

Improved Railway Pilot.

Many lives are annually lost and much property destroyed by railway accidents, and of these not a few are directly the result of obstructions on the track. The remedy for trouble of this sort has always been found in the old-fashioned pilot, or, as it is popularly called, the "cow-catcher." This has been found a very useful appliance, but anything less than a cow, or, more properly speaking, comparatively small obstructions, such as stones, trees, sleepers, &c., run under the cow-catcher and virtually destroy all the protection it ought to afford.

In the accompanying engraving we have illustrated a new pilot, which is intended to overcome these troubles. It consists of two revolving cylinders, A, of a conical shape, running on bearings in the frames, B and C; these cones have peculiarly-shaped teeth, D, which engage with corresponding teeth on the inner side of the forward truck wheel. By these teeth the cylinders are rotated; when thrown out of gear by the lever, E, they do not revolve but remain idle at the pleasure of the engineer. The cylinders are also furnished with wings, F, which traverse their circumference at regular distances; these wings act on any obstruction lying between the track, and from the nature of their position and form, throw said obstacle upward and outward entirely clear of the rails.

A peculiar and ingenious feature of this invention is the shape of the teeth which drive the cylinders. It will be seen that they are not cogs, but that they consist of a series of gradually inclined curves, and that they can be thrown into connection with the truck wheels at any time, even when running at the highest speed, without danger of breakage. A small spring, G, is fitted to the ends of the cylinder shaft, so as to keep the cylinders in position and avoid end play. The apertures between the top of the pilot and the foot board are closed by the ordinary arrangement of bars. This pilot can be attached to any engine, involving no other alteration than placing the rack on the inside of the forward wheels. This duty involves merely the drilling and tapping of a few small holes, easily done in a few minutes by any mechanic; when put on to special order, the rack may be cast with the wheel.

The invention was patented on May 3, 1863, by E. & A. Wyckoff, of Elmira, N. Y. For further information address them at that place.

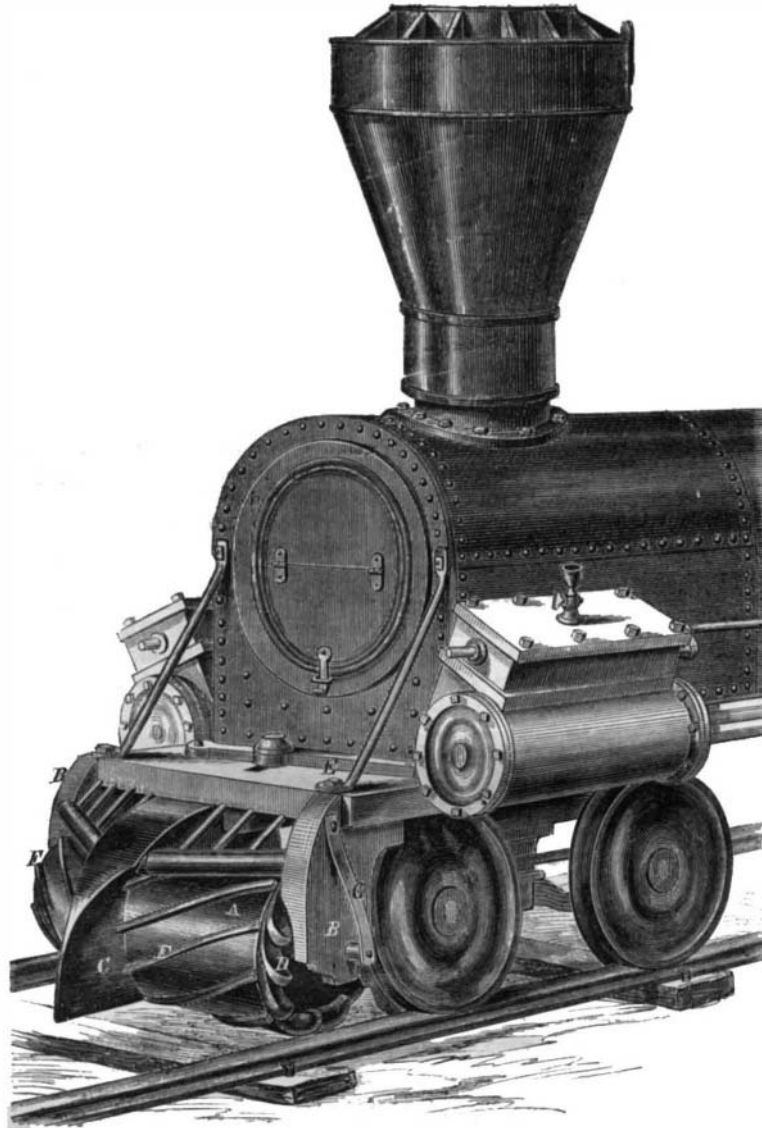
DEATH OF LORD LYNDBURST.

Recent English papers announce the death of this venerable statesman, at the advanced age of ninety-two years. In many respects he was a remarkable man, and being an American by birth, he is also a subject of somewhat greater interest to us on this account. His father—John S. Copley—was a painter of some distinction in his day, and resided for some years in Massachusetts, where the future peer was born, May 21, 1772, and which he left at three years of age with his mother and the entire family. In early youth he exhibited superior abilities, and his parents were enabled to give him a collegiate education at Cambridge, where he graduated with high distinction, having the object in view of following the profession of law. Previous, however, to being called to the bar in 1804, he visited his native country, and was introduced to Washington.

Soon after his entrance into public life, his powers of logic and oratory attracted the attention of leading English politicians, and he entered political life under the patronage of the tory party then in power. His promotion was rapid. He was made Sergeant-at-

Law in 1813, became Chief Justice of Chester in 1818; was Solicitor-General from 1819 to 1823; Attorney-General, 1823 to 1826; and Master of the Rolls from 1826 to 1827. On the retirement of Lord Eldon in 1827 he was constituted Lord Chancellor of the Empire, when he attained his peerage by patent (under the title of Baron Lyndhurst) dated April 27, 1827. He resigned the chancellorship in 1830 to resume it in December, 1834, for a short period. For the third time he was appointed to this post in September, 1841, from which he finally retired in July 1846. He has since, until very lately, been a constant attendant in the House of Lords.

Lord Lyndhurst was accounted one of the most



E. & A. WYCKOFF'S RAILWAY PILOT.

eloquent men in the British Parliament. When he spoke he always drew a crowd. In his prime he was considered one of the handsomest men in either house, and to the last he had a fine presence. His voice was clear and musical, and his style of speaking interesting. He was a master of wit and sarcasm, but he knew especially well how to state a case in such a way as to convince almost all who heard him. During the latter years of his political career he witnessed a happy change in the conduct of political parties. The virulence and animosity which characterized the old Whigs and Tories had departed and given place to kindness and almost uniformity of sentiment in both Houses of Parliament.

COAL AND STEAM POWER.—In a paper read before the British Association on the Coal and Coke Trade of the North of England, Mr. Nicholas Wood said it had been calculated that an acre of coal four feet in thickness produced as much carbon as 115 acres of full-grown forest, and that a bushel (84 lbs.) of coal consumed carefully, was capable of raising 70,000,000 lbs. one foot high, and that the combustion of 21 lbs. of coal gave out power sufficient to raise a man to the summit of Mont Blanc. The aggregate steam power of Great Britain he sets down at 83,635,214 horse-power, or equal to 400,000,000 of men.

A Huge "Pouring"—Seventy Tuns of Iron Run at One Heat.

We are indebted to the *Pittsburgh Dispatch* for the following account of an experiment to determine the feasibility of running the quantity of metal required for a twenty-inch gun, which weapon, it seems, is actually under way:—

"We have already noticed the fact that preparations were progressing at the Fort Pitt Works, in this city, for the manufacture of twenty-inch guns, the lathe, patterns, &c., being in an advanced condition. As the experiment of manufacturing a gun of such a caliber, however, is one of great risk, it was determined to settle at least one point practically before attempting to mold the great gun, by melting, at a single heat, nearly the same quantity of metal as would be required for the twenty-inch. For this purpose two guns were molded of the fifteen-inch navy pattern, and each furnished with a twelve-inch instead of a fifteen-inch, hollow core, making the rough weight of each of the guns nearly as great as that of the columbiad fifteen-inch. These molds were placed side by side in the pits of the new foundry, and on Saturday morning five of the furnaces in the foundry were charged, three for the special purpose of casting the great guns, and two for the ordinary work of the shop. The respective weights of these charges will give some idea of the capacity of these enormous furnaces, being thirty-four, nineteen, nineteen, thirteen, and eighteen and a half tuns—an aggregate of nearly ninety four tuns, with a far greater amount of metal, we believe, than was ever reduced in furnaces in a single establishment in one day. Seventy-two tuns of this metal, being the charge of the three large furnaces, were designed for the casting of the experimental guns. The metal was led from each of these furnaces to a large pool, equidistant from each of the molds, and communicating by two "runners" with the two "gates" of each.

"About one o'clock the three furnaces were tapped in quick succession, and in a moment three streams of molten iron were pouring into the pool, from which, as the metal rose to the level of the openings, two fiery lines shot into each of the molds. The intense heat of the iron pouring along these seven streams, with the molten mass in the reservoir, seemed to have no extraordinary effect on the workmen, who performed their accustomed duties of skimming and clearing the molds with as much indifference as if the glowing metal surrounding them and filling the air with showers of sparks were harmless streams of water. Familiarity with such situations is apt to breed contempt of danger, but we believe that no accident has ever yet occurred at the works during the operation of casting. Notwithstanding the unusually risky character of the experiment on Saturday, everything passed off successfully, and the streams of hot metal and cold water, crossing and interlacing on their way, poured into the molds without accident."

GREAT DEMAND FOR IRON.—The furnace of Chapinville (Litchfield) is turning out six tuns of iron a day. The *Enquirer* says:—"Seeing a teamster waiting by the furnace for the iron to cool that he might get a load, we said to the weigher, 'Is iron in such demand that you are obliged to send it off hot?' 'Yes,' said he, 'and sometimes we run it directly into the carts instead of the sand-beds.'"

The total enrolled strength of the British volunteer force is 1,300 cavalry, 23,000 artillery, 2,500 engineers, and 182,000 riflemen—total 189,000.