Recent Events in the Field of Electricity

New Electric Locomotive.

THE first of twenty-five electric locomotives built by the Westinghouse company at Pittsburg for the New York, New Haven & Hartford railroad, has given satisfactory results in the trial tests. As is customary when a new type is produced, this locomotive is regarded by experts as a doom-sealer for steam locomotives. It is different from existing styles of electric locomotives in that it is operated by the alternating current single phase system. Weighing seventy-eight tons, it is calculated to draw a train of 250 tons at an average speed of seventy miles per hour.

The locomotive is equipped with devices for collecting both alternating and direct current. For the latter there are eight collecting shoes, four on each side of the locomotive, arranged in pairs of two each. There are, of course, two pairs on each side, one at each end, for the purpose of bridging such gaps as are necessary in the third-rail system. There must be shoes on each side as the locomotive must be able to make contact with the third-rail when turned end about. These direct-current contact shoes must also be able to work on two forms of third-rail, one in which the shoe runs under the rail and the other where the shoe runs on top of the rail. The locomotive is provided with a pantagraph low-tension overhead direct-current trolley to conform with certain New York Central requirements.

For collecting alternating current the locomotive is provided with two pantagraph type high tension bow trolleys. Each trolley has a capacity to carry the total line current under average conditions, but two are provided to insure reserve capacity.

The mechanical construction of the locomotive presents many novel and interesting features which deserve special consideration. The running gear consists of two trucks, each mounted on four sixty-two-inch driving wheels. The length of the wheel base is eight feet. The side frames are of forged steel and to them are bolted and riveted the pressed steel bolster carrying the center plate. The weight on the journal boxes is carried by semi-elliptic springs with auxiliary coiled springs under the ends of the equalizer bars to assist in restoring equilibrium. The bolsters are thirty inches wide at the center plate and are widened, where bolted to the side frames, to nearly double this amount, thus giving a very strong construction without excessive weight. The center plate which transmits the tractive effort to the frame is eighteen inches in diameter and will be lubricated to permit a perfectly free motion in curving. The truck centers are fourteen feet six inches apart.

Owing to the fact that the entire space between the wheels is occupied by the motors it was impossible to transmit the drawbar pull through the center line of the locomotive in the usual way. Instead of this strong plate girders heavily cross-braced are carried outside of the wheels and the entire strain of the drawbar is carried to these through strong box girders having top and bottom plates forty-two inches wide. Directly underneath the girder at each end is a Westinghouse friction draft gear to which the drawbar is attached. The entire design lends itself to a very strong construction without great weight. The cab is built up of sheet steel on a framework of Z bars. The apparatus inside the cab is carried on a framework of structural steel which is built into the cab and firmly anchored to floor and ceiling. Over each motor is a large trap door which permits easy access to motor bearings, brushes, etc.

The motors are four in number, each of 260 horsepower nominal capacity, but with a continuous capacity of over 200 horsepower each or over 800 horsepower total. The motors are of the gearless type and are wound for a normal full load speed of about 225 revolutions per minute. They are connected permanently in pairs and require 450 volts at the terminals on alternating current and 550 to 600 volts on direct current.

Telephone Rates in Indianapolis.

The Indianapolis Telephone company claims to be doing business at a loss and has petitioned the city for a new franchise to forty years from next July, coupled with the right to increase rates. The company wants to be allowed to charge $54 a year, instead of $40, for business telephones, and $32 a year, instead of $24, for house telephones. It further asks that it be allowed to charge $2 a year for each telephone, in addition to the above rate, for every 1,000 telephones over 15,000 in use. Finally, the company asks an option to renew the contract.

The company urges that it can not live and render proper service under present conditions; that the vastly greater business than it expected, and the increasing ratio of cost on that account make the present rates inadequate.

Same Wire for Two Instruments.

The Mexican Central Railroad company has installed on its lines the telegraplex, an invention which makes it possible to use two separate and distinct currents over the same telegraph wire. The device is owned by a company of Cleveland, O., and at present is being used only by the Mexican Central and the Big Four railroads.

The telegraplex is a device for providing an extra telegraph circuit in addition to the regular one. The instrument produces and responds to minute alternating currents and are not affected by currents of the regular telegraph circuit.

The alternating currents, on the other hand, are so rapid that they produce no effect upon the ordinary telegraph instruments. Thus it is possible to send two messages at the same time over one wire both in the same direction or in opposite. This gives the equivalent of an additional wire without the investment in wire and fixtures, as well as the cost of building a new line. The currents are developed from batteries much smaller than those used in the regular service.

At present the possibilities of the invention have not been fully determined. The messages can be sent a distance of from 200 to 300 miles under ordinary conditions. From the success of the line installed by the Central it is believed that the invention is one of the most promising introduced in the telegraph departments for a long time.

New Form of Transmitter.

A new form of microphone transmitter has lately been invented by the Italian engineer, Quintana Majorana, of the government telegraph department. It differs entirely from the ordinary carbon microphone which is in common use, and is based upon the capillary contractions which the sound vibrations are made to produce upon a liquid jet. The principle upon which this action is based was observed by Chichester Belt some twenty years ago. The contractions of the liquid vein rise to corresponding virbrations in the electrical resistance of the circuit. Using an induction coil, we are able to obtain telephonic currents which under favorable conditions may reach, for sounds whose vibration is 300 periods per second, an intensity of 100 milliamperes. This is a much more powerful effect than can be produced in the telephone at present. Beside the loud-speaking telephones, we may remark the Bailleux microphones which are used on the government lines in Italy, and give only a current of twenty or twenty-five milliamperes, which is among the highest figures. In the new instrument it is claimed that the sound is clear and sharp. The construction is not as simple as a carbon microphone, but there is a great gain in power which will give it the advantage.

Wireless Tests.

Tests of the wireless telegraph systems are to be made by the Navy department to determine, if possible, the cause of the many failures to receive and to send messages at sunrise and sunset. Repeated tests have shown this to be the case, and it is said that the navy operators were the first to make the discovery of this strange and important phenomenon.

Just why the power of the wireless apparatus and the sound waves should be at the lowest ebb at sunset or at sunrise operators may not be difficult to ascertain, for it has long been known that messages can be sent by the system at night 40 per cent better than in the daytime, especially when the sun is shining. There is what is termed frictional dissipation of energy in transmission by day. It is also known that foggy weather is more favorable for sending and receiving wireless messages than clear weather, so naval officers familiar with electrical subjects believe they will soon be able to locate and remedy the alleged defect at sunrise and sunset.

Commander Thomas W. Ryan and Lieutenant Jackson, U. S. N., who are in charge of the wireless equipment at the Brooklyn navy yard, intend to make tests at once.

Gossip and Stories About People of Note

Story of Sheridan's Parents.

ONE of the sweetest and most pathetic war stories about the Sheridans, father and mother of General Phil Sheridan, is related by Youth's Companion.

The old people were living at Somerset, O., when word came that General Sheridan had suffered a great defeat in the Shenandoah valley. They slept none that night, but in the morning the old gentleman said:

"Mother, I have thought it all out. Phil wasn't there when the fight began. That is what the paper said. It would not be like our boy to remain away throughout the battle. As I make it out, Phil returned in time to save the day. I'll go to the store and wait until the paper comes, get the news and hurry back. I don't believe there's anything to worry about."

"I hope you are right, father, but I'm afraid yesterday's news was correct. Phil has had so much good luck I'm afraid he's had bad luck in this battle."

Old Mr. Sheridan was sitting on the steps in front of the store when a man rode up and called out, "Good news from Sheridan!"

Then one of the bystanders caught up the morning paper and read the account of Sheridan's return to the army, of his turning the tide, of the president's message of thanks, of Sheridan's heroic conduct and the complete route of the enemy.

The paper said it was one of the greatest victories of the war.

That was enough for Mr. Sheridan. He started on a trot to tell Mrs. Sheridan the news about her son's greatest battle.

She saw him coming and hurried to the gate to get the tidings from Cedar Creek.

"Glory to God, mother, glory to God! Phil licked 'em! The president has sent him the country's thanks and the paper says it was one of the greatest fights of the war. I knew Phil would get back in time to save the day."

The old couple hugged and kissed and kissed and hugged again and again.

After they had gone into the house the old woman suddenly became very sober.

"What's the matter, mother?"

"Father, did the paper say anything about John?"

"No, but you know Phil would have sent a dispatch if anything had happened to John."

John was another son, a private in Sheridan's army in the valley.

Fixed up by the Lawyer.

Not many persons are aware how greatly indebted James Hazen Hyde is to one of his lawyers for the good impression which he made before the Armstrong insurance committee. Mr. Hyde's sensible appearance before that committee did more than anything else to dispel the popular prejudice against his eccentricities. The lawyer practically dictated to Mr. Hyde what he should wear while on the stand. He made the young man discard his customary buttonhole bouquet; had him brush his hair down flat instead of pompadour and ordered him to wear an old, simple-looking suit of clothes. Result: The cartoonists are wondering yet where they got the ideas for the extravagant pictures they made of the young insurance man.

A Sporty Tip.

Senator Tillman of South Carolina has gained a reputation as a race horse tipster and his "one best bet" went through at Benning. The senator is unconscious of having picked the winner of the third race, but he did. "I am tired of all this hocus-pocus," the senator declared in a speech yesterday. "What we want is action. This hocus-pocus has gone on long enough." "Hocus Pocus! That's the tip!" agreed the wise ones around the senate. A pool was made up among the pages and employes and a good sized bet was sent to Benning and played on Hocus Pocus. Hocus Pocus won at odds of 6 to 1.

What Father Thought.

A New York teacher of instrumental music was one day telling the father of a pupil, a lad of 10 years, of the progress made by the boy in his studies. "I think he is improving a great deal," said the professor. "He will certainly learn to play the piano."

"Is that so?" asked the father, much gratified. "I didn't know whether he was really improving, or whether I was merely getting used to it."—Harper's Weekly.

Opportunities Out West.

"One of the best known and most prosperous men in Wyoming is a son of Erin by the name of Patrick Sullivan," said E. J. Penny of Cheyenne to the Washington Post man.

"Less than twenty years ago Sullivan landed in New York from the old sod, and a greener immigrant never set foot on Manhattan island. Going to a railroad office he asked for a ticket to the west. 'Whereabouts in the west?' asked the clerk. 'How the divil do I know?' responded Sullivan, 'but anyhow, give me a ticket as far as my money will go,' and he counted out all the cash in his leather bag. He was given a ticket to Rawlins, Wyo., and he landed without a 'sou.' But he was a strapping big fellow and got instant employment as a sheep herder. In a little while he owned a small flock of his own; today he has sheep by the thousand grazing on his own broad acres. He has brought over from his native land other young Irishmen, whom he has started in business, but making them all begin as he did, at the lowest rung of the ladder. He has been mayor of his town, and is now a full-fledged candidate for governor, with fair prospects of success."

Bourke Cockran in Action.

After every speech he delivers Bourke Cockran is a sore man physically. Any one who has ever seen him in oratorical action knows why he is sore. The old flagellant monks were not much more cruel to themselves than Cockran is to himself. His favorite gesture is to slap his thighs and it is no love taps he gives them. It's a good beating. Cockran is one of the old school, muscular, desk-pounding school of orators. If he could not hammer his desk and thump his thighs he would probably think his powers failing.

Anecdotes About the King of Circus Men

THE death in New York last week of James A. Bailey, partner and successor of the only Barnum in the circus business, called forth many interesting incidents of a man whose name rivalled that of Barnum as a "household word." Bailey was born in Detroit in 1847. He was one of four brothers who were left orphans as children. His father left an estate of $20,000, but the youngster had to go to work. He hired out to a farmer for $2.25 a month. The farmer beat him every time he paid him off, so he got a job as bellboy in a hotel at Pontiac.

One summer day a little one-ring circus owned by Robinson & Lake came to Pontiac. The lad went to see it. Like all boys he was captivated by the glamour of the thing. He saw the red and gilt wagon, the elephant, the clown, and what not, and decided then that his future would be in the circus. He went to see Fred Bailey, general manager of the show, who took a liking to the boy and employed him. Shortly afterward Robinson died. James Cooper, another circus man, who had heard of Bailey, sent for him. It wasn't long before Bailey, then 21 years, old, had an interest in the Cooper show and was its practical manager. One day he said to Cooper: "Let's take the show to Australia."

"Why, man, you're crazy," answered Cooper with a laugh.

"No such thing," was the reply; "they never saw anything like it in Australia, and we can make money."

Cooper thought it over and finally consented. Bailey superintended the trip, and cleared more than $1,000,000 for Cooper and himself. That was his first great circus coup.

Buying Jumbo.

One day Bailey selected Joseph Lee Warner, a former mayor of Lansing, to go abroad and see what sort of attraction he could find. He came back practically empty-handed.

"What was the biggest thing you saw over on the other side?" asked Bailey.

"Well," answered Warner after long thought, "I think the greatest thing I saw was an elephant in the London Zoo."

"Go back and buy him," said Bailey. Warner went over and came back with the elephant, which was thereafter known all over the country as "Jumbo." Bailey advertised Jumbo. It was Jumbo this and Jumbo that until every man, woman and child in the country had heard of him. His removal from London was made an international incident. Jumbo had become one of the sights of the British capital, and they made a big fuss when he departed. Bailey paid $10,000 for him. The day in 1882 that Jumbo walked up Broadway and then across the Brooklyn bridge and back thousands of people turned out to see him. Everybody talked about Barnum's Jumbo. He was in reality Bailey's Jumbo, for Bailey had superintended the purchase. But he preferred to remain in the background.

Bought a Whole Circus.

Upon the death of Barnum in 1891 Bailey purchased all the rights to the circus. Since that time he reigned alone in his world. His greatest delight was the making of obstacles so that he might have the pleasure of surmounting them. He invariably chose the most difficult routes for the circus that he could. After the route schedule for the season was completed he would carefully go over it and add difficult jumps, "just to show," as he was wont to say, "how cleverly we can make them."

Bailey was action personified. After the death of Barnum he jumped out of bed in the dead of the night, called a meeting of the directors, whom he had likewise aroused, and purchased all their stock in the circus on the spot. He did a similar thing two years ago when the Forepaugh and Sells Brothers' circus, of which he was a part owner, was advertised for sale at auction in Columbus, O. This sale was ordered after the death of Peter Sells, which left the show without a managerial head.

"How much am I bid for the circus as a whole?" asked the auctioneer.

"One hundred and fifty thousand dollars," said Bailey.

There was no second bid. He got the entire circus. His rivals were sorely vexed by his action and plainly told him so.

"All right," said Bailey to them. "I'll sell you fellows a half interest." This he did.

It was by just such actions as this that Bailey brought peace into the warring circus sphere. He was at one and the same time a partner in Barnum & Bailey's circus, in Forepaugh & Sells Bros.' circus and in Buffalo Bill's wild west show. By thus mediating among them he was able to keep all animosity from asserting itself. He thus, moreover, destroyed the fighting spirit and placed all circus affairs on a solid business basis.

Among Bailey's personal maxims were these:

"Every man should be his own Society for the Prevention of Cruelty to Animals."

"Don't dock a man for being sick—he can't help it."

"Canvasmen have hearts and feelings just like men with millions."

"Keep your good attractions. In the circus game there should be no such word as sale."

"Don't speak in the future tense—say 'have done,' not 'am going to do.'"

"Swearing doesn't put life into the other fellow and it takes it out of you."

"A man can do anything if he really wants to do it."

Bailey had some remarkable rules for the guidance of a circus man, and to the strict observance of them he attributed his own remarkable success. For instance, when he was striking a new town he invariably filled his pockets with half dollars. These he would distribute on the slightest provocation. One of his friends remonstrated with him at a time when ready cash was not so plentiful in the show business as it is today.

"Nonsense," said Bailey, "this is a strange town and you don't know what every man you meet may be able to do for the show. That fellow I gave a half dollar to may be a cab driver."

The erratic movements of the Barnum & Bailey circus were often a matter for disappointed speculation among the inhabitants of a town which had been skipped by the show, although it might have been bigger than the last stand and only a few miles from it. Bailey was averse to giving his reason for doing a thing, but the question was put to him so often that he undertook to explain to a man from Malone, N. Y.

"Your town is a hop town," he said. "I'll visit your town when the hops are in and you've got money to spend."

It was this remarkable knowledge of the country that brought a fortune to James A. Bailey. He knew the population of every city, town or hamlet in the United States; could tell what its principal industry was and when it had most money. He was a great student of crops and market reports, and very often the itinerary of the circus was suddenly changed when the Circus King had noticed a likelihood of an influx of money at a certain town. He never gambled and condemned speculation in stocks, and very few of his friends really knew why he so religiously scanned market reports.

Bearded the Tiger.

Twenty years ago, in the days of the wagon show, the feature of the parade was a "murderous, mutilating, man-eating" tiger, which the "dauntless, daring, devil-may-care" trainer held by a chain on the top of the cage. This sight filled beholders of the parade with awe and admiration, for the tiger opened its jaws and yawned invitingly and tugged at the chain in the trainer's "iron hand." But one day the trainer fell sick and there was no one else who dared take that tiger out of the cage.

"What!" said Bailey. "Why, man, that's the whole show. We'll get only half an audience if it's left out. You've got to get that tiger on deck."

But no one could be found to venture it. They knew the tiger, and that tiger knew and respected no one but its trainer. Bailey laughed.

"Well," said he, "before I see the show go to smash because you can't find a man to stand on the top of a cage with the end of a chain in his hand, I'll do it myself."

And he did. Clad in a leopard's skin and tights and with an ominous frown on his brow, James A. Bailey stood like Samson over that ferocious tiger. The zealous press agent let the "secret" get abroad, and when the parade passed through the town the people wept in sheer enthusiasm. That was "him"—Bailey, the great tamer of everything on four legs

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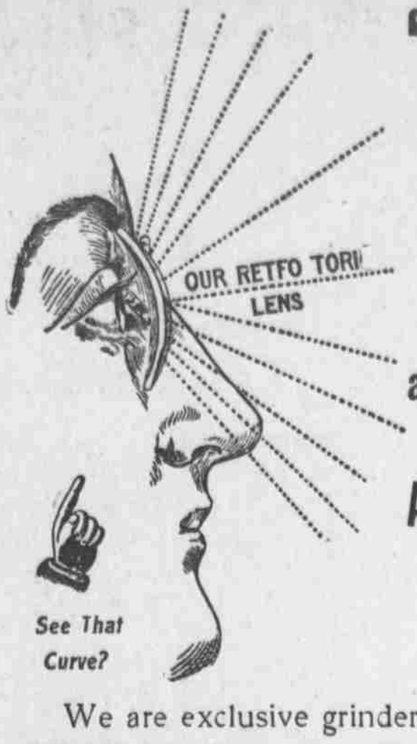

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