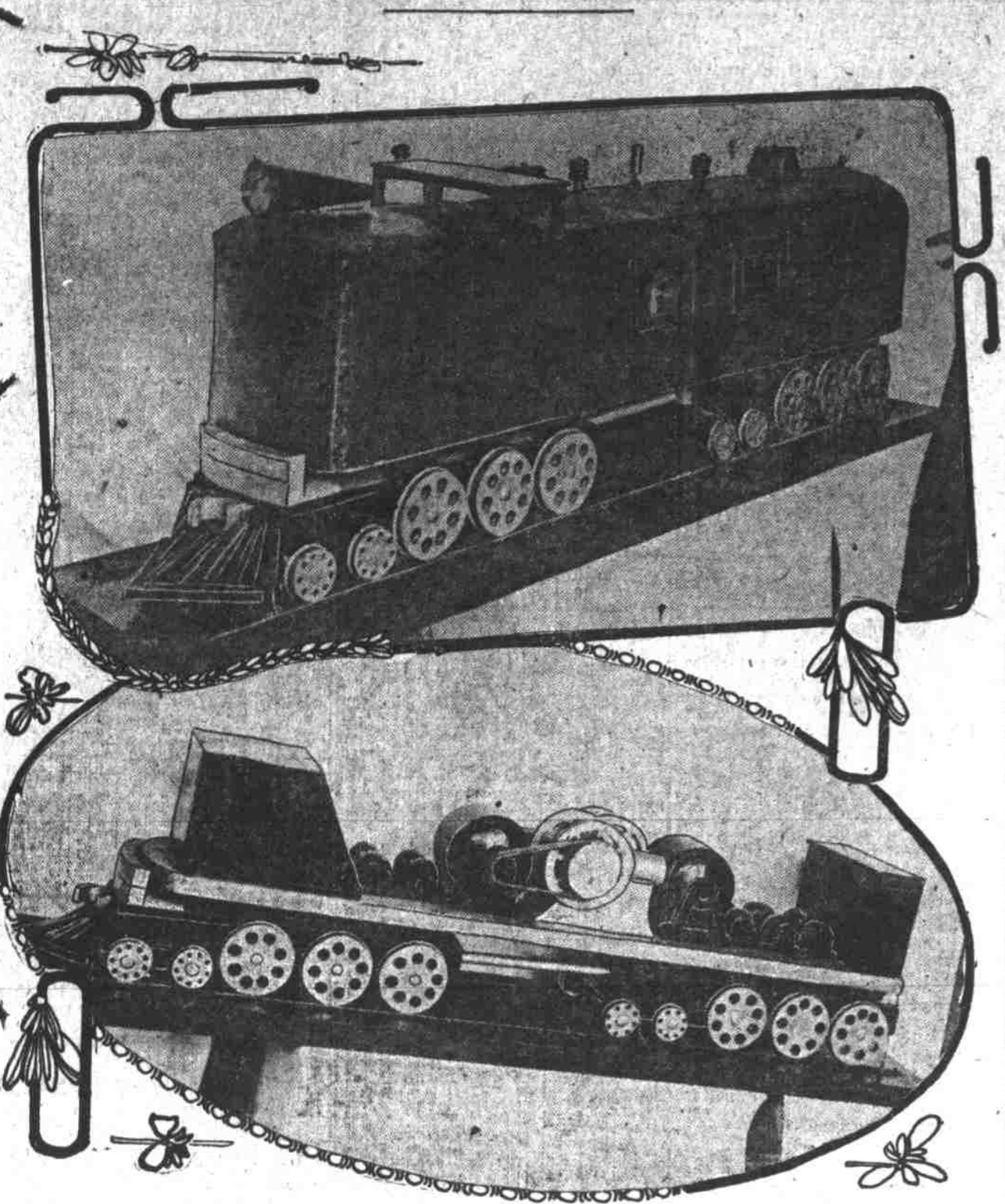


# PORTLAND MEN INVENT AN ELECTRIC LOCOMOTIVE



No. 1—Self-Driven Electric Locomotive. Photographed From Model. No. 2—Same With Housing of Machinery Removed.

Two Portland men have an invention which they claim will revolutionize rail transportation. They are George H. Downs, master mechanic and inventor, and W. E. Grace, his associate, and the machine for which such startling claims are advanced is a self-driven electric locomotive built to supersede the huge steam engines now in use on transcontinental railways.

Four separate patents on original parts have been granted by the Washington, D. C. patent office and all of the numerous claims put forward by the inventor and his associates have been allowed without question. Patents for the castings will soon be made and the first locomotive, which will cost about \$100,000, will be built from the inventor's model, which is about seven feet in length.

A technical description of the invention would be tedious to the lay reader. It is sufficient to say, therefore, that the principle of the engine is the generation of electricity equivalent to the car by means of two 1000 horsepower dynamos, each driven by a 1000 horsepower three cycle gasoline engine. From the dynamos the power is transmitted to motors, which are affixed to the truck bodies under the motor car, and connected directly with the driving wheels.

All machinery is contained in one car, known properly as the motor car. At each end of the car is a tank capable of holding 8000 gallons of gasoline. Directly in the center of the car body are located the two huge dynamos each capable of generating an amount of electricity equivalent to 1000 horsepower. Each dynamo has its individual gasoline engine of 1000 horsepower constructed on a plan invented by Mr. Downs. The two dynamos by means of a silent chain, the old belt and direct driven plan having been done away with by the inventor as impracticable.

Mr. Downs argues that the two 1000 horsepower gasoline engines should and will be capable of causing the dynamos to produce the same or nearly the same amount of power. The cars have 12 driving wheels, six feet in diameter set upon trucks which support the car body on swing bearings, thus allowing the locomotive to negotiate curves at an angle as the ordinary streetcar. Two pony trucks, of four wheels each, are placed at the extreme ends of the cars.

Each of the six axes bearing the driving wheels is directly connected by means of a silent chain with a 100 horsepower double motor. Thus it may be seen that Mr. Downs believes that the car transmits directly to the driving wheels the 2000 horsepower first generated by the gasoline engines.

The speed of this locomotive is unlimited, said Mr. Downs yesterday. "One hundred and twenty miles an hour can be made with perfect safety on a good track. There are several reasons for this. One is that my motors are so constructed as to allow the drive to be taken from a sprocket wheel directly in the center and are connected by a corresponding sprocket wheel to the center of the driving axle, thus allowing each set of two driver wheels to be driven separately from the other sets.

"We have no connecting rods or counter balances in any way interfere with the driving wheels, as on a steam locomotive. For, on the steam engines the piston travel has a limit, but there is no limit of speed to any part of my engine.

"The present steam locomotive of the large standard type is built on a 27 foot wheel base. The driving wheels are connected by what is known as side rods. Therefore, the distance from the front of the first driver to the back rim of the rear driver is perfectly rigid, and when an engine strikes a curve it has a tendency to crowd the upper rail. When a speed of more than 45 miles an hour is obtained on the ordinary track there is danger of the locomotive leaving the track unless the rail is properly aligned.

"But my locomotive, being built on swing trucks and having each driving wheel driven separately, could not possibly leave the track on curves under ordinary circumstances. The curves are rounded without any jar or twist.

"While we intend making three types of locomotives, the plans we forwarded for patent were for a 2000 horsepower engine with 12 drives, with a weight of about 250 tons, and a 95 foot wheel

base. It will be the most powerful locomotive ever built. With the new motor designed by me it will not be necessary for the railroad companies to have steam engines on mountain divisions as helpers for heavy trains.

"There is no more reason why this locomotive should be taken from the train than there is to uncouple a Pullman car en route. The running gear is all automatically oiled from the inside, the fuel is sufficient to run for 10 hours. This it can be easily seen that one locomotive can be attached to the train at New York and run through direct to Chicago without stops for changing engines.

"Owing to the length of the engine and because of its construction it would be impossible for it to altogether leave the track and go off the grade should one set of driving wheels or one truck jump the rails.

"By the removal of the sprocket wheel on the axle on the running gear, the speed and power can be changed, thus making it possible for one motor to be placed on both fast passenger and heavy freight trains.

"The locomotive is built on what is known as the double header plan, having a back and forward engine or motor, each being centrally pivoted on a swing bearing. The car will be 95 feet long and the weight of 250 tons will be equally distributed over all the trucks. It will be equipped with automatic searchlight, telephones, connecting the engineer with all parts of the train and other conveniences.

"The new engine will have but 20 parts. Seventy-five parts now used on the steam locomotive are dispensed with."

Mr. Downs has worked on the locomotive for nine years. He is convinced now that the patents have been issued that it will immediately be taken up by large capitalists and the larger railroads immediately interested.

It is a well known fact that for the last 25 years the railroads have been trying to secure an engine which has just the advantages claimed for Mr. Downs' invention. Mr. Downs is satisfied that he has outdistanced Edison, who has himself taken a whirl at a self-driven locomotive.

## MANY SIDED VIEWS

(Continued From Page One.)

cluded upon to render a change of plans necessary or desirable.

President Roosevelt appointed the engineering commission and they will possibly report to him before he retires from office.

Regarding the canal as the chief problem of his administration the president-elect accompanied the engineers to Panama to go over the work thoroughly before entering upon the presidency on March 4.

**Engineers Investigate.**

On Sunday these engineers, four of whom are said to have been prejudiced against a lock canal, paid a visit to the site of Gatun dam and, as already reported, reached the unanimous conclusion that not only was the dam and the entire lock system feasible and practical, but that, with particular reference to the Gatun dam itself, it is perfectly safe and that more precautions have been taken to make it safe than the conditions really demand.

Under the circumstances, then, the president-elect visited the dam site to make a personal inspection. The engineers accompanied him. The chief object of attention, of course, was the point on the toe of the dam where the slide occurred.

To the unpracticed, inexperienced eye it undoubtedly looks serious. About the center of a rocky foundation 60 feet high there is a depression of about 10 feet, 20 feet across, semi-circular in form, which beyond a doubt looks as though it had sunk of its own weight. The suggestion of the opponents of the dam that the underlying soil is not strong enough to support the dam, and will give way under pressure, is clear enough. But there is another side to the matter. I asked Colonel Goethals what he thought of it.

**Of No Importance.**

"I have never regarded it as important," he replied. "The slide was not down. As a matter of fact, we have had five of the same kind. It was to be expected. The foundation was piled up here loosely, because the intervening space that you see here, pointing to the gap of 1200 feet between the two walls of the dam, is to be filled with silt, which is impervious to water. Had there been any support for this rock foundation the slide would not have occurred. It would have been held up, the pressure being absorbed on all sides. There will be absolutely no danger of any slide when the con-

struction of the dam is completed. Looked at from this viewpoint, the problem assumes a different aspect. Consider this, also: Colonel Goethals is in charge of the work. He has investigated fully the underlying soil; he has considered the matter from every scientific viewpoint. This dam is the crux of the entire canal. If the dam is a success the canal will be a success, and George W. Goethals will take rank among the world's great men. If it fails—

Mr. Taft examined the dam site from every viewpoint and was carried from point to point in the special train which was always in waiting for him at Culebra. He asked hundreds of questions and it was not until he had exhausted the subject and was conducted into the site of the upper lock—the one nearest Colon—that a smile of satisfaction broke over his serious face, and with a glow of patriotic pride he exclaimed to one of the party:

"Do you grasp it now, Bill? Do you see what a tremendous thing it is, and yet, after all, how perfectly simple under the plans laid down?"

**Mrs. Taft's Inspection.**

He and Mrs. Taft constantly alighted

from the train and climbed over rocks and dirt beds—Taft talking with the engineers and explaining the work to his wife.

## LOCK TYPE PRACTICAL SAYS COL. GOETHALS

Washington, Feb. 13.—That the lock type for the Panama canal is practical and will be adopted in the construction of the big ditch was the statement made tonight by Colonel Goethals, chairman of the canal commission and chief engineer of the project, who has returned to Washington.

Colonel Goethals declared the sea level canal was not even under consideration. He said President-elect Taft apparently was well satisfied with the progress of the work, as well as with the general plans.

"The canal will be built and ships will be navigating it by January 1, 1915," he said. "I am to appear before the house committee on appropriations Monday, when I will be prepared to give an estimate of what, in my judgment, the canal will cost when completed."

## SCHLEY SAYS

(Continued From Page One.)

The American people that they will insist that the matter be provided with those instruments which will really insure peace.

"For instance, we will take Great

Britain. Not in 100 years has she had a naval battle nor a war with a nation that had cause to defend. You ask the reason why? Well, while nations have been angered at Great Britain and have wanted war with her, they have not dared to go against England because they knew that war would be disastrous.

"I have read with much interest the proceedings emanating from year to year at The Hague. They are intensely instructive. But you know, as I know, that every government represented at The Hague conference goes there with a memorandum of its battleships, its guns, and its men and its money.

"The safest road to peace is a navy. I do not mean that we should have an extravagance of ships floating idly upon the seas, manned by dilettantes from executive apartments or that names of the vessels should be gilded in letters of gold or their searchlights emblazoned with diamonds; but I do say that if the United States had a fighting water force superior to that of any other power we would be free from prospects of war than we are now or than we will be until we assume that position.

"A perfectly equipped army, a navy of formidable size and strength, a people with money and resources, as the United States have, would be an absolute guaranty against war for all time to come. And God knows we people of the navy and our friends of the army wish that our country were so situated there should never have over us the cloud of battle.

**Nation of Peace.**

"Ours is a nation of peace. We adhere to Christian ideas. We bow to the

altars of religion. We know that we are happier when there are no troubles among our neighbors, much less among ourselves.

"The United States have arisen to a power of commanding respect by the history of our men. Never in our history have we sought trouble. If we have gone into battle it has been to brighten the torch of liberty and to place manhood where manhood belongs. This country has been the light, and is now the light on the mountain top. Please God may it always be. It is the hope and ambition of every true American to teach his less enlightened neighbor and to point out to him the paths of accord.

"Japan has become a wonderful nation, and the progress and energy of the Japanese people are a blessing. Civilization needs such energy as Japan is displaying in the orient. The people over there have been asleep. Our little brown neighbors have awakened them. But in doing so they have aroused other nations, and some of them have become jealous.

"If it were in my power I should line the Pacific with naval stations, with drydock stations, shipbuilding yards, where fighting vessels like the dear old Oregon could be constructed on short notice. And I would keep a competent force at all of these places, being ever for harbor defenses, pegging away upon new hulls and modern warship construction.

**Spring Suits.**

Buy your spring suit and dresses at La Palais Royal, 315 Wash. st.

## SHOCKING DEATH OF A VAGRANT

### One-Legged Man Ground by Trucks Loose on a Flatcar.

San Bernardino, Cal., Feb. 11.—Death in shocking guise came to an unknown, one-legged vagrant somewhere on the desert, according to reports from Barstow. The tramp was standing a ride on a Santa Fe flatcar loaded with car wheels. The wheels broke loose and rolled back and forth over the body of the helpless man, who was unable to escape from the car. He was soon ground to an unrecognizable mass. The tragedy was discovered when the car arrived at Barstow today.

**Inmate Patient Drowned.**

Stockton, Cal., Feb. 13.—J. Stigliano, an inmate patient at the local asylum, was drowned in a bathing tank at the institution this morning. Stigliano was brought here from Agnew, following the earthquake.

# SPECIAL OFFERING

You can save enough in the purchase of your Suit at this store during the week to supply you with the accessories for your costume—new waist, gloves, collars, hosiery, etc. NOW ON SALE at this popular-priced store, a line of travelers' sample suits, bought for 60 cents on the dollar and sold for same. Samples are ALWAYS the best-tailored goods on the market. A line of handsome serge and novelty Striped Worsteds, in all the popular shades, fitted or semi-fitted, new dip cut or straight, trimmed with buttons and folds, three-quarter length coat, at this bargain price ..... **\$24.95**

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|--|---|---|---|
| <b>COLORED DRESS GOODS</b>   | 42-inch Mohair stripe suiting, colors mode, reseda, brown, taupe and Alice; special ..... <b>\$1.00</b>             | 36-inch Pongee Silk and Linen for waists and suits, in the tan color only; special ..... <b>\$1.00</b>    | 36-inch Spun Glass in black and all colors, for lining jackets, etc.; 25c value, special ..... <b>19c</b>             |
| 44-inch mixed Suitings in the latest stripes, in mode, reseda, taupe and gray; special ..... <b>\$1.00</b> | 44-inch Melrose suiting in the new shades of green, blue, brown and tan; special ..... <b>\$1.00</b>                | 42-inch satin Prunella, plain, beautiful luster, heavy weight and good value; special ..... <b>\$1.00</b> | 36-inch satin-finish Satine, in all colors; reg. 40c grade, special at ..... <b>29c</b>                               |
| 42-inch satin Prunella in stripes and plain, in taupe, green, brown and blue; special ..... <b>\$1.00</b>  | 44-inch Poplin suiting, all new shades and heavy weight, colors green, brown, tan and gray; spl. .... <b>\$1.00</b> | <b>SPECIAL SALE LININGS</b>   | 36-inch Nearsilk Lining in all the new colorings; resembles taffeta silk; regular 40c value, special ..... <b>29c</b> |
| 42-inch satin stripe Prunella, of beautiful finish; good weight; spl. .... <b>\$1.00</b>                   |   | 36-inch Satine, beautiful finish and good value at 30c, special ..... <b>21c</b>                          |   |

## In Underwear, Hosiery and Waists

- |  |  |   |  |
|--|--|---|--|
| New spring styles in 'lingerie' Waists, well made and daintily trimmed; come in plain white, checks, dots and stripes; while they last, on sale at this price, each ..... <b>98c</b> | Children's fine ribbed black hose, sizes 5 to 9; 25c grade, spl at this price ..... <b>17c</b>                                       | A special lot of Aprons for waiters and cooks; also ladies' Aprons in plain and fancy styles, small or large, with or without bibs; regular 40c values ..... <b>25c</b> | A choice assortment of ladies' muslim Skirts and slipover Gowns; very well made and daintily trimmed with lace and embroidery; on sale ..... <b>\$1.19</b>                             |
| A special line of ladies' strictly tailored Waists, with pleated fronts, starched cuffs and separate linen collar; a splendid value for \$2, on sale ..... <b>\$1.29</b>             | A fine line of lace-trimmed Corset Covers in all sizes and a great variety of patterns; regular 50c values, on sale ..... <b>29c</b> | Bargains in every department. Come in and see them, and compare prices with other stores. We'll be glad to have you. Our goods will stand the test.                     | Our Linens are known for their quality by hundreds of ladies in Portland and the northwest. The prices speak for themselves. Be sure and replenish your linen closet during this sale. |

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- The intelligent use of Herpicide proves its actual worth**
- "I am delighted with Herpicide. I have never used a remedy that gives such marvelous results. The effect on my son's head is magical and he had a very persistent case of dandruff."  
(Signed) MRS. J. L. MOORE, Paulding, Ohio.
- "I must tell you that your remedy for the hair is working like a charm and I am very much pleased with it. The itching has stopped and new hair is growing. I shall recommend it to all my friends."  
(Signed) MRS. I. KINNEY, New Haven, Conn.
- "I can say from experience that Newbro's Herpicide is the most wonderful hair grower and dandruff eradicator that was ever made. I have used it for some time and can truthfully say that I am greatly pleased with it. I cheerfully recommend it as a splendid preparation."  
(Signed) MRS. DR. BEST, Cottage Grove, Oregon.
- "It gives me great pleasure to add my commendation of Newbro's Herpicide. A member of our family has used your remedy with very satisfactory results."  
(Signed) MISS A. E. CARUTHERS, Tampa, Florida.
- "Newbro's Herpicide is certainly the best remedy for dandruff and itching scalp I ever used. I have told several persons about your preparation and will tell every one I have an opportunity to. I can not praise Herpicide enough for what it has done for me."  
(Signed) MRS. A. PFAENDER, Shimer, Texas.



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