

Science and Invention

The curious theory of M. Boyn 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 visual 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 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 expired 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 Mount 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 20 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, more important still, the vast heaps of refuse—locally called “falling”—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 platter, “bear and honey” salad dish, gravy boat, 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 pints, tea 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 date. 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 150 curfews 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.”

Addison, 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: “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 rightly 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 Wurtemburg 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 Wurtemburg 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 piles.

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. Ieyasu makes Yedo his capital.....	1603
Edict against the Christians by Ieyasu.....	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 Hirado to Dejima.....	1641
Rising of Shimabara. Christians buried from Popemerg.....	1657
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. Heusken, 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 corvette Wyoming engages the two men-of-war, July 2.....	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
Simoneskij 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 Simoneskij indemnity of \$3,000,000 in all, which is afterward reduced to one-half.....	1864
Major Baldwin and Lieut. Bird murdered at Kamakura.....	1864
Attack on the guard of Sir H. Parkes while going to an audience with the Mikado, March 23.....	1865
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
Hiogo, 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 Tokyo and is made capital of the empire, Nov. 26.....	1868
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 Saghalien 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 Tanagor.....	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 Shimoneskij 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.....	1890
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
Treaty of Wei-Hai-Wei.....	1895
Treaty of peace of Simoneskij between Japanese and Chinese; acquisition of Formosa.....	1895
Adoption of gold standard in Japan.....	1897
Treaty revision; end of ex-territoriality.....	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.

Gunner—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 hair 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 zone of war, 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 alone 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 eaves gutter, 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 running team, catches the bridle, 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 not 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.

THERE 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 travelling 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 sorrowing 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 unmitigated 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