THE NEBRASKA INDEPENDENT

ELECTRICITY'S ADVANCE

Many Improvements Seen In the New Inventions.

FIRE EXHIBITS AT PAN-AMERICAN

Progress Shown is in the Line of Greater Compactness With Increased Power and In Appliances For Public Safety In Transportation. Electric Railroad Devices.

Other world's fairs have marked the progress of electrical development by the telephone, the incandescent light, the trolley car and the phonograph. The Pan-American is peculiarly representative of electrical power transmission, says a Buffalo dispatch to the New York Sun, because about half the energy used comes by cable from the power plant at Ningara falls.

The Edison storage battery is shown in a small glass box. Only one cell is exhibited. The weight is 5½ pounds. It consists of eight plates of nickel and from in a solution of caustic potash. It represents one-eighth of one horsepower, or 1.2 volts. Its capacity is 100 Watt hours. The weight of a battery of one horsepower would therefore be between 40 and 50 pounds, whereas the ordinary battery weighs an average of 170 or 180 pounds to each horsepower. Automobile batteries are of from four to nine horsepower. The saving in weight on a four horsepower automoblie is that of 240 pounds compared with 850 pounds. For this battery is assorted not only longer life, but also immunity from the common diseases of storage batteries. It may be overcharged without harm to the battery, and all the energy contained in it may be expelled without injury, while the ordinary battery suffers if discharged below a certain point. It contains four plates on each side instead of an uneven number, as in other batteries, and this is supposed to be one of Edison's discoveries bearing on its indestructi-

An exhibition of the electric system used on the Manhattan Elevated rail-

bility.

OUR CRITICISED ENGINES "The Bridge Guard In the Harros," Published In London Times. -"and will supply details to guard the Blood river bridge." District Orders-Lines of Communication.

Sudden the desert changes; The raw giare softens and cling: Till the sching Oudtshoorn ranges Stand up like the thrones of kings-

KIPLING'S LATEST POEM.

Ramparts of slaughter and peril---Blazing, amazing--aglow "Twist the sky line's belting beryl And the wine dark fists below. Boyal the pageant closes,

Lit by the last of the sun; Opal and ash of roses, Cinnamon, umber and dun.

The twilight swallows the thicket: The starlight reveals the ridge; The whistle shrills to the picket; We are changing guard on the bridge.

(Few, forgotten and lonely, Where the empty metals shine. No, not combatants; only Details guarding the line.)

We slip through the broken panel Of fence by the ganger's shed; We drop to the waterless channel And the lean track overhead;

We stumble on refuse of rations, The beef and the biscuit tins; We take our appointed stations, And the endless night begins.

We hear the Hottentot herders As the sheep click past to the fold And the click of the restless girtlers As the steel contracts in the cold-

Voices of jackals calling And, loud in the hush between, A morsel of dry earth falling From the flanks of the scarred ravine.

And the solemn firmament marches, And the bosts of heaven rise, Framed through the iron arches, Banded and barred by the ties,

Till we hear the far track humming, And we see her headlight plain, And we gather and wait her coming, The wonderful north bound train.

(Few, forgotten and lonely, Where the white car windows shine; No, not combatants; only Details guarding the line.)

Quick, ere the gift escape us, Out of the darkness we reach For a hundful of week old papers And a mouthful of human speechl .

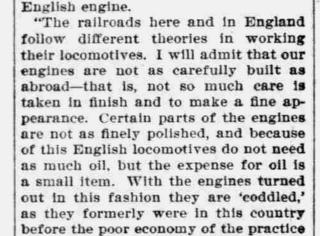
And the monstrous heaven rejoices, And the earth allows again Meetings, greetings and voices Of women talking with men.

So we return to our places out on the bridge she rolls, And the darkness covers our faces, And the darkness re-enters our souls. SAYS THEY ARE NOT IMPORTANT. laims the American Locomotive Is Very Durable -- Both Its Hauling Power and Fuel Economy Greater Than Those of the English Engine. The "Coddling" Practice. Of criticism of American locomotives ir. England and other European countries the motive power superintendent

A Motive Power Superintendent

Resents Foreign Statements.

of one of the largest trunk line roads had this to say the other day, says the New York Post: . "I certainly question the statement that the American locomotive burns more fuel per ton of freight than the English or other foreign locomotives. I know, in fact, that the European engines cannot haul anything like the tonnage easily taken by our locomotives here. These criticisms of so called American locomotives on English roads in any event are not important, for there has never been a test of an American type locomotive in England. On the other hand, some years ago the Pennsylvania railroad imported a London and Northwestern railway engine and conducted exhaustive comparative tests, in which the greater efficiency and adaptability of the American locomotive were conclusively brought out. I don't believe the Pennsylvania mechanical engineers got a single new idea from their experience with their



"One of the anxieties of English rail-

way locomotive officers is to see that

they do not overwork their engines and

that they are properly 'rested.' The



This

Cut

Three-

Actual

Size

Fourths

of ever getting relief. WHY CONTINUE TO SUFFER? I

838

One Thousand Boys and Girls

do the work in one hour. Send your

name and address, no money. We will

forward a book of ten coupons, each

good for three months' subscription

earn this watch every week. You can

way is made by a Schenectady company. This is what is known as the train control system and is equipped with 125 horsepower motors, two under each car. A new invention for the safety of these trains is shown. A half pound downward pressure on the controller is required of the motor driver who is in control of the whole train. Suppose the motorman should drop in a fit, be struck by a missile or otherwise disabled while the train was going at full speed. He has no fireman in the cab with him like the engineer of a locomotive. By this new device when the motorman's hand leaves the controller the power is shut off, the brakes applied and the train stops. It cannot be started again until the hand of the controller is brought back to the starting point.

A new electric brake is shown on a standard trolley car truck with 38 New York Times. horsepower motors. It works independently of the trolley and could control a car which had slipped its trolley on such an incline, for instance, as the State street hill in Albany. The power to work the brake is generated by the motors. The brake consists of two plates, one of which is fixed to the axle and revolves with the wheel. The other plate, beside the motor, contains two colls. The application of the brake electric charge stored in these batteries gines on this road, running over a divimagnetizes the stationary disk and, drawing the revolving disk to it, stops water it and the axle. It is possible to stop piste.

ment of Niagara falls power is shown. | surface of the water. New forms of electric lights, are and incandescent, are exhibited, producing form of boat is that they will be able to a more refined light, but no invention carry five instead of three torpedoes. of practical value in that line is shown thus making them over 60 per cent beyond the hylo bulbs, which may be more formidable than the old style turned on for any candle power from boat 1 to 16. This incandescent light is exhibited in connection with a meter LEADING THE WORLD IN COAL which shows that the electric power used is in proportion to the candle Production of the United States In power used. Lights of this class for use in the photographer's dark room are shown in various designs.

Portable batteries for physicians are gest coal production ever recorded in shown in light and compact form. Wo- this country and continued the su- College Graduate Presented With men have found attractions in the elec- premacy of the United States among tricity building in devices for supple- the coal producing countries of the menting beauty. A hand battery equip- world, says a Washington dispatch. ped with a dry cell and supplying a Practically complete returns to Edward powerful current which will cure rheu- W. Parker, statistician of the United matism by massage or take crow's feet States geological survey, show the to-The removal of superfluous hair and 267,542,444 short tons, an increase over other tollet services are performed by the preceding year of 13,802,452 tons, electrical devices of many sorts.

More than a little lonely Where the lessening tail lights shine; No, not combatants; only Details guarding the line! -Rudyard Kipling.

NEW TORPEDO BOAT FULTON

Deadly Submarine Craft Launched at Elizabethport, N. J.

The new submarine torpedo boat Fulton of the Holland type, which was nomical basis. Now, as soon as I get a recently launched at Lewis Nixon's new engine in service I am prepared to shipyard in Elizabethport, N. J., meas- work it as continuously as is possible ures 63 feet 4 inches in length, 11 feet 9 and to hammer its life out in hauling inches in diameter and is provided traffic over the road with the least poswith a conning tower 32 inches out- sible time spent in the shops or idle for side diameter and 2 feet high. The to- any cause. I attempt to see to it that tal weight of each boat will be 103 at the end of 15 years an engine will be tons, and when submerged the total ready for the scrap pile, to be replaced displacement will be 120 tons, says the by an improved engine. Passenger en-

was recognized.

The motive power will come from a ery day, or practically over 100,000 150 horsepower gasoline engine when miles a year, and we get close to 2,000,running on the surface and which is 000 miles of service out of them in 15 also used for charging the electric and years. No foreign locomotive makes the compressed air accumulators. The such a record of daily and continuous power for submarine propulsion will hard service.

be derived from a 70 horsepower electric motor, which is also used to charge comotives called upon to haul the loads the electric accumulators, and from the | which are required in this country. Enwhile the vessel is at the surface of the sion with grades of from 15 to 30 feet.

the wheels insigntly when the car is go- face will be about 10 knots and when tons. They can pull such a load over a ing 40 miles an hour, but the motor- submerged about 7.5 knots. The radius 40 foot grade with the help of a pusher man who made so abrupt a stop might of action of the boats will be 400 miles without parting the train. Put such an send his passengers through the for- in ordinary cases and 2,500 miles in engine on an English road, and it ward end of the car. Once set, the cases of emergency. The radius of ac- would do the work of several of their brake remains fixed until turned off by tion while running totally submerged engines, and the record of economy in the trolley power, demagnetizing the will be 50 miles. This entire distance fuel consumption for the work done can be made at one run without the and in every other way would startle The machinery used in the develop- necessity of appearing at all on the English locomotive officers. But the Among the improvements in the new

1900 Was a Record Breaker. Official reports show that the year

1900 closed the century with the lar-

or a little more than 5 per cent. 1

result is that they are in service much less than half the time, while interest on their cost is running up without return in income earned. Under such practice an engine at the end of 30 years is still too good to demolish, and it is continued in service on an uneco-

gines on this road make 300 miles ev-"Nor are English or other foreign lo-

easily haul 3,700 tons in a train, and The speed when running on the sur- we can crowd them up to nearly 4,000

proportions of this engine are entirely different from the so called American locomotives whose performance has been criticised in England. The American builders were limited in their designs by the clearances of the English railway and by other considerations, so that their proportions are entirely un-

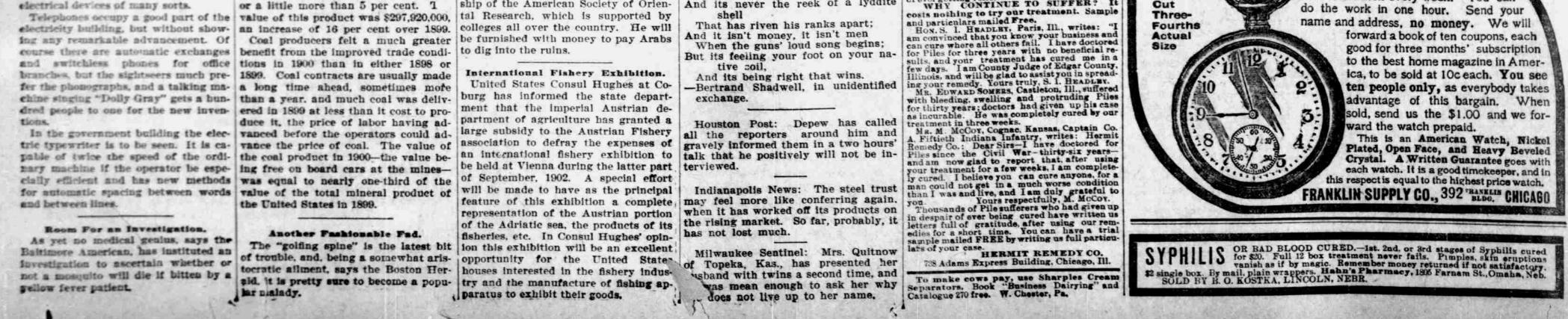
like any American engine, and their performances, whatever they may have been, furnish no basis for judgment on American locomotives."

WON A BURIED CITY.

Unique Prize.

A buried city in Palestine has been bought for Martin Meyer, the valedictorian of this year's class of the Hebrew Union college of Cincinnati, says the New York World. He will leave on from the choeks wins their attention. tal output of coal in 1900 to have been Aug. 15 for the Holy Land to make excavations and scientific researches.

Meyer won the Palestinian scholarship of the American Society of Orien-Telephones occupy a good part of the value of this product was \$297,920,000, tal Research, which is supported by electricity building, but without show- an increase of 16 per cent over 1899. colleges all over the country. He will ing any remarkable advancement. Of Coal producers felt a much greater be furnished with money to pay Arabs



That has softened a foeman's heart,

And its never the reek of a lyddite

That has riven his ranks apart;

When the guns' loud song begins;

And it isn't money, it isn't men

home

shell