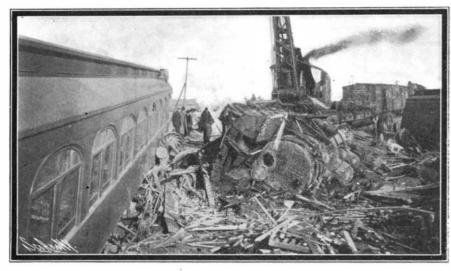
Scientific American

PULLMAN CARS IN RAILROAD ACCIDENTS.

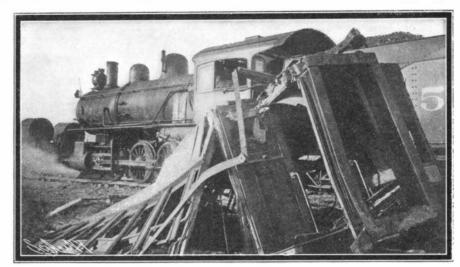
It is during the Christmas season, and for a few weeks before and after, that experience has taught us to look for a great increase in the number of railroad accidents. We thought that last year was a painful record; but it has been exceeded by the list of horrifying disasters that have marked the past two months. We present illustrations of a wreck that occurred recently on the Frisco system at Godfrey, a small station near Fort Scott, Kansas. The collision took place early

Pullman ears off the trains and the loss of life will be reduced to a minimum. But if, as your note would indicate, you would build the entire train as the Pullmans are, you will not have overcome the difficulty. With no light cars to crush and deaden the impact the shock would be so great, coming to a dead stop from a speed of say 60 miles an hour, that almost every passenger would be killed. I do not believe the remedy is so much in the strength of the cars as in the manner of operating the road. If all the cars were built like the

injuries to the occupants of the two cars. No one was killed, or even seriously injured, in the private car. This was a case where the Pullman, after mitigating the shock by the amount of its own inertia, was strong enough to transmit what was left of it to the train ahead without suffering serious injury itself. The point made by our correspondent that, if all cars were built as strongly as the Pullman, the passengers would be killed by the shock of suddenly arrested motion, is, we think, very much open to question. They would



The Wrecked Engine and One of the Pullmans of the Express; the Latter is Practically Uninjured.



Vestibule and Portion of Side of Day Coach.

RESULT OF A COLLISION AT SIXTY MILES AN HOUR.

in the morning of December 21, 1903. It seems that the brakeman on a freight train which was standing on a siding at Godfrey had been sent out to flag the "Meteor," a fast passenger train, which was due at the time. The express thundered up to the little station at a speed of about 60 miles an hour, and seeing all clear, the engineer carried his train through with the throttle well open. The brakeman either failed to do his duty, or his signal was not seen, and the express crashed into the freight, with the result that twelve persons were killed and a larger number were seriously injured. The wreck of the train was almost complete. The engine was stripped of everything that could be torn away, cab, fittings, smokestack, etc. The tender was completely wrecked, as were the mail car, the baggage car, and the smoker. It is significant, as will be noticed from one of our engravings, that although the first-class coaches and the baggage and smoker were so badly wrecked, the Pullman showed its usual resisting qualities, to which we referred a few weeks ago in this journal. It will be seen that the particular car shown in our illustration has all of its windows intact but one, which is slightly broken.

A correspondent, Mr. D. N. Byerlee, of Hood River, Oregon, has this to say on the subject of the safety of Pullman cars: "If you will but consider that the mail, baggage, and day coaches act as a sort of cushion between the Pullmans and the engine, you will realize the saving to the Pullmans and the greater than ordinary damage that will result to the day coaches and their passengers. This is really the fact. Keep the

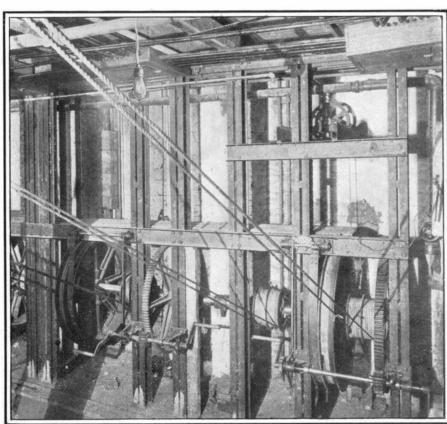
Pullmans it would equalize the death rate, and perhaps lower it somewhat. But when we have a perfect block system and our government enacts such stringent legislation as holds in Mexico and enforces it as rigidly as they do in Canada, we shall hear of very few casualties indeed. Twenty-one years' experience and observation in railway service confirms me in the belief that 90 per cent of the casualties are due to carelessness and recklessness, and this certainly is criminal." We fully agree with our correspondent that the position of the Pullmans at the rear of the train conduces largely to the immunity of Pullman passengers from death or serious injury; but it by no means follows that were the case reversed, and the Pullmans placed in the middle or at the front end of the train, they would telescope and crumple up with the same fatal effects that occur in first-class day coaches. As a matter of fact, the Pullmans, by their position at the rear of the train, are occasionally called upon to take the full brunt of a rear-end collision. Recently one of the leading engineers on the Rapid Transit subway in New York described to the editor an instance of this very form of accident. He was in a day coach in the middle of a train, at the rear end of which was the private car of a well-known manufacturer of air-brake apparatus, which while stopped by signal outside the Harrisburg station, was run into by a heavy Chicago and New York express. The private car received the full shock of the collision and proved strong enough to transmit it to the train ahead, pushing the cars together and causing the two day coaches ahead of it to telescope, with a result of 50 per cent fatalities or

be badly bruised, and limbs would be broken perhaps; but there would be none of the grinding, crushing, and tearing of limb from limb that marks the telescoping of two cars.

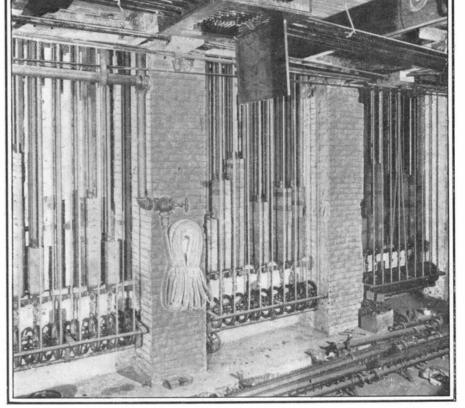
At the same time our correspondent unquestionably hits the nail upon the head when he attributes the loss of life not so much to the weakness of the cars as to the careless manner in which our roads are operated. As long as trainmen consider that rules relating to the running of trains are elastic and subject to modification at the will of the individual employe, they will continue to slaughter people in the brutal manner that has characterized the past few weeks. In the older countries the railroad cars, compared with our day coaches, are mere eggshells in strength, and yet we know that during the last year of operation on the roads of one European country, not a single passenger was killed. Judging, however, from the slow progress that we are making, it will be many years before our trainmen have learned to render our block system effective by implicitly obeying them; and until that time has come, we certainly think that it would be advisable to build our cars so that not even combined stupidity, carelessness, and willful neglect of signals can wreck them.

THE NEW STAGE OF THE METROPOLITAN OPERA HOUSE.

"Bayreuth," "Parsifal"—what splendid names to conjure with! Now, thanks to the new stage of the Metropolitan Opera House, we have our own Bayreuth



Copyright 1904 by Munn & Co.



Copyright 1904 by Munn & Co.

904 oy munn & Co.

Counterweights for the Drop Scenes and Borders.

Winches for Raising and Lowering the Bridges.