

## LATEST TURBINE TORPEDO

Novel Engine of Destruction  
Velocity Mile a Minute

### HOW SPEED IS REGULATED

Each Torpedo Costs About Five Thousand Dollars—Can Be Discharged from Submarine—One Thousand Pieces Enter Into Its Construction.

The Scientific American gives some of the details of the torpedo's construction: First the head, containing the explosive; then the central tank, in which the compressed air for driving the torpedo is stored, and last comes the after body, which contains the turbine for operating the propellers, the immersion chamber, for regulating the depth of the torpedo in the water, and the gyroscope gear, by which the torpedo is automatically steered and kept in position during its line of flight to the ship to be attacked.

The head of the torpedo is considered a beautiful specimen of hammered sheet-metal work. It is made in halves, divided longitudinally, the edges of the joints being made with a square saw tooth form and brazed together.

The "war head," which is distinguished from the practice head, is used only in actual hostilities, is loaded with 132 pounds of gun-cotton, containing 25 per cent. of moisture. This gun-cotton is packed in disks, through the center of which is a hole containing a cartridge primer of dry gun-cotton for exploding the charge.

The small propeller in the extreme point of the torpedo is for preventing premature explosion, which it does by locking the firing pin.

Here is how the mechanism works: When the torpedo is fired from the ship's tube and enters the water the revolution of the propellers releases a "valve" which uncovers the firing pin, putting it in position to strike the detonating primer at the instant the torpedo finds its mark.

The central body or shell of the torpedo occupies a little more than one-half its total length. The mighty weapon is made of a special forged steel of an elastic limit of at least 19,000 pounds.

The active portion of the torpedo—the tail—contains in its forward end the wonderful little turbine engine that drives the propeller. It is of the Curtis compound type and consists of a central row of fixed blades and two wheels, one eleven and one-eighth inches and the other nearly twelve inches in diameter. There are two propellers running in opposite directions.

It is almost inconceivable the compressed power or energy which is generated for the emergency when this terror of the sea is ready to be hurled against the enemy.

The turbine runs at a speed of 10,000 revolutions a minute, but is reduced by gears to a speed of 900 revolutions for the propeller. This develops 160-horse power, giving a speed for forty knots an hour, although the contract speed required by the government is only thirty-six knots.

There are holes for the water to enter on one side, and on the other are a series of coiled springs so adjusted that their pressure is exactly equal to the pressure of the water at the given depth at which the torpedo is to travel.

If the intelligent monster is to descend below that depth the water pressure, overcoming the springs, pushes the diaphragm inwardly. On the contrary, if the torpedo is above the desired depth, the springs overcome the water pressure, push the diaphragm outward and allow more water to enter, and thus sink the boat to the required depth.

By previous adjustment the torpedo can be set to run at any desired depth, say five feet below the surface, and keep that depth steadily maintained until the enemy has been struck and destroyed. It is said that the most interesting feature in the building of the new torpedoes is the improved turbine engine that drives them.

Perhaps the most novel and startling invention is a new device for increasing the speed at the very moment when it is most needed. This is obtained by the use of an alcoholic flame applied to the compressed air.

The flame is automatically lighted the moment the torpedo leaves the muzzle of the tube. The compressed air flask contains a burner and the flame is fed automatically with alcohol.

The flow is so regulated that an even temperature is maintained during the run of the torpedo to the doomed warship. It is this super-heating process that gives the great superiority claimed over the Whitehead type.

More than a thousand distinct pieces of bronze, brass and steel are used in the manufacture of the delicate and wonderful adjustments of the torpedo, making it, it is said, the costliest bit of ordnance in our navy.

Each torpedo costs about \$5,000, which is but a bagatelle in case a \$5,000,000 battleship is blown into kindling wood and scrap iron at a moment's notice.

### A Poor Showing.

The people of this country spend about five times as much for liquors as they do for books, papers and periodicals.

## NOTED FOREIGN POLITICIAN

Peculiar Methods of Leading Statesmen of Great Britain.

Sir Henry Campbell-Bannerman indulges very sparingly in gesture when speaking, but he has one little distinguishing trick—that of fanning himself with any available slip of paper, as if to cool his rising ardor, says the London Tit-Bits, while he punctuates his oratory by occasional thumps on the table, to drive a point home, or by a clutch at the lapels of his coat.



Sir Henry Campbell-Bannerman.

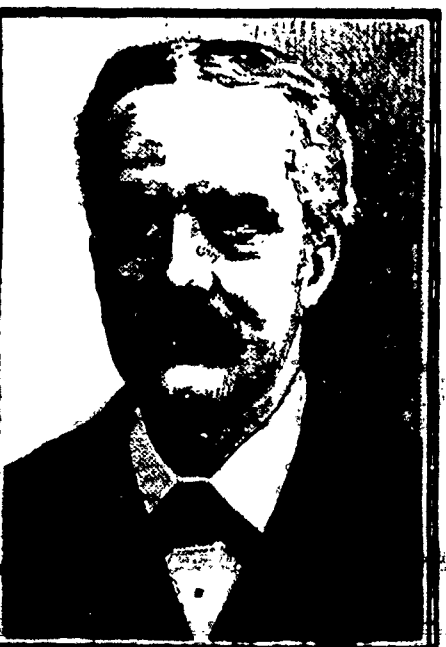
John Burns has learnt his oratory in the open-air school, which demands a loud voice, plenty of fire and vehemence and accentuated action. He throws back his broad shoulders, rolls out his long sentences and rhetorical phrases in a Hyde Park voice, and as he finishes each slip of his notes he crushes it in his right hand and thrusts it into a pocket of his pea jacket.

John Morley is a speaker of quite a different stamp from the member for Battersea. He is normally quiet and unemotional; stands by the chair-man's table with his left hand playing nervously with his waistcoat buttons, while he points the index finger of his right hand at his audience.

Mr. Asquith has a fine, clear voice, and excellent delivery and an attractive presence. His speeches are delightful to listen to in their smooth, easy, sonorous flow. He is very sparing of gestures, but the nervous movements of his hands betray his state of tension.

James Bryce is a man of prodigious learning and ability, but by no means a stimulating speaker. His speeches are really lectures, brimful of instruction, but delivered with a solemnity and immobility which makes them not a little tedious.

Mr. Saldane is another minister of immense cleverness and wisdom who is not an alluring speaker. He schemes oratory and gestures and with arms folded across his huge chest reels off his speeches in a voice which seems ludicrously small for his big body.



A. J. Balfour.

A. J. Balfour is one of many legislators whose speeches read "better than they sound" he is not naturally fluent and often has apparent difficulty in finding the exact word he wants, while his voice and manner are not in his favor.

Mr. J. Chamberlain, on the contrary, is always alert and full of energy and movement on the platform. Brain and body alike are electrically charged and full of vigor and life. He has a wonderfully clear, penetrating voice, and a remarkable gift of lucid exposition and flow of language. Each telling phrase of his speech is accompanied by an appropriate action; when developing an argument he leans forward with raised finger and emphasizes his conclusions by bringing his clenched fist sharply down on the palm of his left hand. He has, too, a trick of toying with his eyeglass, placing it in his eye, dropping it again and then replacing it.

Mr. Wyndham is eminently a graceful speaker—graceful in his easy, fluent diction, in attitude and in varied gesture; Mr. Broderick has been described as the "automaton," from the mechanical flow of his speech and quality of his gestures, which are limited to a jerk of the arm and a thump of the table; Mr. Chaplin, when he is not busily engaged in searching for and adjusting his elusive eyeglass, pounds the table with alarming vigor and frequency; and Sir Edward Clarke stimulates his oratory by stroking—or rather tugging at his Dundreary whiskers.

The Chinese have a god for every disease, even for childhood's afflictions, like the mumps and measles.

## PREPARING 'TABLOID TEA'

Uncle Sam's Latest Experiment for the Soldier's Comfort

### HAS PROVED SUCCESSFUL

During the Late War These Tablets Were Used by Russian and Japanese Soldiers—Colored Children Used to Pick the Leaves at the Government Station.

In devising a convenience for soldier and sailor Uncle Sam has come upon an article which will be of inestimable value to the traveler, sportsman, engineer and woodsman, as well as to the housewife. At his experimental tea garden at Summerville, S. C., he is turning out tea in "tabloid" form.

These are the first tea tablets which we have ever seen in the new world, but compressed tea in the form of slabs was introduced in Russia a century ago. As a convenience, Russian officials and their wives have long carried on their numerous journeys high-grade compressed tea molded in the form of tiling or cakes. In the late war with Japan Russian soldiers were supplied with these slabs, very like our cakes of chocolate and governed so that pieces of standard size could be snapped off in the fingers.

During the long sleighing trips over the Russian and Siberian expanses, where it is impracticable to "bait and boil water," a traveler often places one of his tea tablets in his mouth, with a morsel of loaf sugar, setting both softly dissolve. It is said that a half hour after thus taking three or four of his tea tablets he commences to feel a cheering, exhilarating effect. The Russians call this indulgence a "dry cup of tea," and it is claimed by them that not the slightest harm results from the consumption of three or four tablets.

But the greatest freak in this line is the cup moulded of compressed tea by a firm of Mockba, central Russia. These vessels after a course of drying becomes as hard as granite and allow of boiling water being poured into them until it dissolves, each time, just enough of the tea from the bottom and sides of the cup to give a sufficiently strong infusion. One of these cups—very like the medicinal "quassia" cups of our grandparents—will continue for six months to brew as much tea as one drinker will desire.

But every particle of tea in the tablets now being turned out at the government's experimental tea garden is American-grown. Within the past few years the bureau of plant industry at Washington has rendered it possible to grow in this country as good tea as can be produced in any part of the world.

The experiments at the government tea gardens are showing that seed from all moderate climates are as productive here as in their native climes. The changes of climate undergone by the foreign seed has, however, changed the flavor of the tea leaves. Our early season tea is more delicate and milder than that grown from the same seed in the native soil, but that poked in the autumn is stronger in color and taste and resembles the foreign teas from more southern climates. American tea grown at the Summerville station lacks the puckery or astringent quality of India and Ceylon teas, but is decidedly fragrant and delicate in taste. The best results have been obtained in a hybrid plant introduced here about 50 years ago, and acclimated to the coasts of the southern and gulf states. It will yield 500 pounds of dry leaf to the acre a season and makes an excellent black tea.

The tea pickers at the government stations are all colored children. One of these can pick over 50 pounds of the green leaves in a day, whereas the average picker in the Orient rarely gathers over half that amount. There is a winter school established for the pickers. Tea-gathering demands very delicate work. Each plant has about five leaves, decreasing in size from the bottom and surmounted by a flower tip or pekoe. Only the pekoe and the two top leaves are allowed to be picked at the station. In foreign gardens the lower leaves are often gathered as a make-weight, but their sole value is the claim that they are tea. They are so tough that the flavor cannot be boiled out of them.

The government experts attached to the experimental gardens are improving the quality of the tea by studying those peculiar fermentations, "enzymes" which—as in the case of tobacco—produce the aroma or fragrance of the leaves.

### New York State's Good Roads.

Nearly two-thirds of the New York State towns which have adopted the money system have a valuation of less than one million dollars each. These towns can raise as much money as they wish, and the State will add 50 per cent. of the amount raised to their highway fund, thus permitting them to go ahead and place their roads in as good condition as they can afford.

### Selecting Our Standard.

In taking pattern after that which a neighbor does, try to improve on his methods. It is improvement we are after in every line of work in this world. Things move at a rapid rate, and if we keep up with the procession we will have to "get up and hustle."

## THE SULTAN OF MOROCCO.

Personality of the Ruler of Morocco Whom So Little Is Known.

Moulay Abd-el Aziz XIV., present Sultan of Morocco, is probably the most misunderstood man of the present time. The whole army of newspaper correspondents, many of them residents of Tangier, seem to delight in maligning his powers, precepts and ideals, and glory in writing long articles depicting his impotence, his follies and his weak, wavering nature. Little do they understand the real man, says J. H. Avery who has been in personal attendance upon His Majesty for two years.

Born in 1880, of a Circassian, the favorite slave of the late Sultan Hassan, Abd-el Aziz had the good fortune to be reared under the careful guardianship of a loving mother, an educated lady and a true woman. Brought up from childhood inside the palace walls, kept apart from the others, the boy reached early manhood without coming into contact with the many contaminating influences which so sap and wither the early life of the present day Moor.

The result of this training is that instead of being enervated in body and mind he is bright, intelligent, active, fond of all branches of sport, and full of just those traits of character so beloved by the athletic Britisher.

In person Moulay Abd-el Aziz possesses all the qualities expected in a Moorish ruler. Over six feet in



Sultan of Morocco.

height, broad in proportion, his presence inspires confidence and at the same time retains the air of authority. His complexion is rather dark, with a peculiarly rich olive tint, which adds great attractiveness to what is a splendid if not a handsome face.

To be a Sultan in most people's idea is the be-all and end-all of happiness; such, however, in this instance is not the case. Horrified by the strictest etiquette, his life is far from being the glorious bed of roses it is supposed to be. Not able to go outside the palace walls except on state occasions, or when visiting the Mosque on Fridays his actions are greatly restricted, and when the court business of the day is over he has to amuse himself alone the best way he can. At the same time he is always at the call of his ministers, should they require his advice. It was the continuation of this humdrum life that caused the Sultan to send for an Englishman to relieve the monotony and brighten his dull hours.

What could have shown to the world the sterling qualities the man possesses better than his action over the deplorable murder of Mr. Cooper? Here a Moor had shot one of the most popular missionaries in Fez and Moor-like had fled to the Mosque of Mulai Idrees, sanctuary for all evil-doers. Without hesitation and against the strong protests of the whole Moorish Cabinet, he caused the murderer to be dragged into the public square and, in the presence of the populace shot down. It was a life for a life, yes, but a believer's life for an unbeliever's did not seem correct in the eyes of the fanatical Fezzans, and it took some two or three weeks before they forgave their lord and master for what to them was an unlawful privilege and an unwarrantable sacrifice.

The Sultan's daily life is really a simple one. Usually rising with the sun, he, after his bath, would be dressed for the courts, arriving there at 7 A.M. From that time to 11 o'clock, or half past he would be busy with affairs of state, or receiving the many that crave audience with him on every conceivable pretext. Then he strolled through the grounds to his private rooms, where he partook of breakfast. Afterward, in an undress costume he would perambulate the grounds in company with Omar Tazze, the Master of the Royal Household. Then followed the midday meal, and at 2.30 what was known as afternoon court would take place. That meant the attendance of the few Europeans to amuse him and the private audience of any people who had arrived in Fez that he wished to see. Court finished about 6 o'clock, when the Sultan would retire to his own quarters for the night.

Such is the life of the Sultan of Morocco, a life not to be envied by the free American. Cooped in his large but oftentimes dreary palace, not knowing just what is going on in the outside world, he is unable to repudiate the many charges leveled against him. Many of the men attributed to the Sultan he knows nothing of. Access to him is often difficult for his subjects, although "seen" personally the applicant can rely on justice being "tried" out in each case.

## HOLLAND'S LOAN BANKS

City Pawnshops Form Part of Dutch Everyday Life.

### PLAN TO PREVENT USURY

Strong Competition From Private Lending Concerns as Many Towns These—Officials and Scholars Sworn to Keep Names of Customers Secret.

In Holland the corporations of large cities have themselves become pawnbrokers in competition with the many private concerns. In the country and in villages the want of these loan establishments is not felt because there the people know and help each other when in difficulties. In the large towns people very often do not know their neighbors, and it is sometimes difficult for even the most frugal to be prepared for every emergency. A workman generally obtains his maximum of wages at the age of 20 years. He usually marries young and his expenses increase with the growth of his family, while his wages remain stationary. Illness, an accident or some unforeseen event will make him exceed his income and force him to part with some object of value to meet his expenses.

To save persons of this kind from extortion the municipalities opened the so-called loan banks, in which a fixed rate of interest was charged. At first these banks were quite successful and some of them more than repaid their cost. Lately, however, there has been such a falling off in the number of customers of these institutions that at first sight it would appear to prove that the prosperity of the people had marvellously increased were it not for the ominous truth that the number of private pawnshops is also increasing. Another thing which shows that the average prosperity of the clients of these banks is on the wane is that the value of the articles pawned is becoming less from year to year. This indicates that the people are gradually disposing of their valuables—their antique silver and delftware and their family heirlooms. Almost the only objects of value that are now pawned are bicycles and sewing machines.

Yet the people seem to prefer the private pawnshops with their high rates of interest. The first reason given is the very human one that everybody likes to talk over his troubles with some one who shows a little sympathy, even if it is feigned. It appears to the client that he can work on the feelings of the shopkeeper and induce him to give more for an article than he first intended. Another reason is that the municipal loan banks are open only until 9 o'clock on Saturday evening, and not at all on Sundays, while the private shops do business at any hour that suits the clients. The average municipal loan bank has no branch offices in the suburbs and outlying districts. Still another reason lies in the development of the credit system. Formerly the pawnshop was about the only place where one could get an advance of money on property, but now there are numerous banks of credit that make loans even where the security given is small.

It is quite evident that the municipal loan bank needs to be established on a new basis. It is proposed that the state shall acquire the municipal pawnshops, giving them an international character somewhat like that of the postal savings banks. This system would be of great advantage to customers as in the case of removals to other towns the pawn tickets would be redeemable everywhere. Another advantage would be the lowering of the rate of interest. Municipalities get money at 4 per cent., while the state can get it at 2 1/2 per cent. On articles valued at from 1 to 10 florins (40 cents to \$4) the rate the borrower now has to pay is 8 per cent; on articles worth from \$4 to \$35, 8 per cent, and on articles valued at more than \$35, 7 per cent.

Everything placed in pawn in the municipal loan bank is insured against fire and theft. Of each 100 articles pawned ninety-seven on an average, are redeemed, while the other three are sold. Payment must be made within a month after the date the article is pawned. After that time it is advertised in all the newspapers of the Hague and in one outside paper. According to law, the burgomaster of the town should take charge of the public auction in person, but, as a matter of fact, the duty is some lesser official. If the article receives a higher price than it was pawned for the owner gets the difference, but it brings less than the bank has to stand the loss.

### India Rubber Trees Yield.

India rubber trees which are tapped every other day continue to yield sap for more than two years, and it is curious fact that the oldest and most frequently tapped trees produce the richest sap.

### The Czar's Salary.

The Czar receives nearly a million per annum. His salary is paid in monthly installments of eighty thousand pounds each, which are sent to him by check on the National Bank of Russia.

### Narrow Wood of Australia.

The narrow wood, which grows in Australia, is almost the only tree known to the lumbermen which so effectively resists the depredations of insects. Not an insect will touch it.

According to the Standard Post Bureau taking all the news of the world the United States shows the heaviest loss from Great Britain the largest profit. Nineteen hundred and three is the last year for which figures for exports are available, and for that year we ran behind \$1,177,000, while Great Britain showed a profit of \$12,000,000, and Russia \$11,000,000. Due to the large and rapid increase of rural deliveries since 1902 our deficit has grown to at least three times what it was then, and there are other reasons for our unfavorable showing. The principal ones being the larger competition we pay employees and the extensive areas we have to cover, which are thinly populated. The highest and most populated in England is the Postmaster in England received about \$5,000 a year, clerk \$1,250 to \$1,500 carriers in the large cities \$400 and in the smaller ones and rural carriers from \$250 to \$275. British postage is cheaper than ours. For 3 cents letters weighing up to four ounces are carried with 1 cent additional for each two additional ounces—and every second largest newspaper goes for 1 cent, regardless of weight. Anything sent by parcel post for 3 cents a pound and 1 cent for each additional pound up to eleven, where is the limit. Anything can be carried for 4 cents, and the government insures registered matter up to \$100 in value for that sum. By parcel post for each additional \$100 insurance up to \$200 may be had. Newspapers may be forwarded without additional postage, while not the case with us, and parcel post does cost 1 cent for 15 cents.



A former bar of a court discovered the secret of the success by which the artisans of the age manufactured their wares with the simplest and most effective of tools. He succeeded in making a tool and spent much time and money on it. For many centuries it was unable to explain the secret of its success in making tools.

### Don't Buy Books.

Don't handle a book unless you clean hands.

Don't turn down leaves at the corners.

Don't leave a book lying face down.

Don't get a book from the library by the binding at the back.

Don't when opening a book rough and pull the leaves quickly. Let them open slowly.

Don't eat leaves with any but the proper paper.

Don't forget to read the Home News.

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