BY WAVES OF SOUND.

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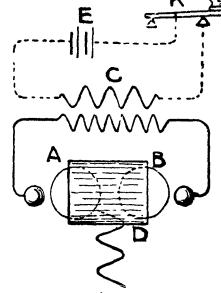
tion

AUTHORITATIVE EXPLANATION OF MARCONI'S WIRELESS TELEGRAPHY.

His Discoveries Not So Important or Or iginal as at First Supposed and Not Likely to Soon Supersede the Morse System

Somewhat exaggerated and slightly inaccurate accounts of Mr. Marconi's experiments in wireless telegraphy have all his life himself. After trying for been given to the public within the last few months. The more authoritative habit and applying all remedies, from atterances of Mr. Preece, chief eleo- gargling his throat with salt water betrician of the British postal service, now show that the young Italian's discoveries are not so important and orig. married the seventh son of a seventh inal as has been supposed. The practical usefulness of Marconi's invention, so far as can be seen at present, will be has just had patented. comparatively limited. It is nevertheless true that he has gone further than any one else in solving the question ders in that particular branch of music how to telegraph between two points is not as large as a croquet ball, as some not connected with wires.

In an address delivered in London Mr. Preece made it perfectly clear that the kind of energy which Mr. Marconi employs is the electro magnetic wave,



MARCONI'S TRANSMITTER.

or Hertzian wave, which is thrown off sidewise from a metallic conductor when an electric current in the latter is interrupted with very great frequency. No new form of radiance has been discovered. Marconi's generator or transmitter is really a piece of apparatus demodified form of Hertz's radiator. Two brass balls, A and B, are fitted tightly Alger believes that there should be into the ends of a cylinder containing vaseline (which is a good insulator). Directly opposite and almost in contact small brass balls, and the latter are made the terminals of the secondary cir cuit of a powerful induction coil, C. A. storage battery or other source of electricity, E, is placed in the primary oir-

centers of the big spheres, let us say at

D. The zigzag line which Mr. Presee

bas drawn on the underside of the

wire, but the series of invisible electro

coni's apparatus is his receiver, or re-

lay. While it works on the same princi-

ple as Hertz's resonator it introduces a

new feature. It is something more than

a mere ring, carefully "tuned" to re-

spond to vibrations of a certain fre-

quency. In a sealed glass tube an inch-

and a half long and perhaps a quarter

of an inch in diameter he inserts two

cylindrical bits of silver, separated at

their bases by half a millimeter. or

about one-fiftieth of an inch. The outer

ends of the silver "pole pieces" are con-

nected with wires that pierce the glass

The tube is made airtight, and a high

vacuum is created within it. But be-

fore these last two steps are taken the

space between the butt ends of the sil-

ver pieces is filled with a mixture of

a trace of mercury has been added.

fine nickel and silver filings, to which

Now, if a "local" battery, B, such

as is used in every country telegraph

and an attempt be made to send a cur-

rent through the latter, there will be

netic waves sent off by Mr. Marconi's

flings act like an insulator. The tiny

particles lie in disorder, or "higgledy

when they come within the influence of

MARCONI'S RECEIVER.

the Hertzian waves they are "polar-

to each other, form a chain, and con-

duct the current. Consequently if an

ordinary telegraphic "sounder," S, is

placed in the local circuit, it will be

netic waves. In other words, it will re-

The most original part of Mr. Mar-

magnetic waves.

TO PREVENT SNORING. Pad Patented That Will Suve Many Free

Torture S. Anderson, a Chicago carpenter and builder, has constructed an apparatus for the prevention and cure of snoring which can hush the trumpeting of the loudest morer that ever disturbed a neighborhood to a sound as soft as a baby's breath. Mr. Anderson's inven-

tion is not so much the result of his skill as a carpenter as that he has snored nearly 50 years to cure himself of the fore going to bed to eating a slice of the wedding cake of a woman who had son, all without the slightest effect, Mr. Anderson hit upon the device which he

The gag which he has constructed and which, it is said, will work wonpeople might think it would have to be to be effective. It is a small pad which rests in the month and is kept from being swallowed by a strap. It is said this will not interfere with the slumbers of the snorer, while at the same time it will keep the snorer from interfering with the slumbers of others.

Mr. Anderson's invention has not been completed long, but already a good many afflicted people have called at his house to look it over with a view to making presents to their friends. The device is to be manufactured in several sizes, to suit the taste and capacity of the wearer It is practically indestructible, and one of them may be handed down from father to son or to daughter, if suoring exists on that side of the house. --- Chicago Tribune.

VACANT ARMY CHAPLAINCY.

Three Hundred Clergyman Have Applied For the Piace.

Three hundred ministers in the couptry have been attracted by a vacancy existing in the grade of chaplain in the army and have applied for the appointment. The place carries with it fair pay, the rank of captain and no very hard duties. Chaplains have to buy no expensive uniforms and usually get dosirable stations. Some of them give the authorities trouble, however, and there are a number of instances of courts marvised by Professor Righi and is only a tial of this class for various offenses against the army regulations. Scoretary some age limit for the appointment of obaplains and has settled on 58 years as a fair one. None of the candidates, with each of these large spheres are two therefore, older than 38 can hope to. be selected. Previously no attention has been paid to this point.

The obaplains in the army are not as a rule the healthiest set of commissioned officers, and this is said to be due to the cuit, which also contains an ordinary fact that no physical examinations for Morse key, K. The turns of fine wire appointment have been required. Not composing the secondary coil are so long ago a chaplain was appointed and much more numerous than those of the confirmed, and when ondered to kuty th primary that the current induced in the was discovered that he was a paralytic. former has a very high voltage or pene-Chaplains are admitted to be necessary trating power. It would leap an air gap to the army, but the authorities are of at least six inches. So long as the weary of baving in the service a numkey is open nothing happens, but when ber of men frequently not physically it is closed and the primary circuit is capable of performing their duties. Seccomplete the secondary begins sparking retary Alger will probably provide that with amazing rapidity, and a set of the man he selects shall undergo a electro magnetic waves, about 250,000,physical examination before being ap-000 per second, are thrown out sidewise pointed.-New York Sun. from an imaginary line connecting the

FROM LAKES TO SEA HER LOVE WAS LASTING.

PROPOSED DEEP WATERWAY FROM GREAT LAKES TO SEABOARD.

An American Canal Around Niegara Ia Military Necessity-The Deep Waterway Commission to Do. He Beiween the Oswere and Champinia Routes.

The construction of a deep waterway mavigable for ocean going ships from the great lakes to the semboard is justified both by the needs of commerce and the attitude of Canada. Had France or Spain continued to hold the month of the Mississippi that great waterway would have been very much leve valuable to the United States and there would have been no way to overcome the disadvantage. That other great natural artery of commerce, the chain of the great lakes, is in the same position as the Mississippi originally was-an alien and not always friendly power controls its month. Even the commercial connection between Lakes Erie and Ontario is in Canadian territory. This was formerly balanced by the fact that Canadian shins had to get to and from Lake Superior by the canal on the American side. But the Dominion established its independence by building its own Sault canal, and Canadian ships can now sail from the extreme west of Lake Superior to tide water without entering the jurisdiction of the United States. The deep waterway commission is in-

structed to consider whether it is possible to give a similar advantage to American commerce on the great lakes. The Erie canal in a small way served this purpose, but the necessity of transshipment always existed. The proposal to make this canal from Buffalo to the Hudson a ship canal is an old one, but is likely to remain a dream. An American canal around Ningers is a military necessity and commercially most desirable. This attained, an American maport can be reached by means of Lake Ontario and a ship onnal from Oswego, or by the St. Lewrence-Champlain route, more quickly and easily than by an enlarged Erie canal. The present commission is charged with the duty of dealding between the Oswego and the Champlain routes. The construction of either would still further enhance the could mancial advantage of New York city. The cost would be enormous and come out of the packets of the whole people, but the end in view is a national one and the national expenditure therefor fully warranted.

It is certainly desirable that the enormous commerce of the great iskes should have an ocean outles without the necessity of breaking bulk or transhipment and without consulting or paying trib-

Though She Could Not Win Min Amo He Will Get Her Momey.

Miss Mary Meta is a spinster of St. Louis. Years ago she fell in love with George W. Matthews, the son of a neighbor. He had only friendly feelings for her, and she concealed her love until the young man in 1857 announced that he intended to join the regular army and be stationed in Utah on account of

his health. Miss Mets did not like to see her lover go, and she appealed to his mother, frankly saying that love dictated her course, The young man persisted, bowever, and went to Utah. When the civil war broke out the roung soldier had so much improved in

bealth that he went to the front and fought for two years. He was then acriously wounded and was returned to a hospital in St. Lonis. where he was nursed for several months by his mother and Miss Mets. Her devotion and care, however, did not win his love, and in 1870 he went to Lowa,

where he bought a hotel. He has lived in lows over since and has married an estimable lady and raised a family of children. A few months ago he received a let-

ter from Miss Mets asking him to come to see her. He did not answer the letter and a few weeks later received another similar request. The letter contained the information that the writer was seriously ill.

Mr. Matthews replied to the second letter, saying that it would not be best for the two to meet again, that their association had resulted in sorrow for both of them and that it was best to let. the past be past. In reply Miss Mets wrote that she had no intention of digging up old events, but that her property, which amounted to about \$150, 000, was being growly mississifi, that she was being swindled and that she wanted to turn the management of her estate over to Mr. Matthews, whom she felt that she could trust. She further said that abe realized that her stay on ourth would be short, as the maindy from which she was suffering was inourable. She said that all she wanted was to be cared for as long as she lived, and that she desired to leave the balabos of her property to Mr. Matthews. In response to her earnest ples. Mr. Matthews went to St. Louis to see his old sweetheart and resolved to comply with her wishes. As a reward for his regard for the woman who loved him for years be will receive a handwome logacy and will be able to leave all his childres wealthy.-Exchange.

Life of Susan R. Anthony,

Mrs. Ida A. Harper is assisting Miss Susan B. Anthony in the preparation for publication of Miss Anthony's blogute to Canada. The most important raphy, The work is in daily progress at point of the proposed improvement is the home of "Aunt Susan," i? Madison street, Rochaster, and the two w As it stands, in case of war with Great are working faithfully over an immente Britain Lake Ontario would be sociated andertaking * All day long they work and the other lakes bottled up as far as the control while is to be the only wathentle highest American resels are observed, while is to be the only authentic highest the enemy would have its own ocurse it is so be the only authentic highest without an interruption from the gulf of Mins Anthony's busy, ambitions and of St. Lawrence to Duluth. This coun- eventful career, and when it is country is used to a happy go lucky policy, pleted all the old papers are to be all. but it is certainly prudent to afornard stroyed. It will be one of the few blogits interests with more care on its Oans- raphies if not the only biography of a famoos woman written while. the person is yet living.

GOLD OF THE WORLD

WHAT THE DIRECTOR OF THE MINT AT WASHING ON SAYS ABOUT IT.

The Retimoted Product of the Metal Pr 1807-The Informer of the Addition Will Do to Still Further Depresiate the Value and the energy W Will of Silver.

That gold exists in large quantities in the newly discovered Kloudike district is sufficiently proved by the large amount recently brought out by the steamship companies and miners returning to the sinker who went into the district within the last sighteen months. So far \$1,500,000 in gold from the Klondike district has been deposited at the minime explored the minimum explored the model of the heavy shares of positive the So far \$1,500,000 in gold from the believing that from \$2,000,000 to \$4.909.000 additional will be brought submuler fick machank adl vd ino miners sailing from Bt. Michael's the last of September or early October pert. One of the steamship companies states that it expects to bring out about \$5,000,000 on its steamer sailing from St. Michael's Sept. 20 and has asked the government to have a revenue outsee. In view of the facts above stated I are justified in estimating that the Riondike district will augment the world's go & supply in 1897' pearly \$5,000,000,

The gold product of the Dominion of Oanada for 1896, as setimated by Dr. G. M. Dawson, director of the geologicil survey of that country, was \$1,810, 000. Of this sum the Yukon placers, within British territory, were credited with a production of \$255,000. The total product of that compary for 1897 has, therefore, been estimated at \$10,-000,000, an increase over 1896 of \$1. \$00,000. From this the richness of the newly discovered soldfalds of the Kion. dike is evident.

In this compection it is important to know what will be the probable increase in the several countries of the world, and for the purpose of comparison, beand upon information received. the following table of the gold product of the United States, Anstralls, Africa, Maxico, the Dominion of Canada, Resels and British India for 1896 and the estimated product of these pouptries for 1897 is bore given:

8.000.000 8.000.000 10.000.000 1.000.4 Cuneda,..... 7,140,00 8,000,00 2,198,40 X. 000,000 7,800,000

"The world's gold product for 1894 is In justification of the above suitaints the increases in the occurring permittioned increases in consist and fragmentations in press with the despirate of the faither is based within the deposite is the minute and any offices for the first six mortins of the year, which clearly indicate a largely increased, projection, and these the increased projection, and these the increase for the year will segremate \$7,000,000. The gold product of Africa for 1896 is estimated to have been \$44. Land Atomic Property of the second se 000,000. For the first six months of 1697 the output of the Winnetsmindt mines, as shown by official returns, trut Numb West Windows 20 The Chicago Po 1,458,481 outcom, an increment of SEC, DOL west granted is in conces, as compared with the first six months of 1896. There is no doubt that The delegates front tilg the rate of production in the Witwatersadorition of a m rands animae will be minimized for the all bed wonstern of remainder of the year, and their onignat of gold for 1897 will be fully \$13,000,-000 greater than that of 1898. from participation in day plands. What is alls. Wheth the re NAME OF SHARE SHARE ST The deposite of gold as the Ametralian strate will be mints for the first five months of the year clearly indicate a subsential gain. to man bien to the to In 1897 over 1896. Upon the bests of bur des. The sealer the deposits for the first five monshe at Some talk at \$5. Bight Bloor Be the minis the Australian Insurance and Banking Record for the month of June stagen "We harten the estimates that the gold product for 1897. support of the of the several colonies will aggregate 2,700,000 onnoss, of the value of \$52,derity and, as that as an instructionally oper. 50,000, this would be product of 1898, ate upon. The sight was one to instruction for 1898. The gold product of Maxieo for 1898 of all the set one plue is is setimated to have been \$7,000,000. The information received indicates that the product for 1897 will approximate It is more with \$9,059,000, an increase of \$1,000,000. the bortos. The Bussian product for 1896 was and an is that the public tap with the file of the for made shows of at it though to think the \$23,000,000; for 1897 it is estimated at \$15,000,000, an increase of \$8,000,000. The gold product of Beitish India for 1896, from official information received, emorelical of the pan-Anglican, or is artimated at \$5,525,000. The particular is an anglican of the mines for the first six rapprochement between the English and months of 1807 indicate an increased Min Daylog # 30 production over 1896 of \$1, \$00,000. ING TROUGHT THE From the data above given it is safe to ortimate that the seven committee 14 福 above maned will show an inerena in men and we their gold ontput for 1897 orar 1804 of \$38,700,000, and that the world's prod-set for 1897 or therefore be command smooth the third at not low than \$240,000,000. Where is no doubt that the world's product of gold will continue to increase for a number of years to come, as new solves, will be opened up in all penet of the while he opened, up in all pass as the world, and with incoming continuous for mining and methods of extracting the gold ominined in the opened is better that by the ouse of the prospectoustant the world's gold product will showly approximate it not exceed \$500,000,000 1 More as to the illuments of such ab dition to the world's gold. The logs-ence it will exert depends mainly on how many years the Rhoadike discret shall continue s produces and now targe its annual increment to the world's aristing stock of gold shall be. There is every reason to believe that Alaska and the adjacent British territory are possibly as rich in gold as was California or Anstralia when first discovered. I have estimated that the Elondike diswict will in 1887 produce \$6,000,000 worth of gold. It will add to this prodworth of gold. Is will sold to this prote tot from year to year, probably, for a minimum of one or two donaics. And whether the gold comes from American a fluctuat vertices is a mission of the difference, another to the uncost and the difference, another of the uncost and the difference and the uncost and the

editor of the Trey (abo) the 217, BATS OF LOW Teres phoneses.

Mr. Blan served in the C army and passes through a would be it years ago a G returns's resultion was hold an and among other halongs his till diary incluined in a share work Blan was detailed as long and eral inches farther up the prat.

At this time Mr. Blan was on The Wookly Monopart, which he h bought in 1874 and had manufactured patting of the feet by hard weeks I had a large family of young oblider and, like all other newspapes people is this part of the labit, he had lived pretty well up to his income. He know the government to have a revenue out. No line of bosiness snotping newspaper tar act as a convoy through the Bering Work, and a man without sliber hand work, and a new without second is ordinatily not very available about a newspeper ratio. In demonstruct and to allow his merichen to depart with the loss of his hands, however, and me scon as he and passyment as from his injuries to give the matter has attention he had made on artificial right hand and a balf incomes.

It is a simple but ingenions comple-ance. The artificial part of the area is to the stand to be the reast of the stand the explosion. The hand, which is a word by a gloye, appears parfectly a word in shape and holds a pee of you an grootfally as any officers appear band. A stranger seeing Mr. that the head was not a bank ales. blood singulating through it as the couplet has the addition got the appendix ander bit operatio.

Ny morene of a soul, from this unificies pron up aleere, then gering his hes Lis her mainder of his late sout ? makind to slope the

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transmitter.

Capacity of Ocean Steamships.

Few persons looking at an ordinary ocean steamship, loaded or unloaded, as cylinder is not intended to represent a | it lies in a dock, have any conception of its enormous carrying capacity. The boat looks big. of course, but gives no idea of the tremendous amount of freight that can be stowed away in its capacious hold without overloading it. The Baltimore and Ohio railroad loaded a steamship the other day, and this is what it took to fill her: Sixty-six cars of lumber, 4 of starch, 19 of oilcake, 6 of provisions, 1 of grain, 1 of flour, 22 of tobacco, 2 of wire, 3 of sugar, 18 of fresh meat, 20 of sheep, or 1,699 head; 45 of cattle, or 888 head; 8 of lard, 1 of copper. 4 of merchandise and 161 of grain, making a total of 871 carlcads. This is equal to ten long freight trains, which, if placed in a row, would cover a distance of about two miles. And all their freight went into one tramp steamship. -Philadelphia Record.

Sequel to Love Letters In Cipher. George R. Nash, editor of the Weeds-

port (N. Y.) Sentinel, has begun proceedings for a divorce against his wife, Ida L. Nash. He has suspected for a office, be connected with the apparatus, long time, but never secured any legal evidence until recently, when a pile of love letters, alleged to be written by no success unless the tube should be her to the person named as correspond-exposed sidewise to the electro mag- ent, a well known railroad man, were found in a crevice in the railroad statransmitter. Except at such times the tion while some repairs were in prog-TOSS.

The elleged sufaithful wife and her piggledy," as Mr. Preece says. But admirer carried on their correspondence in an extremely ingenious cipher, the tey to which was discovered by chance by the writer's frequent use of the name of a certain hotel. The letters are not only those of expert cryptographens, but contain the warmest protestations of profound affection. -- Cleveland Plain Dealer.

Optimistic View of Socialism.

The Hop. G. C. Clemens, the supreme court reporter of Kansas who is resolved upon the abolition of the supreme court, goes into print with an explanation of socialism. It is not a co-

operative commonwealth. "Socialism is," he says, "an ideal state of society. ized" or arranged in order. They stick The golden age of classic tale, the kingdom of heaven hoped for by the Jews, the millennium of the Ohristians before Constantine, were but older names for the same dream known as actuated only when the nickel silver socialism now." It looks as if the Hon. filings are polarized by the electro mag-Mr. Clemens did not make a clear distingtion in his own mind between a peat with accuracy the signals given by dream and a nightmare. A late dinner means of the key connected with the of plutouracy au diable might produce Two thin metallic wings, WW, are as the Hon. G. C. Clemens entrytains. in the watches of the night such visions

dian boundary.

A Pension For a Burned Real.

enlisted early in the war in Company teresting. A, Third Kentucky infantry. Some The biography will go to press in the time in the course of his service he was fall and will be in the form of two cold and thought they should be warmed. | tion, and the price is to be \$5. He went out and got a large stone and, after heating it, put it in bed at the sick man's feet. He had miscalculated the temperature of the stone, and it proved the house of lords recently. In the pectosses' gallery a lady quietly pook and before the fire could be extinguished the left heel of Mr. Harper was burned to a orisp. The soldier recovered from his fever and was afterward honorably discharged.

Along in 1891 it occurred to him that. when pensions were being granted so freely, he might as well get paid for that heel, and he made his application in the regular way. The commissioner of pensions, when the case reached him, said they were not paying pensions for burned heels. Assistant Scoretary Davis peeress. of the interior department looks at the matter differently, and when the case was appealed to him he reversed the decision of the commissioner, and Harper will get his pension with back nay until 1891, the date when his application was filed. -- New York Tribune.

Did Not Went the Church.

A new church problem has developed in La Crosse, Wis. The vestry of a wealthy Episcopal chusch in that city proposed to exect a handsome plane of workhip in one of the five residence quarters. But they at once received a petition, signed by prominents oltisens. protesting against their intended hotion and concluding: "We do not menume it is necessary to explain our reasons for thus objecting, but will say briefly that church bells, church organs, fureral and the surroundings of a church are such as inevitably tend to depreciate property in its neighborhood." The vestrymen, while denying the allega-tions of the complaint, decided not to ereot the building. -- Public Opinion.

Lorgest Bath In the World.

Recently the Prince of Wales opened new public bath and laundry in the parish of Lambeth, London, which is the largest of its kind in England, and probably in the world, and cost \$140,-000. The first class swimming pool is 142 by 56 feet in size and from 8 to 9 fest deep. The second class pool is 90 by 80 feet. The swimming pool for women is 64 by 40 feet. There are 95 priwate bathrooms and a public laundry for 160 women. The entire establishment can take care of 1,500 people administraably at the same time!" transf

Miss Anthony looks back over 21 A Kentucky man is to get a pension years of a busy, well fought life, and for a burned heel. Stophen A. Harper her reminisconces are exceedingly in-

attacked with typhoid fever and sent to royal ootavo volumes, each containing the hospital. While in bed, unconscious 400 pages. Its title will be "The Life of what was going on around him, some and Work of Susan B. Anthony." The attendant discovered that his feet were book is to be sold entirely by subscrip-

Embroidery Among the Lords.

A curious little incident happened in her seat and produced a piece of unfinished needlework embroidery. This she proceeded with great completency to deftly and, as far as an inexpert male mensely scandalize old fashioned parliamentarians, but no one, not even the most grave and venerable of the officials -and there are many grave and venerable officials in the upper house-yan-

The Pope Is Disappointed.

The Vatican is disappointed that the Roman churches. It is said that the pope is astoniabed

to find that the encyclical advocates Joly sec. " This is with a

Bates or Gates.

(Bates, or Gales, is under screet in Chicas charged with bigamy. Seven women plaim

\$	He finds himself in scory straits,
	Down Britan
	Or Galler
	He woosd and wop too many mater, Did Gates,
	Did Gaine,
	Or Baten
	Too recklearly he dared the fates.
	And that's why Senate Box waits
	For Balos
	Or Gales
•	He bought stores, kattles, cups and plates,
	Did Bates
	An Gaton Frank State
	He had them charged at highest rates
	Nor Bates, He ordered thus at divers dates
	Planos, mirrore, tete-s-tetes,
	And down town merchants paid the
	freights,
	Not Bates,
	Or Gates,
	None of your cheap and common skates
	le Bates, Or Gates.
	"Tis Brigham Young he canulates,
	Doos Gates,
	Or Bates.
	By potent charing he fascinates.
	All matrimonial candidates.
	Ho'd marry the whole United Status,

