BRAKE SYSTEM BEING TESTED

SOUTHERN PACIFIC MAKING NEW EXPERIMENTS

WESTINGHOUSE COMPANY AIDS IN DEMONSTRATIONS

Operations at Bassett, to Be Repeated Elsewhere, Expected to Effect Great Economies and Add to Safety

With an eighty-car train of oil tanks that weighs 4,000,000 pounds and stretches down the track for three-quarters of a mile, the Southern Pacific railway and the Westinghouse Airbrake company are making a series of airbrake demonstrations that will be the most comprehensive of anything of that character ever attempted by any railway in the United States.

For almost two weeks the crew of thirty-seven men has been with the train at Bassett, on the main line, riding back and forth between Bassett and Puente.

It is the object of the Westinghouse company to demonstrate that a new triple air valve that they have perfected is superior to the ones now in use by the railway company.

A series of draught gear demonstrations was also made to show the relative difference between the efficiency of the old-style spring gear and a new friction gear.

A staff of engineers from the Westinghouse offices in the east and a staff from the coast offices of the Southern Pacific are in charge of the demonstrations, the success of which will mean much to the traveling public in increased safety and lesser shocks from the bumping of the cars.

From the freight shippers' standpoint the series is all the more important, as the new friction draught gear so reduces the shock incident to stopping any long train of cars that the goods can be handled with less damages than heretofore.

Under the present system a strong spring minimizes the shock when the rear end of a train piles up against the head cars, but the energy stored up kicks back to such an extent that a heavy packing case is often thrown the entire length of a car.

It takes approximately 200,000 pounds to compress one of the big springs in a car bumper, and all that energy is turned loose as soon as the car stops. The jerk that is felt when a train stops is not because it stopped too suddenly, but because the springs sent the train backward immediately.

Will Eliminate Friction

The harder the push against the new friction gear the more it resists and the less the resistance becomes as the pressure is reduced. Besides that feature there is no kick back, as the friction is simply eliminated when the motion of the car stops.

In demonstrating the draught gear with the old style the rear car, which was the dynamometer car, or "brain wagon," as the train crew calls it, showed on the measuring gauges with which it is equipped an impact of 62,500 pounds when the train was brought to a sudden stop from a speed of five miles an hour. That means a sudden jar, with more than thirty tons' pressure behind it. Needless to say, everything in the car moved and most of the engineers moved before the shock.

During the draught gear demonstrations a dapper little Englishman, representing a local paper, went out to ride on the train and get a story about it, but one trip was enough. When the engine stopped and the "brain wagon" ran on until it bumped into the next car, which had likewise bumped the one in front of it, the native of the "right little, tight little island" made a flying leap out of the side door and stopped only when he reached the road beside the right of way. Thenceforth from a distance of 100 feet from the train he got his data and facts, such as he did get.

When the crash came, and it was only a minor one of 22,500 pounds, some bottles of Shasta water were broken and made a rather loud and startling report. The Englishman was told that the ice box had blown up, which, swore the crew, was a very usual occurrence.

The newspaper man decided that demonstrating the efficiency of friction draught gear was too strenuous a life for him and remained deaf to the invitations of the crew to get on board the dynamometer car again.

The shocks that came from the airbrake demonstrations were not so severe, yet they made the men cling on to the many hand holds inside the car when the bump came.

A series of demonstrations will be made with the present type of valves in use, with a combination of the present and the improved type, and with the new type alone.

At Various Rates of Speed

Runs are made at speeds of five, ten, fifteen, twenty, twenty-five and thirty miles per hour. And at each of these speeds the train is brought to a stop with air pressure reductions of five, ten, fifteen and twenty pounds per square inch.

At the low speed, with a great reduction, the greatest shock comes because the front of the train is brought to a stop before the air can act on the rear cars. With the present type of triple "H" valves it takes from sixty to eighty seconds for the air to act on the rear cars after it has taken effect on the front end.

With the new triple "K" the air not only acts in less time, but the air operates more quickly on each individual car, setting the brakes more quickly. In releasing the same amount of time is gained, saving considerable waiting. To start a train of eighty cars the engineer must wait from a minute to a minute and a half for the brakes to release and then gradually apply the power to prevent pulling the train in two. In backing up the engine has to be sent ahead until all the slack in the train, about forty feet, is taken up, and the train is started a car at a time as it bumps the back one and sends it rolling along.

With the new type of valve, it is claimed, and the demonstrations are being made to show it, not only that the train can be stopped more quickly with a given air reduction, but this can be accomplished with less jar and strain. Everything that tends to reduce the jars that are always happening to a freight train will reduce the amount of damages to goods in transit and will reduce the wear and tear on the equipment, thereby giving longer life to the train and saving a very appreciable amount of time.

All these things will bring larger dividends to the stockholders, permit of a reduction in freight rates and, which is of greater advantage, afford greater safety to passengers, train crews and goods. The efficiency of the air braking system will be increased at least 60 per cent with the use of the new valve, according to the showing made in the demonstrations by the Westinghouse company.

With half new and half old the percentage of gain is greater than one-half, as the old valves act with greater efficiency in conjunction with the new type.

In distance it will mean that with the present type of equipment a train that it has been hitherto possible to stop within 1250 feet can be stopped with less bumping in 500 feet, using the same air reduction on the brakes.

Beaumont Trials Next

After the demonstrations are completed near Bassett the engineers will go to Beaumont and make demonstrations with heavy tonnage, hauling trains of water-laden tank cars over the Beaumont hill with its 2 per cent grade, and ascertaining the distances in which different tonnages will stop with definite speeds and air pressure reductions. From Beaumont the big family of engineers will go to Oakland and the demonstrations will be repeated, but with high speed and high powered passenger trains. It is the desire of the engineers to attain speeds of from eighty-five to ninety miles an hour on the West Hayward division.

After Haywards will come the demonstration in the Siskiyou mountains, where the trains will be pulled over 4 per cent grades and the supreme braking test will be made, as the short curves and steep grade add an element of danger not present on the straight tracks.

With the four sets of demonstrations—freight trains empty on a level track, loaded freights on a 2 per cent grade, freights on a curved 4 per cent grade and high speed passenger service on graded tracks—the railway officials and the Westinghouse company will be in possession of valuable data.

It will cost approximately $100,000 to make the series of demonstrations, but the knowledge gained will be used to advantage in spending sums many times that for equipment, and will effect savings that will represent dividends on still greater amounts of money.

Outside of the monetary consideration, the engineers are paying particular attention to the increase in the factor of safety on trains by the use of the new equipments.

Already the Los Angeles division is hauling the longest freight trains that are pulled, and when the company equips its trains with the new valves and draught gear the trains probably will be extended to a still greater extend, as the factor of control enters now largely into the handling of trains. To handle a long train of cars that stretches away back behind the engine for nearly a mile requires a fine degree of skill and judgment.

Gauging Speed Closely

The speed that is desired by the engineer is telephoned to the locomotive by a wire that extends the length of the train, and by the aid of a speedometer the engineer sets the speed. The closeness with which he approaches the speeds desired is remarkable. In one instance where thirty miles an hour was wanted the train actually made thirty and one-tenth.

W. L. Hack handled the throttle in all the tests at Basset and E. L. Anderson did his firing. The keeping of the steam at an even pressure is essential to a consistent rate of speed, and the Westinghouse engineers say they never have known a series of freight train demonstrations in which the speed made was so close throughout all the runs to the speed desired as it has been at Basset.

In the dynamometer car are the instruments that give the measurements from which the final summary of the demonstrations is made. In a huge cylinder at one end of the "brain wagon" and connected with the draw bar are many gallons of glycerine, and when the draught gear tests are made the pressure is registered through a piston which operates against the glycerine and indicates te pulls and bumps on a dial in front of the engineers.

The chronograph is the most interesting instrument that is in the "brain wagon" and on a roll of paper it writes a record of the time consumed in making the run, the revolutions of the wheels, the air pressure and the instants at which the air is applied to the brake pipe. On the air valve handle in the locomotive is an electric switch, and an electrical impulse is sent the length of the train and recordeded in the dynamometer car and in the "dog house" as well.

The "dog house" is a temporary cab built on the last oil tank to protect the men and instruments there. One is also built on the twenty-fifth car.

When the air is applied the impulse moves a pen which leaves a little mark projecting from the long line which it draws as the band of paper passes under it. At the same time a pencil point is recording the variations of air pressure being operated by a tiny cylinder connected with the brake pipe. Every revolution of the wheels under the dynamometer car is registered on one edge of the strip of paper, while a pen on the outer edge is notching off the seconds.

Taking Exact Measurements

By comparing the revolutions of the wheels with the second marks the speed is reckoned, while the distance in which the stop is made is taken from the point which the air pressure mark shows to the end of the revolution record.

On the side of several of the oil tanks are small chronographs to record the time that it takes for the air to act on the brakes at different points on the train.

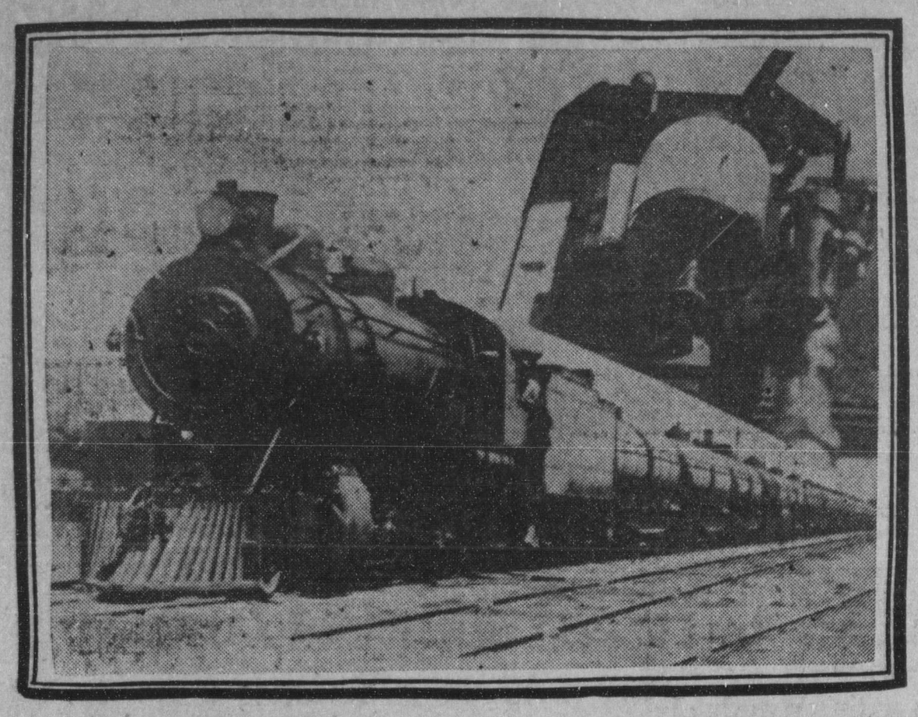
In the smaller instruments, as in the lower, strips of paper pass over drums run by a clock mechanism and the air pressure is recorded by a pencil moved by a cylinder.

The application of the air is transmitted electrically from the air wave in the engine and recorded as a notch in the long line on the paper band. All that is left for the engineers to do is to figure results as shown by the chronograph and compare the different equipment from the curves obtained by the various demonstrations.

H. H. Forney of San Francisco, general air brake inspector for the Southern Pacific, is in direct supervision of the demonstrations, while C. C. Farmer is head of the staff of the Westinghouse engineers.

Various officials of the railway and the Westinghouse company are frequently in attendance, but thirty-seven of the men are on the job all of the time. For their comfort and convenience a train of two Pullmans and a diner is kept on the siding at Basset, and all the comforts of a hotel except a bath room are provided.

Train of Cars Used on Air Brake Tests and One of Instruments



NEW ZEALAND PROSPEROUS, SAYS PROMINENT ISLANDER

William Hunsley Makes Long Trip from the Antipodes to Visit Brother-in-Law in Los Angeles

William Hunsley of Christ church, Canterbury, New Zealand, is visiting at the home of his brother-in-law, W. H. Gribble, 1156 East Vernon avenue.

Mr. Hunsley is a well-known business man of New Zealand, being proprietor of a large saw milling establishment. He says conditions in his faraway land are good and that in spite of some labor troubles general prosperity continues.

This is Mr. Hunsley's first visit to California and he likes it. New Zealand, he says, buys large quantities of California's famous redwood lumber.

Mr. Hunsley leaves today for the north, where he will visit a sister before returning to New Zealand.

WOMEN'S NECKWEAR

Lace berthas, fichus and capelike collars are to be abundantly worn, but with the pretty addition of a half-inch velvet fold around the neck and down the front edges. Some are further finished with ties of thin silk, like the fold in color, which are brought down to the waist line in front and finished there with pretty rosettes; or, they end over the bust in tiny tassel drops. It is astonishing what a change this bit of velvet, crepe or faille fold will bring about in a lace collar! It makes a real garment of it! Plain satin, ribbon, faille, velvet and also Pompadour ribbons are used for this purpose, and as a natural sequence to the figured ribbon, neck folds are seen here and there on which soutache and gilt threads are patterned. These are perishable and costly additions, and to tell the truth appear to be overelaborated; besides which they are likely to catch in the hair in the back and so prove uncomfortable. — Harper's Bazar.

Can Such Things Be?

She—I see a cooking school and a nursery are among the innovations to be tried soon in Seattle.

He—And is there no Society for the Prevention of Cruelty to Children in Seattle, I wonder?—Yonkers Statesman.

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50th Quarterly Report, July 1, 1908

Resources:

Balance due on houses sold on monthly installments, secured loans and houses under construction	$1,298,592.35
Building Material company stock, including two lumber yards, lumber and planing mills, warehouses, shops, factories, teams, etc	161,740.00
Stock in Globe Savings Bank at par (market value $60,512.00)	49,600.00
Real Estate at original cost (market value $451,123.16)	165,822.81
Fixtures	3,232.50
Cash on hand	27,250.48
	$1,706,238.14

Net Assets:

Capital Stock paid up in cash	$901,558.00	
Surplus and undivided profits	606,558.01	
		$1,508,116.01

Liabilities:

Home Certificates and Mortgages assumed (no unpaid bills)	$ 198,122.13
	$1,706,238.14

Globe Savings Bank and Citizens National Bank Depositaries

Net profits for past quarter $95,511.05.

Net profits for past six months $164,456.20.

Our net profits since the financial panic commenced $234,384.37, of which $122,184.40 has been divided in cash dividends.

The Company has under construction more work than ever before in its history. All completed houses, and most of the houses under way are sold. Our mills, lumber yards, material stores are now handling more materials than ever before in their history, and expect a record-breaking business this fall.

Total number of stockholders 1238.

Have placed block of $25,000.00 worth of stock to be sold at $2.45 per share. All stock purchased by July 31st will participate in the 50th Quarterly Cash dividend payable August 15th.

No Stockholder in This Company Has Ever Lost a Cent by Being Compelled to Sell, Even During the Late Panic

DIRECTORS

CHAS. A. ELDER, President and Manager; CHAS. CASSAT DAVIS, Vice President and Attorney; W. D. DEEBLE, Secretary; G. M. DERBY, Treasurer; A. P. THOMPSON, Associate Attorney; C. L. BAGLEY; HARRY D. RODGERS.