ELECTRIC LIGHT'S AMAZING GROWTH

Permanent Illumination of Statue of Liberty an Example

RECORD OF BRILLIANCY

Constant Improvement in the Art Has Been Maintained for Years

Permanent Illumination of the Statue of Liberty, on Bedloe's Island, in New York Harbor, lighted for the first time as an mangural to America's Electrical Week, is the most noticeable of all the flood-light-ling enterprises in a galaxy that embraces some wonderful achievements.

ong recent applications of this type Among recent applications of the type of lightling are the illumination of Niagara Falls, which gives to the vast stretch of America's great natural wonder a daying the tapect at midnight. Its accomplishment is effected without the obtruding, and ment is effected without the obtruding, and often disfiguring appearance of globes and lamps. This method of lighting was first demonstrated at the Panama Pacific International Exposition under the supervision of W. D'Arcy Ryan, the noted General Electric illuminating engineer. Under his administration the 636 acres of the fair grounds appeared at night as well lighted as by day. Pollowing this demonstration of its wonderful improvement over previous mathods the practice of illuminating large grass by projecting light from lighting units placed at a distance from the object to be illuminated has advanced and been adopted to a remarkable degree, the lighting of the Liberty Statue being the latest axemplification.

AMAZED AT VAST STRIDES

In connection with Electrical Week, which is being observed throughout America, many surprising results of electrical progress are being shown. Speaking of this phase of modern advance, T. K. Stuart, an electrical engineer, who recently returned to America from the Orient, where he has been supervising the installation of elec-tric power plants, declares:

"If the Orient could behold the electric maryels of a typical American city the Americanization of the East would not be half the task it is."

Mr. Stuart, like other former New Yorkwho return to the metropolis after being away for many years, was amazed by the immense strides in eleterical de-velopment to be found in the "White Way," Speaking of the wondrous lighting pre-gress, as impressed upon him since his re-turn, Mr. Stuart said:

HUMPHREY DAVY, PIONEER The rapid strides today in the field of electricity are no less wondrous or interesting than the story of electric lighting lines. Sir Humphrey Davy, of London, was the first to experiment in electric lighting with any definite object in view. In 1809 he demonstrated the first crude In 1809 he demonstrated the first crude light. He constructed a battery of 2000 cells to the terminals of which he attached pieces of charcoal. When these crude carbons were brought near to each other a bright spark was produced and more than half the volume of the charcoal became ignited to whiteness, and by withdrawing the points from each other a constant discharge took place through the heated air, producing a brilliant arc of light.

"Until the discovery of the dynamo, thirty years later, this are light was an expensive rears later, this are light was an expensive experiment. The first steady and contin-uous light was discovered in 1844 by Fou-cault, a French scientist, who hit upon the plan of using the deposite in gas retorts in place of the charcoal. The first practical lins of the new light was made in the Paris Opera House during a performance of the spera "Moses," when an "electric sun" was used.

"FATHER OF ARC LIGHTING"

"Z. T. Gramme, a Belgian inventor living Paris, in 1870 obtained his first patent dynamo electric machines and exhibited work to the Academy of Sciences in He is credited with being the father of the modern are lighting, although are lighting had been accomplished by older machines before the day of Gramme.

"Werner Siemens and Sir Charles Wheat-stone, of England, improved the dyname in magnets and substituting coils of wire about a soft iron core. Prof. Moses G. Farmer, an American inventor living in Salem, Mass., obtained the same results in 1866.

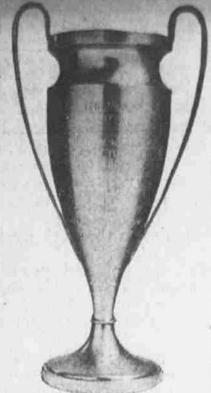
"Early electric lighting was accomplished by direct current, as alternating current did not come into use until a score of years later. Lighthouses in the Straits of Dover were equipped with arc lights in 1858 and 1862, and similar work was accomplished in France in the latter year.

"Jaylockkoff in 1876 patented a simple mechanism which considerably advanced are lighting. His invention consisted of two vertical sticks of carbon separated slightly by an insulating material which was consumed at the same time as the carbons. These lamps soon were lighting the streets here and abroad.

ADVANCE IN LIGHTING ART "A short time later Charles F. Brush and Edward Weston developed methods of series are lighting and their systems were seen in general use. The first series Brush are lamps were erected in the public square of Cleveland, O., in 1879. In the same year the first central station operating are lamps was installed by the California Electric Light Company, of San Francisco.

"Since the appearance of the Thomson-

HARRY GABELL Electrical Contractor 269 S. 20th St.



ELECTRIC CUP WON The Philadelphia Electric Company Cup for the best-lighted window display of the members of the Walnut Street Business Association during Electrical Week, just closed, during Electrical Week, just closed, was awarded to the Sonora Phonograph Corporation, recently established at 1311 Walnut street. Honorable mention was made of the illumination displays of J. J. Habermehl & Sons, Stone's, H. T. Patterson & Co., and the Ville de Paris.

Houston system in 15%1, when the first twenty-five arc-lighting machines were lighting streets, the development in the field of illumination has been rapidly advancing, until today it has reached the nearest approach possible to sunlight. In fact, the most recent development in light-ing is called the daylight lamp. This is a gas-filled Tungsten filament lamp, with a bulb of bluish tinted gas. This gas ab-sorbs eight per cont of the light given out by the filament, but the result is a light that very closely approaches daylight. reality, it is scientifically measured to be within one per cent of daylight.

MAKE GASOLINE FROM GAS

100.000-Gallon Output This Year Predicted by Pittsburgh Expert

About 160,000 gallons of gasoline will be manufactured in the current year from catural gas without injuring the gas for use in cities, according to George A. Burrell, consulting chemical engineer and president of the Natural Gas Products Company, of Pittsburgh. He delivered an address last night at the Franklin Institute, in which he said the growing shortage of gasoline was causing grave concern to its producers.

Mr. Burrell, said that while natural gas.

Mr. Burrell said that while natural gas is twice as valuable for fuel as the manufactured article, it sells for only one-third as much. In 1915 about 600,000,000,000 cubic feet of natural gas were sold, of which industrial consumers used sixty-five per cent and householders thirty-five per cent. West Virginia produces forty per cent of the output and consumes sixteen per cent: Pennsylvania produces twenty-two per cent and consumes thirty-one per cent, while Ohlo produces ten per cent, and uses twenty-two per cent.



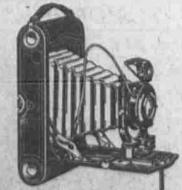
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BOMBARDANO TRIESTE

Per Due Volte il Nemico Tenta di Forzare le Linee Italiane di Quota 208

ROMA, S Dicembre.

Il Ministero della Marina ha anna annunciato oggi che due idro-aeropiani italiani hanno fatto una incursione sulla costa dell'Istria ed hanno bombardato gli stabilimenti militari di Trieste. Nonstante che i due velivoli forsero violentemento. he I due velivoli fossero violentemente che i due velivoli fossero violentementa attaccati dalle batterie antiacree austriache, essi ritornarono senza danni alla loro base.

Gli austriaci hanno tentato per ben due volte di attaccare la fronte italiana del Carso, e per due volte sono stati respinti con perdite, annunzia il generale Cadorna nel suo rapporto pubblicato feri sera dal Ministero della Guerra. Ecco il testo dei rapporto:

Continua il cattivo tempo su tutta la fronte, ma particolarmente nelle zone di

montagna. Sull'aitopiano del Carno e' anta nella giornata di leri l'attivita' dell'artiglieria. Nella "ra il nemico, dopo una violenta preparazione di artiglieria, tento' due attacchi successivi sulle nostre linee a nord-est della Quota 108 Esso fu prontamente respir con perdite e doveite rientrare nelle trinces.

La caduta di Bucarest, che ormal si pravedeva da sicuni giorni, ba causato pro-fonda impressione in questi circoli politici e militari. Sebbene questo nuovo successo degli imperi centrali non significa che la situazione generale nella guerra europea abbia subito un cambiamento nelle sue înee essenziali, pure si riconosce che una serie di beneficii ne deriveranno per le potense teutoniche, specialmente nel campo economico, giacche i tedeschi hanno messo le mani su di una grande quantita di grani e su ricchi depositi di petrollo. Nesgrani e su riccin depositi di petrolio. Rese-suno puo' dire se i russi e i rumeni rius-ciranno a trattenere la merca delle forze teutoniche fuori della Moldavia ed a tenerie lontane dalla linea del Pruth, ma i più ritengono che il piano che si attribuisce a von Mackensen di puntare in direzione di Odessa e per lo meno di dubbia attuazione, giacche' e' da ritenersi che, se I russi non sono riusciti per una serie di ragioni

s di serori a salvara Bucarest, assi al sumo ben furtificate' e muniti a nord appunto per impedire che in un mon- o nell'alizo von Mackensen possa anche lontanamente minacolare le basi russe.

Intanto in imphitierra sono avvenuti importanti cambiamenti ministeriali. Il primo ministro Asquith aveva dato uel giorni scopsi le sue dimissioni che erano state accettate dal re. Il re ha incaricato il ministro della Guerra Lloyd George di formare il nuovo gabinetto, cio' che e stato fatto. Questo cambiamento significa una spinta maggiore alla condotta della guerra, giacche' la crisi era stata appunto provocata da Lloyd George che aveva di mira una maggiore intensificazione della operazioni militari allo scopo di ottenere piu' soliccitamente quella vittoria che sembra ancora lontana.

ora lontana. Una nevicata fortissima ha interrette comunicationi ferroviari tra l'Italia la Prancia e la Svizzera, "ri l'altro a sera il treno direttimimo Milano-Parigi era stato arrestato dalla neve e fino a leri cerà non era stato possibile stabilire dove si trovanse fermo giacche i fili telegrafici e telefonici alle due entrate della galleria dei Sempione sono stati abbattuti dalla peventici dei sera A Briga ed a Domodossola la neve e' alts

quattro piedi e si passo del Semplone e' alla sto piedi. Si ha noticia di molte valanghe sulle Alpi. Quaranta soldati sono rimasti sloccati nel rifugio del Semplone per gli

Milano e' senza lure, glacche' i fili elec-trici dalla parte di Domodossola sono stati abbatiuti e spezzati e sepolti sotto la neve. Pinora non si sa di vittime umane, ma le communicazioni Internazionali sono troncata Trent speciali per tagliare una via nella neve sono stati mandati sulle linee ferroviarie dalle citta' svizzere e da Milano.

HOUSE TAKES A DAY OFF

Leaders Decide to Adjourn-Vocational Bill Up Tomorrow

WASHINGTON, Dec. 8.—The House took day off today to wait for something to . With no routine business yet perfected the committees, the leaders decided to ligurn over until tomorrow when the voca

adjourn over until tomorrow when the voca-tional education bill, urged by President Witson, will be taken up.

Meantime the Appropriations Committee will endeavor to have the first big appro-priation bill, the legislative, executive and judicial bill, appropriating some 139,000,000 to pay salaries of Government efficials and employer, ready for consideration on Mon-

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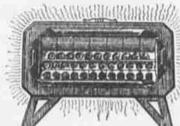
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unique setting-a story for you.

On Saturday the world desolate and Evening Ledger in ruins-and carwill publish the ries the story of a opening chapters romantic love, 'mid of a serial story imminent dangers, entitled "Beyond from strength to

And just as "The tinuation of "The Vacant World" struck a new note in the field of newspaper serials, so "Beyond the "Beyond the Great Great Oblivion" is Oblivion" develops a better story than original and strik-"The Vacant ing narrative qual-World." It de- ities which will velops the power meet with wide of the author's favor. This is the

TOMORROW'S

EveningLedger

Magistrate Assails Mail Truck Speeders

From now on I am going to deal most severely with every one of them. I consider it my duty as a Magistrate to do my little part toward protecting the public. I will hold this man in \$400 ball to await the outcome of the little boy's injuries." Milton was knocked down while playing at Collum and Wakefield streets. He was taken to the Germantown Hospital suffering from cuts of the scalp and body and internal injuries. His condition is serious.

Magistrate Watson's bitter arraignmen

Magistrate Watson's bitter arraignment of United States mail drivers follows denunciation yesterday of the same drivers by George E. Bartol, president of the Bourse. In protesting against abolition of the pneumatic mail tubes. Mr. Bartol said: "Already much criticism has been directed against the Postoffies Department in this city because of the reckless manner in which United States mail wagons are driven. Three-fourthest of these drivers ought to be arrested and put into jail. I have watched them and have seen them charging through the traffic at the rate of twenty-five and thirty miles an hour, endangering the lives of our citizens. If we abolish the tubes for trucks, the change may cost us many more human lives, for it is certain that the drivers will put on more speed and will take still further chances."

Suffrage Advocate 35 Years Dead MOUNT CARMEL, Pa., Dec. 8 - John I. thanahan, seventy-seven, merchant and speech thirty-five years ago he advocated woman suffrage.

PLANNEL SHIRTS, 59c

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Boys Take Alleged Wife Beater
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