

Scientific American

A JOURNAL OF PRACTICAL INFORMATION IN ART, SCIENCE, MECHANICS, AGRICULTURE, CHEMISTRY, AND MANUFACTURES.

VOL. III.—No. 1.

NEW YORK, JULY 2, 1860.

NEW SERIES.

STEAM CARRIAGES FOR COMMON ROADS.

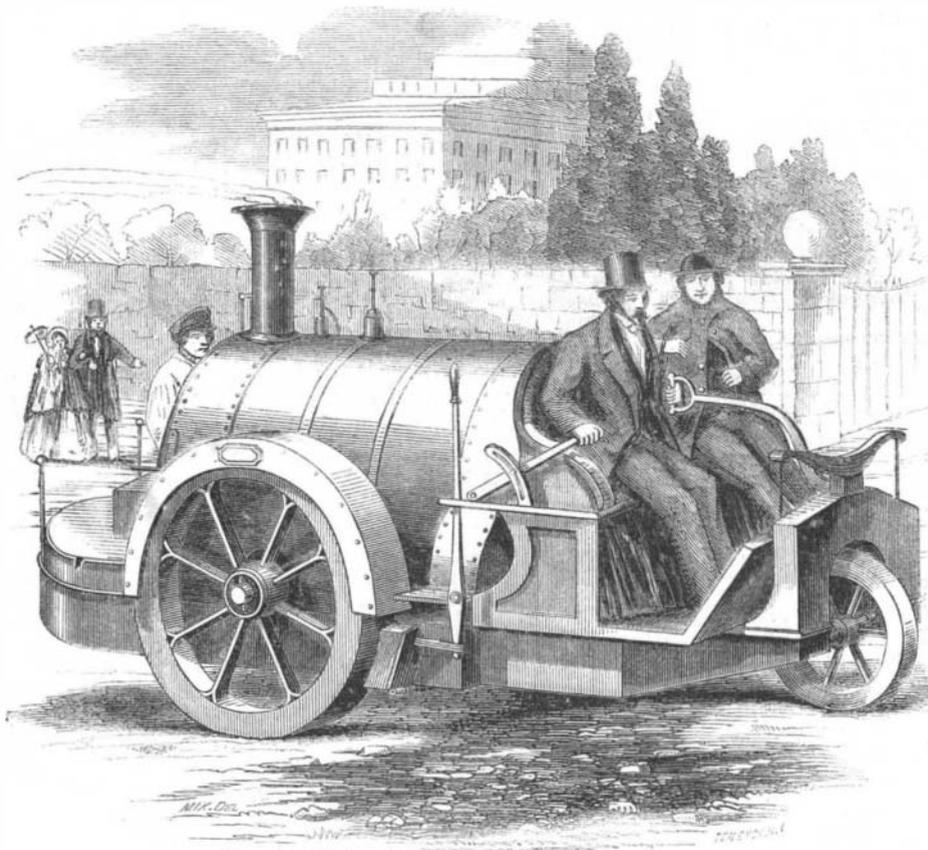
This is not a new subject, but it is one which has recently assumed a most interesting aspect. Just prior to the advent of railroads, many efforts were made to supersede animal with steam-power for public travel on common roads; but the grand and overwhelming advantages of railroads led to the latter being adopted so rapidly and extensively that common roads and their agencies for conveyance were excluded from public consideration until quite recently. We have, in a former volume, noticed the success which has attended the traction engine of J. Boydell, in England; and we have also described the American self-propelling steam fire-engines. We now present an illustration of Rickett's steam carriage, which was recently submitted to Prince Albert and the Queen. This invention is designed for a new purpose, viz.: a private carriage, with room for three persons in front and a fireman behind. "It is arranged to run at an average speed of 10 miles per hour; indeed, on good roads, 16 miles per hour has been easily attained. In ascending steep hills, by moving a handle (without stopping), the power is multiplied two-and-a-half times, and the speed consequently reduced to four miles per hour on hills with inclination of 1 in 10. The carriage is mounted on three wheels, each having independent springs—one small wheel in front, which is used for steering, and two behind, one or both of which are employed in propelling; one of them being fixed on the shaft and the other engaged by a clutch, so that when disengaged the carriage may be turned round in its own length without stopping. It is easily guided, by a handle from the fork of the front wheel, which is central with the outside seat; a brake is applied to each driving-wheel, worked by a lever from the seat, so that the engine is entirely under the control of the driver.

The engine is built upon a tank, which forms a strong tubular framework; the boiler being placed above, and the whole of the machinery is contained in the space between the boiler and tank, entirely protected from dust and dirt, and within reach of the stoker for filling, &c. The tank contains 90 gallons of water, sufficient for 10 miles' run. The boiler is made of steel, and constructed so that it is not injuriously affected by variations of level, as it is worked at a pressure of 150 lbs. to the square inch, and supplies steam to a pair of 3½-inch cylinder with 7-inch stroke; it evaporates about 1½ gallon of water per minute, and consumes from 8 to 10 lbs. of coal per mile. The weight of the engine and carriage is 30 cwt., and, with a full load of water, 12 cwt., coal, 3 cwt., passengers, 5 cwt., equals 2½ tons.

Some idea may be formed of the functional resistance on common roads, when it is mentioned that as much

power is required to draw 1 tun on a common road as 15 to 20 tuns on a railroad; and in this engine, to convey its full load at 15 miles per hour on a level, requires an actual development of 10-horse power, so that great power and little weight are essentials in these engines. No great difficulty has been experienced in working them—occasionally, a young horse shies, when the engine is instantly stopped, and all noise and appearance of steam suppressed till it has passed. It is stated that this engine will be shortly taken to Belgium, but others are in course of manufacture by Mr. Rickett, in his foundry, at Buckingham, England."

We do not know but that the time may yet arrive when there will be a great "Derby day" for steam horses, and when gentlemen will mount true fire-blooded animals, contending, with lungs of iron, for prizes of



RICKETT'S STEAM CARRIAGE FOR COMMON ROADS.

gold. Mr. Rickett has, at least, led the way with the foregoing engine for such enterprises. The above description, as quoted, is taken from the *London Illustrated News*. The great resistance which is given for common roads confirms our views regarding such agencies.

The *London Engineer*, in a late article on traction engines for cities, stated that this was purely a question of the relative superiority of steam-power and horse-power, and there can be no doubt of the immense superiority, in most respects, of the former. In the Woolwich dock-yard, a powerful engine has been used for drawing heavy goods for a year past, and several of the large engineering companies in England now employ them in their establishments. For drawing very heavy loads with a slow motion, no one, we believe, will question the immense superiority of a well-constructed steam carriage; but when speed is desired with great power of draught, the rail should always be employed, because it is such an economizer of power.

THE FRENCH STEAM RAMS.

Donald McKay (who is now in France), while writing to a professional friend in Boston, thus describes what he saw in the imperial arsenal at Toulon:—"The most interesting constructions are the two iron-cased frigates *La Gloire* and *L'Invincible*, of 36 guns. *La Gloire* has been already launched, and they are just about to apply the heavy iron casing. *L'Invincible* is yet on the stocks, but nearly ready for launching. I had an opportunity to visit them thoroughly inside and outside, and they are, without any question, most powerful vessels—equal in size to a 90-gun ship. The iron casing will extend all the length of the ship, and to more than six feet below the load-line. They are very sharp forward and aft, and the deck-line has a shape very much like a whaleboat. Their engines are to be of 1,000-horse power, and each ship is to be propelled by a stationary six-bladed screw. The rig will be that of a three-mast schooner. As far as I was able to ascertain, the Frenchmen are building, in their different yards, eight or nine of these frigates and two steam rams, but of less size than those in England. All the frigates, however, may serve as steam rams, as their whole construction makes them very well fit for that purpose. The frigates are pierced for 40 guns of the heaviest caliber; but, probably, they will be armed only with 34 guns in the lower battery and with two guns on the upper battery, firing straight forward from out an iron-cased fore-castle. Taking in the whole, the arsenal and port of Toulon make a great impression upon the mind of the observer. At the magazine of artillery, there was heaped an immense amount of guns of the heaviest caliber; also, a lot of breech-loading guns for the iron-cased frigates, and an immense number of elongated shot and shell. All guns that I saw were rifles."

We understand that no less than 14,000 persons are now employed in this single French dock-yard, which is vastly more than the whole force in all the American yards combined.

THE TIME TO GATHER HERBS.—Everybody who has an herb bed in the garden, or who sets a value upon a good supply of dried herbs, should see to securing them this month, or, at least, the most of them. The right time to gather herbs for drying or other purposes is when they are just beginning to come into flower. They then possess their peculiar virtues in a higher degree than at any other period. When cut, do not lay them in the sun, as the excessive heat will cause them to dry rapidly; the leaves and stems become brittle, and the slightest blow will cause them to fall off and be lost. Let them be laid in the shade, and carefully protected from the rain or any dampness.—*Farmer and Gardener. Phila.*