

self-possession of a matadore awaiting the deadly rush of a maddened bull; and far more depends upon the engineer's watching well, because, if he fails by a hair's breadth in coolness or precision of judgment, there may come destruction, not only to himself, but to hundreds of passengers, who, while he stands guard, are perhaps grumbling at the waiters in the dining-car or telling funny stories in the smoker.

In addition to this constant mental tension, the engineer on this hurling train has to endure material discomfort, often bodily suffering. The air sweeps back in his face with the breath of a hurricane, blowing smoke and cinders into his eyes. Most people know the intense pain a cinder causes in a man's eye, particularly a hot cinder. The suffering is almost unbearable; and yet, suffering or no suffering, the engineer who gets a cinder in his eye can have no relief until the end of his relay. They shut their lips, these unflinching men, keep looking ahead, and bear it. Long after they leave the cab the burning sensation in their eyes and eyelids continues, and even persists after hours of sleep. "It seems as if nothing would rest my eyes, sir," said one of the new men after his first week on the flyer. No wonder the eyesight of engineers fails rapidly; no wonder many of them are removed from their positions every year, because the examining doctors find them unable to distinguish the signals. The engineer suffers also from the plunging and tossing of the monster locomotive, which bruises his whole body with its violent rocking, and causes sharp pains in the back, particularly where there is any tendency to kidney trouble. One has only to watch these strong men as they stumble down from their engines at the end of a relay, has only to observe their white faces and unsteady gait, and see the condition of physical collapse which follows, to understand what it costs in vitality and grit to give the ease-loving public this incomparable train service.

Thus it is that, while the New-Yorker gets to Chicago with scarcely more discomfort than if he had remained at home, the same journey wears out seven engineers, all picked men; for many of them who have seen years of service on trains running forty miles an hour, break down entirely when put upon the flyer. So exhausted are these seven engineers by their comparatively short relays, that they are obliged to lay off entirely during the following day, to recover from the shock. They do not even take the opposite-bound flyer back over their stretch, but return with their engines to their respective starting-points, drawing slower trains. Thus seven strong men do two days' work every time the flyer runs from New York to Chicago, and seven other men do two

days' work every time it runs back. Each engineer works three hours on the flyer, returns home on an easy train, and then rests forty hours before his muscles and nerves and brain are in condition to repeat the operation.

So it results that twenty-eight engineers, one at a time, are required to run this wonderful train from New York to Chicago and back again. Fourteen veterans drive the great engines one way, and fourteen brother veterans drive them the other. Twenty-eight men for a single complete trip of a single train, and they the flower of American engineers,—splendid fellows, every one of them,—with cool heads, staunch hearts, and the experience of years at the throttle. The fact is, these men of iron, who, after all, are made of flesh and blood, have been called upon of late years to bear a mental and physical strain which has increased steadily as the speed rates have advanced. Forty, fifty, sixty, seventy, and now eighty miles an hour; each greater velocity has meant greater pressure, not only on the boilers and cylinders, but on men's brains; has meant greater expenditure, not only of coal and dollars, but of nerve force, until now experts recognize with concern that the limit of human endurance has been almost reached. Science may remove the mechanical difficulties in the way of running a hundred miles an hour, or more, for such a rate has already been predicted; money may buy better axles, wheels, lubricators, and machinery, but where are the men who will run these trains of the future when they are built? Can science breed us a race of giants? Can money purchase an immunity against suffering, or eyes that are indestructible? If twenty-eight engineers are required to-day on the Chicago flyer, how many, pray, will be necessary on a train running fifty or one hundred per cent. faster?

—CLEVELAND MOFFAT, IN McCLURE'S MAGAZINE.

What the Engineer's Whistle says.

An American railroad manager jotted down in dashes the engineer's whistle signals with their meaning:

"One long blast (thus: —) is sounded when approaching stations, junctions or crossings; two long and two short blasts (— — — —) when crossing a waggon road; one short blast (—) is the call for brakes; two long blasts (— —) orders brakes off; two short blasts (— —) means "all right, I understand;" three short blasts (— — —) means "I want to back the train when you are ready;" four short blasts (— — — —) is the call to the switchman to show the signal to go ahead; five short blasts (— — — —) orders the brakeman to run back and display a danger signal for next train."

The largest amount of new business in one week ever placed before the Board of Directors of the Canada Life Assurance Company was at its last weekly meeting for 1893, when new assurances for over one million three hundred thousand dollars were passed upon.