not enforced it was very properly discontinued. But now the village clerk writes: "I believe that it is only a matter of a comparatively short time when the curfew ordinance will be restored here. The people in general, I believe, are not satisfied with conditions as they are, and will be glad to return to the old curfew ordinance, provided the authorities will rigidly enforce it. A curfew ordinance would not be necessary here or anywhere else if parents and guardians would do their duty, but until parents learn that the welfare of their children, as well as the good of society, requires them to keep their children off the public streets and away from public places (at night) a curfew law will be almost a necessity."

The gist of all this testimony is that the curfew law is a good thing if enforced. It does accomplish what it is intended to accomplish so long as the authorities do their duty.—Ithaca Journal.

## Gold Mine 3,000 Feet Deep.

What is believed to be the deepest gold mine in the world is being worked at Bendigo, Australia. The mine in question, which is called the New Chum Railway mine, has sunk its main shaft to a depth of 3,000 feet, or only sixty feet short of three-quarters of a mile. The chief problem is how to keep the tunnels and general workings cool enough for the miners to work at such a depth. It is usually about 108 degrees, and, to enable the men to work at all, a spray of cold water let down from above has to be kept continually playing on the bodies—naked from the waist upward—of the miners. Even then they cannot work hard, or they would faint from exhaustion.

## King Who Is a Hotelkeeper.

The King of Wurtemberg is the only hotel keeper who is a king. When Peter the great was traveling incognito through Europe he refused to stay anywhere but at an inn. To circumvent this whim, the King of Wurtemberg put a tavern sign outside one of the royal palaces, and, dressed as an innkeeper, himself welcomed the Czar. This monarch's descendants have been in "the trade" ever since.

A lover is glad to see his girl, but not as glad as the married man is to see his wife when he has been left with the children.

It often occurs to us that the most shiftless looking work in the world is driving plows.

## JAPAN'S CHRONOLOGY.

Wonderful Advance After a Sleep of Two Centuries.

The following chronology of Japan's advance during the last two centuries is from the New York Times:

- Beginning of the Tokugawa line of Shogun. Iyeyasu makes Yedo his capital..... 1606
- Edict against the Christians by Iyeyasu..... 1613
- Persecution begins..... 1614
- Will Adams, an English pilot, lands at Bungo, April 19, 1600; dies..... 1620
- All foreigners, except Dutch and Chinese, banished and the Japanese forbidden to leave the country..... 1636
- A several years' massacre of Christians begins. The Dutch factory removed from Firando to Deshima..... 1641
- Rising of Shimabara. Christians hurried from Popoemberg..... 1677
- Arrival of Commodore Perry in the bay of Yedo, July 8..... 1853
- Treaty with the United States signed, March 31..... 1854
- Townsend Harris concludes a treaty of foreign residence..... 1858
- Yokohama, Nagasaki and Hakodate open to trade, July 1..... 1859
- First embassy to the United States, January..... 1860
- The regent, TI Hamon no Kami, assassinated, March 3..... 1860
- Mr. Hensen, interpreter, United States legation, assassinated..... 1861
- Attack on the legation, July 5..... 1861
- First embassy to Europe..... 1862
- English attacked near Yokohama and one killed by the followers of Shimadzu Saburo, father of the daimio of Satsuma; £100,000 paid by the government..... 1862
- An American steamer and French and Dutch corvet fired upon by two men-of-war of the Prince of Kinsu..... 1863
- The United States corvet Wyoming engages the two men-of-war, July..... 1863
- Two French war steamers soon after destroy a battery..... 1863
- Bombardment of Kagoshima by the English, August..... 1863
- American and English legations burned..... 1863
- Simoneski bombardment by nine English, three French, four Dutch and one American men-of-war, Sept. 5 and 6..... 1864
- Japan forced to pay an indemnity—the Simoneski indemnity—of \$3,000,000 in all, which is afterward reduced to one-half..... 1864
- Major Baldwin and Lieut. Bird murdered at Kanakura..... 1864
- Attack on the guard of Sir H. Parks while going to an audience with the Mikado, March 23..... 1866
- Mutsuhito at sixteen years of age succeeds his father as one hundred and twenty-first (or one hundred and twenty-third) Mikado, Feb. 3..... 1867
- Higo, Osaka and Yedo opened, Jan. 1..... 1868
- The Mikado restored to full power, Jan. 3..... 1868
- An officer and ten French sailors murdered at Sakai, near Osaka, by a detachment of Tosa troops..... 1868
- Battle of Fushimi, Jan. 28..... 1868
- Battle of Ueno, July 4..... 1868
- First year of Meiji (enlightened rule), Nov. 6..... 1868
- The Mikado removes to Yedo, which changes its name to Tokio and is made capital of the empire, Nov. 26..... 1868
- Hakodate taken; war ended; the abolition of the feudal system; the daimios relegated to private life and retired on pensions of one-tenth of their former revenue, July 5..... 1869
- First appearance of newspapers..... 1870
- Embassy representing the national government makes the circuit of the world..... 1871-72
- First railway in Japan opened Oct. 13..... 1872
- Attempted assassination of Iwakura Jan. 14..... 1873
- Adoption of the Gregorian calendar..... 1873
- Officials obliged to wear European dress when on duty..... 1873
- War against Formosa, May..... 1874
- Exchange of Sughalien for Kurile (Chishima) islands..... 1875
- Revocation of the edicts against Christianity..... 1876
- Treaty between Japan and Korea, Feb. 27..... 1876
- Beginning of the southern rebellion at Kumamoto, Oct. 24..... 1876
- End of the southern rebellion and death of Saigo Takamori..... 1877
- Okubo assassinated May 14..... 1878
- National exhibition in Tokio opened March 11..... 1881
- Rescript promising the opening of a parliament in 1890, Oct. 14..... 1881
- The United States returns the Simoneski indemnity..... 1883
- Rehabilitation of old nobility July 9..... 1884
- Official priesthood abolished Aug. 11..... 1884
- Japanese troops in Seoul attacked by Chinese and Koreans..... 1884
- The constitutions granted by the Emperor promulgated Feb. 11..... 1889
- First imperial diet meets November..... 1889
- International exhibition in Tokio..... 1890
- Attempt on the life of the Czar when traveling in Japan..... 1894
- Japan declares war on China, Feb. 12..... 1895
- Surrender of Chinese navy and suicide of admiral..... 1895
- Surrender of Wei-Hai-Wei..... 1895
- Treaty of peace of Simoneski between Japanese and Chinese; acquisition of Formosa..... 1895
- Adoption of gold standard in Japan Treaty revision; end of extraterritoriality..... 1899
- Japan joins the powers in war against China..... 1900
- Alliance with Great Britain..... 1901

## Force of Habit.

Gunner—That man must be used to trading horses.  
Guyer—Why so?  
Gunner—When he asked how old the automobile was he looked inside for its teeth.

A woman corn husker is all right enough to admire at a distance, but somehow we would hate to be on familiar enough terms with a woman corn husker for her to smooth our brow in time of pain.

A woman tells her children fairy stories to quiet them, and her husband tells fairy stories to her with the same purpose.

# EDITORIALS

Opinions of Great Papers on Important Subjects.

## Heroes of Peace.

THE present war in the East, like all others which have preceded it, will doubtless develop its individual heroes. Deeds of special bravery in times of conflict such as that now raging between Russia and Japan have a spectacular effect and attract attention and admiration entirely natural under the circumstances. But let us not forget the heroes of peace who are always with us. There have been some notable cases of heroism lately outside of the war zone, and the Philadelphia Ledger appropriately alludes to some of them:

"To charge up to the cannon's mouth with thousands of comrades is a small thing compared with going into a burning building, groping through the smoke up stairs that cannot be seen and may be on fire, and searching an upper room for a person threatened with an awful death. Five firemen stayed on the roof of a building in Baltimore till the roof was about to fall in, and then hung to the eavegutter, swung themselves to a telephone pole and slipped down to the earth.

The engineer who stands by his engine with a collision impending; the fireman who crawls into an engine room where a steam pipe has burst and shuts off the steam that parboils him, and from which he does not always escape; the man who steps out into the street in front of a runaway team, catches the horse, is dragged for a block, but stops the horses—these and other heroes of everyday life have not the support of numbers and discipline, they can rarely look forward to promotion and still more rarely to monuments for their rewards; but the men who wear the Victoria Cross or the Iron Cross are not greater heroes.

A beginning has been made in London of the erection of tablets to the memory of dead heroes of civil life, but to record their names and acts while they are alive, and while the respect and admiration of their fellow men may be of some comfort to them. Every city ought to commemorate upon the walls of its public buildings the heroic acts of its citizens who, not being soldiers, are in danger of getting no more substantial recognition of their daring and their sense of duty than a few lines in the newspapers.

There is nothing grander or nobler than doing one's duty and risking one's life under such conditions as these. The honor and applause won by military heroes constitute their just due, but save something of approval for the quiet fellows who do equally daring deeds wholly because it is part of their calling to jeopardize their lives for others.—Troy Times.

## The Cost of Living.

HERE is food for thought for all classes of society in the published results of an investigation at nine of the leading cities of the country by the International Mercantile Agency into the recent course and the tendency of industrial wages, of rental values, of prices for many essential articles of food and of clothing. The showing is made and that at all but one of the centers covered the average rate of wages remains practically stationary, with a weakening tendency in some instances, the significance of which is driven in by statements that at almost all the cities reported rents have shown a tendency to advance, and that many of the more important food products and staple fabrics are higher in price than a few months ago or than a year ago.

A further increase in the cost of living seems to be foreshadowed by the results of the inquiry as to house rents, and food and clothing prices, when contrasted with what seems to be a sharp check to further increases in wages, and in some instances a tendency to moderate reaction.

One may hardly infer that rents, food and clothing are to cost more because of the average gain within a year of perhaps 10 per cent in wages in many lines. The argument for the latter was based upon an increased cost of living that had already taken place. That the existing wage level may not be long maintained in its entirety seems a natural inference from late refusals of railways to heed further

## MAGAZINES OLD AND NEW.

Contrast Between Those of Fifty Years Ago and Now.

The contrast between the American magazines of fifty years ago and those of to-day is so marked that it will impress the most careless reader. Take a bound volume of Putnam's Magazine from the shelves of a public library, free it from its layers of dust, turning its yellow pages, and, lo! you are confronted with some of the most famous names in the literature of the nineteenth century. Contrast this treasury of wit, humor, pathos and sentiment—embodied in the clearest of English prose, in the most musical English verse—with the current number of a magazine of to-day, and the unfavorable gulf between the two periods will at once be apparent. The great names of literature have given place to those of men and women who have gained a passing notoriety through good or bad fortune.

A successful Wall street broker is traveling for health and pleasure and in a mountainous country of Eastern Europe is captured by bandits. The bandits, in a businesslike manner, demand \$50,000 as a ransom; otherwise the American traveler will return to his sorrowful family and friends minus his ears. Negotiations are entered into with the outlaws and after long delays, during which the broker's precious ears are constantly threatened, the money is paid, and he returns in an unamplified condition to his office in Wall street. But his adventures have made him a famous man and magazine editors are clamorous in their demands that he shall tell the story of his capture and retention by the bandits in his own way. Their ordinary rates of payment shall not stand in the way of this much desired contribution; the manuscript, if accompanied by photographs of his eminent ears, will be paid for at his own valuation.

The Wall street broker, being a man of business, if not a man of letters, writes the desired article or series of articles, and receives in return a check that satisfies even his own conception of the value of his work. His eminent ears are photo-engraved for the public edification, and all that can possibly

appeals for advances; from many industrial shut-downs as a substitute for wage reductions; from the outcome of the New York building strikes; from the Erie Railway Company's appeal to its employees to refrain from asking for advances; from the murmurings which have been heard in big steel manufacturing districts, and last, but not least, from the merits of the argument of Western bituminous coal miners in their explanation of trade conditions and why they were impelled to ask for a lower wage rate.

Considerations such as these, in a year which is evidently to be one of convalescence after the financial shock of 1903, founded upon an exhibit of prevailing tendencies bearing upon the cost of living, should be well calculated to appeal to the conservatism of employer and employee.—Newark News.

## Fearlessness, Courage, Bravery.

IT goes without saying that whatever positive moral element there is in courage comes not from the absence of fear, but from its presence and the self-command exerted to overcome its effects. The normally constituted man, except in moments of irresponsible excitement, is frightened by any danger that confronts him. This does not necessarily mean that he is panic-stricken, but only that he is conscious of the gravity of the situation in which he finds himself. It is then the part of manhood for him to take himself in hand and repress any demonstration of his fear which might react in a demoralizing way upon himself. The courageous man makes up his mind that, no matter what comes, and no matter what threatens, he will keep cool and do the best he can. He knows, when he thinks it over calmly, that his only hope rests in never letting go of himself, but being constantly in such a state of mind that he can take advantage of any opening that offers. The frequent exertion of this self-control results in gradual hardening or seasoning, so that, although he never overcomes his fears, it is progressively easier for him to avoid being overcome by them.

The actually fearless man, if we can imagine one, is not likely to be very highly organized, for a fine organism means emotional susceptibility, and substantially all savages are brave. He may be a worthy enough person, but more or less wooden. He must be classified in an exclusive category, since he possesses a trait of distinct value to himself and his fellows, but devoid of any high moral quality. As the ancient philosopher explained why the gods wished for nothing, by noting the fact that they had already everything that heart could desire, so we may say that the fearless man deserves no special credit for his good conduct in the face of peril, because he is under no temptation to behave badly.—Washington Post.

## Seals in Lake Superior.

HUMAN ingenuity is tireless when a profit is in sight. Now they propose to maintain the supply of seal coats by breeding seals in Lake Superior. As a matter of fact, seals have been bred in fresh water, so that this transportation from their natural habitat is not impossible.

But there are other considerations which stand in the way of its profit and of its desirability. One is the climate. The ice in Lake Superior is said to be heavier than salt water ice, through which the Arctic seals find their blow holes, and incidentally enable the Eskimos to catch them and secure their own dinners. Then if the seals could live in Lake Superior it is a question whether any other form of life would long survive them. A colony of seals would be worse than a fleet of fishermen that covered the whole surface of that inland sea. They are gluttonous beasts, and they would respect no close season. The fish of Lake Superior are more valuable than the seals would be, even if seal culture there is possible. The seal has the broad Pacific for his own now. He is disappearing there, but his disappearance, with his shiny and luxurious coat, would not be an unmitigated calamity.—Brooklyn Eagle.

## gayest moccasins in the tribe, and many hours did she spend every day in working with bright colored porcupine quills. For no brave in all that country was so warlike as Woksis, no squaw so skilled in embroidery as Moqua. As she worked on the moccasins hours passed as minutes. She took no note of time, so busy was she in her labor of love. Suddenly she heard a startling noise, the bark string that held the kokh suspended was burned off, and a quenching, scattering explosion followed the overthrow of the pot.

"What could she do? There was no water, the melted snow was gone, and she must boil the moose meat before her lord's return. It was growing late, there was no time to melt more snow, so seizing a birch bucket of maple water that was always tapped in the spring for its sweet flavor, she filled the kokh anew and hung it over the mended fire. Into it she popped the moose meat, and set a cake of pounded corn to bake on the slab before the fire. Then she resumed her embroidery, in which the quills were both needle and thread. She was working the totem of her race, the bear, so different from the wolves, eagles and turtles of other tribes.

"Dreaming of her husband's future success in hunt and battle, the hours passed by; the shadow crept past the mark; the fire burned low; the once juicy meat was a shriveled morsel in a mixture of gummy dark liquid. When she saw this the frightened squaw ran into the bushes and hid herself from the rage of her coming lord. After a long and silent waiting she carefully drew near the camp once more, and what did she see? There was Woksis devouring the morsel of moose meat, and her wonder was great when he deliberately broke the earthen pot and carefully licked out the last vestige of her spoiled cooking.

"She forgot her fears and cried out in surprise. When discovering her Woksis said: 'Oh, Moqua, my wise squaw, who taught thee such a marvel of cooking? Was the Great Spirit thy instructor?' With great joy he embraced her, and in his sticky kiss she tasted the first maple sugar.—Pittsburg Gazette.

## INDIAN LEGEND.

How the Chief's Squaw Found a New Dish.

"One morning the mighty hunter, Woksis, bade his wife cook for his dinner a choice bit of moose meat, and have it ready when the tall stick which he stuck in the snowdrift should throw its shadow to a certain point. Moqua was a meek wife, so she promised to obey, and well did she know her fate in case of failure. After her lord departed she hewed off the meat with her sharpest stone knife, and filling an earthen pot, or kokh, with snow for melting, she hung it over the fire.

"Then she sat down to her embroidery. It was her pride that Woksis, her lordly husband, should sport the