

placed on the top of it a huge dragon painted green. He also gave instructions that all the country through which he intended to progress should be posted with gigantic pictures of his procession, and that his arrival should be made extensively known by advertisements in all the towns and cities through which he was about to make his circuit. The monster engine after one preliminary break down, was delivered to him at the Pavilion, in Whitechapel, on the 9th of July; and on that day the plaintiff and his troop in five vans, drawn by the engine "No. 1," started for Camberwell. It took seven hours to reach Camberwell, and the driver accounted for his slow progress by saying it was necessary to go slowly in order not to frighten the horses in the streets. From Camberwell it took 10 or 11 hours to reach Croydon, though the engine had only 11 tuns to draw. On entering Croydon the procession was formed in the midst of a large and wonder-gaping crowd, but all at once the engine stood still, the reason assigned for which was, that the waterpipe was putting the fire out. The people began to hiss and hoot, and the plaintiff got away to his hotel, and after his performance came up to town and saw Mr. Hanson. Another engine, "No. 4," was then sent down as a substitute, and with that the plaintiff started to Bromley, and next day to Dartford, where "No. 4" stood still in the middle of the road. The steerer said one of the pumps had got out of order, and it was impossible to go on that day. The plaintiff could not perform at Dartford, and came back to London, and saw Major Campbell, one of the defendants, who said he was very sorry, and told him to go back and get horses, and the company would pay for them. He accordingly got horses, and went to Dartford and Gravesend with his company, and performed. In consequence of the delay thus occasioned, the plaintiff said he was unable to keep his engagements; and the great expense which he had incurred in advertisements and procuring large colored posters from New York was thrown away. The engine "No. 4" rejoined the plaintiff "on circuit" at Rochester; and on leaving that city for Maidstone, "No. 4" took a start down a hill at the rate of about 60 miles an hour, but was stopped by running against a bank; breaking several of the carriages. The plaintiff left the engine on the road, and went on to Maidstone with horses, and then came up to London and explained to the directors what had happened. It was then arranged that the plaintiff should have William Bray, the son of the inventor, as his driver; the previous driver being considered incompetent, and eventually William Bray made his appearance at Tunbridge Wells with a new engine, "No. 6." Affairs went on pretty well for about a fortnight; but when the "circuit" arrived at Dover some difficulty was made by the turnpike man about the toll. On one occasion the plaintiff said he had been compelled to pay as much as £11 for toll; but when he arrived at Dover he took the precaution to go into the town and consult an attorney as to the amount of toll which could legally be demanded, and being informed that 4s. 6d. was the legal toll he tendered that sum. The gatekeeper, however, was not satisfied, and refused to open the gate; and thereupon the plaintiff, being determined to "go ahead," ordered the engine-driver to drive through the gate. This was accordingly done, as the gate presented but a feeble resistance to the monster engine; and the plaintiff of course, got involved in some legal disputes. The next mishap occurred in Brighton, where the procession was then making the parade of the town. On that occasion the crank-shaft broke. This obliged the plaintiff to come to London to get a new shaft, and again to hire horses to Worthing and Chichester. The engine went all right to Winchester, but there the water put the fire out. During this period the plaintiff wrote frequent letters to the defendants and complained of the engine as useless, but he still took it on with him, though it was unable to do more than carry itself along. The plaintiff went to Basingstoke and Newbury, at which latter place the engine became a wreck, and the plaintiff came up to town to see the defendants on the subject. On the 19th of September for the first time, the defendants complained that the plaintiff had not used the engine fairly, and a correspondence took place by letters and by telegrams. The engine was repaired at Newbury, and was got to Swindon, but on going down Swindon-hill it was thrown aside on a bank. The plaintiff was tossed into a thicket and the stoker into the fire-hole. It was then sent on

by rail to Cheltenham, and finally it arrived in Birmingham in the beginning of October, where it was still kept by the plaintiff on account of money which he said the company owed him. The plaintiff stated that on the day before the trial the engine "No. 4" had been brought down to New Palace-yard, and that it took seven minutes and a-half by his watch to get it across the gutter.

On cross-examination the plaintiff stated that he had been two years in England, and this was the first expedition which he had taken on his own account. His vans were from 10 to 11 tuns only. He persisted in his statement that the directors said the engine would go five miles an hour, and that he never heard three miles mentioned. He admitted that he was anxious to have the engine, and that on the day he signed the agreement he heard that Mr. Collum had one of them, but he did not go to see it. The plaintiff was then cross-examined as to his having seen a copy of a letter which the defendants had written to Mr. Cooke, of Astley's, to the effect that the company would not incur any legal liability in respect of the engine, as the proposed application of it was a novel one; but he positively denied that any such letter had been shown him by the directors. He was then cross-examined as to his performances, and stated that he lost several in consequence of the slowness of the engines; but he at the same time admitted that some of his performances were very successful. Mr. Hanson had told him "No. 6" was a new engine, and had not been tried, but he did not say he must take it at all risks. He told the company it would be worth £10,000 to them as an advertisement, as he should take it to all the principal towns in England; and he might have said it was worth £200 to himself in each town as an advertisement. The plaintiff was made to tell the story of his charging through the tollgate at Dover, and then taken through the various particulars of the damage which he claimed. One head of claim was for £3,000 for "damage to reputation;" and he said, when questioned on that point, "Well, Sir, I would not take £3,000 for my reputation," and that he could not show himself again in the towns where he had failed to keep his engagements. He said the best part of his journey was the road into Portsmouth, on which he traveled 18 miles in about nine hours. He gave an account of what he called a "Yankee trick," which he had played upon a person named Croft. When he found it was impossible to go on to the next place, because they could not get up the steam, he got Croft to give him £40 to stay and perform the next day. He said he had no intention of leaving England, though his "last appearance previous to his departure for America" had been advertised, but that was only a customary form adopted when it was wanted to draw a full house.

After considerable discussion it was agreed that there should be a verdict for the defendants on the count in the declaration alleging fraud, and that a verdict should be taken for the plaintiff upon all the other counts, subject to a reference.

A CAUTION TO TRAVELERS.—Many persons, in passing from one car to another, while a train is in motion, are accustomed to steady themselves by grasping the horizontal wheel used for winding-up the brake, which projects above the railing on the platform of the car. This habit has now become an extremely dangerous one. Several of the leading railroads are beginning to use a new kind of brake, which, in case of emergency, can be set almost instantly without the presence of the brakeman. Should such an emergency arise while a passenger was steadying himself by one of the wheels, it would, without the least warning, commence to revolve rapidly, and he would lose his hold and run great risk of falling between the cars. This is felt to be so real a danger that the latest patterns for the wheels are made with a web in them, rendering it impossible for the hand completely to encircle the rim of the wheel. This, however, but slightly obviates the danger. A careful man will shun them entirely.—*J. W. Sprague.*

ENDER'S SELF-CLOSING INKSTAND.—The inventor of this neat and simple closing for inkstands informs us that the drawing which he sent us for our cut should have shown a shoulder in the cone, so that it would be pressed open by the sides of the pen without allowing the point to come in contact with the metal. This is, of course, an essential point in the value of the invention.

A COLUMN OF VARIETIES.

Burning fluid is a mixture of alcohol and camphene in the proportion of about four gallons of alcohol to one of camphene. Camphene is simply spirits of turpentine re-distilled.....The Rhode Island Society for the Encouragement of Domestic Industry have just received from Capt. Harris an old English cross-gun, which has the name of the maker, "Richardson," "Manchester," on one of the sights. It was made to carry a ball instead of an arrow, and the bow is of steel.....In the best turbine wheels, the buckets are made of brass and very smoothly polished.....The case of the Irish bruiser, Heenan, who has gone to England from this country to have a fight with a notorious English bully of the name of Sayers, has attracted the attention of the British Parliament, and the question has been asked whether the police would prevent the brutal exhibition.....The Lockhaven (Pa.) *Watchman* records a very remarkable phenomenon, just being perfected in Lockhaven. Some months ago, Mr. John Johnson, of that place, had the middle finger of his right hand amputated close to the lower joint joining the hand. The wound soon healed over, and almost immediately a new finger commenced growing from the stump of the old one, and six months from the time the finger was amputated Mr. Johnson had a new and full grown one in its place, with the exception of the nail, which is just commencing to shoot out.....Dr. Hayes, of Arctic fame, in his recently published work, expresses the opinion, based upon experience, that to men living on a short allowance of food, in a cold climate, where special stimuli are required, there is nothing as valuable as coffee. Tea is not much prized by explorers in frozen regions. To Arctic travelers, the doctor adds, spirits in any form are in almost every case worse than useless, while coffee is always grateful and always beneficial.....In many of the Letters Patent which are brought to us to use in illustrating and describing inventions, it is surprising to see in how bungling a manner many of the specifications are drawn by the inexperienced or incompetent persons who prepared them.....Mitchell's *Steam Shipping Journal* says that the only reason why side wheels are used for steamships is the prejudice of the traveling public in their favor; that all shipbuilders and owners are satisfied of the superiority of screw propellers.....A correspondent of the *Ohio Cultivator*, who is a tile-maker, says that he can make and sell 3-inch sole tiles for 20 cents per rod, and that he can dig, haul, lay the tile and fill up a drain 2 feet 10 inches deep for 6 cents per rod, making the tile drains cost 26 cents per rod. He also says that the owners of mole plows charge 15 cents per rod for making drains 3½ feet deep.....Mr. Gould, of Hudson, N. Y., stated, in one of the New Haven lectures, that there are 3,000 species of grass.....Daniel Webster once said that all over the world, and in all times, the agricultural regions devoted to grazing were more prosperous than grain-growing districts.....The tubes of tubular bridges are painted nearly white, so as to increase the radiation and to diminish the effects of alternations of temperature.....In cases where one blade of a double-bladed screw-propeller has been broken, a fair rate of steaming has been maintained with the remaining blade.....A 2-inch square bar, of the best and most fibrous Lowmoor iron, has been completely crystallized by being hammered by two men for half an hour.....Sea-weed, like all other vegetables, grows most rapidly (out of the tropics) in the spring of the year, and at this time gives most trouble by collecting upon the bottoms of ships.....The fluidity of the Berlin iron, from which the finest and sharpest (although not the strongest) castings are made, is attributed to the presence of arsenic in the iron.....Hard cast iron, when cast in very large masses, and allowed to cool very slowly, is found to become soft. Heavy guns, when cast solid from hard iron, are found to bore easily.....The blue flame, sometimes observed at the tops of the funnels of steam vessels, does not extend down the funnel. It is caused by the combustion of carbonic oxyd, which can only burn by meeting fresh air at the top of the funnel, the mixture igniting at a comparatively low temperature.....Work's *odometers* (illustrated and described on page 300, Vol. XIV. of the *SCIENTIFIC AMERICAN*) are now extensively used among livery stable-keepers in the eastern States, for measuring distances, and in many cases the individuals who go off for a drive of five or ten miles, and take twenty, are brought up "with a round turn" by this contrivance, and often to their great astonishment.