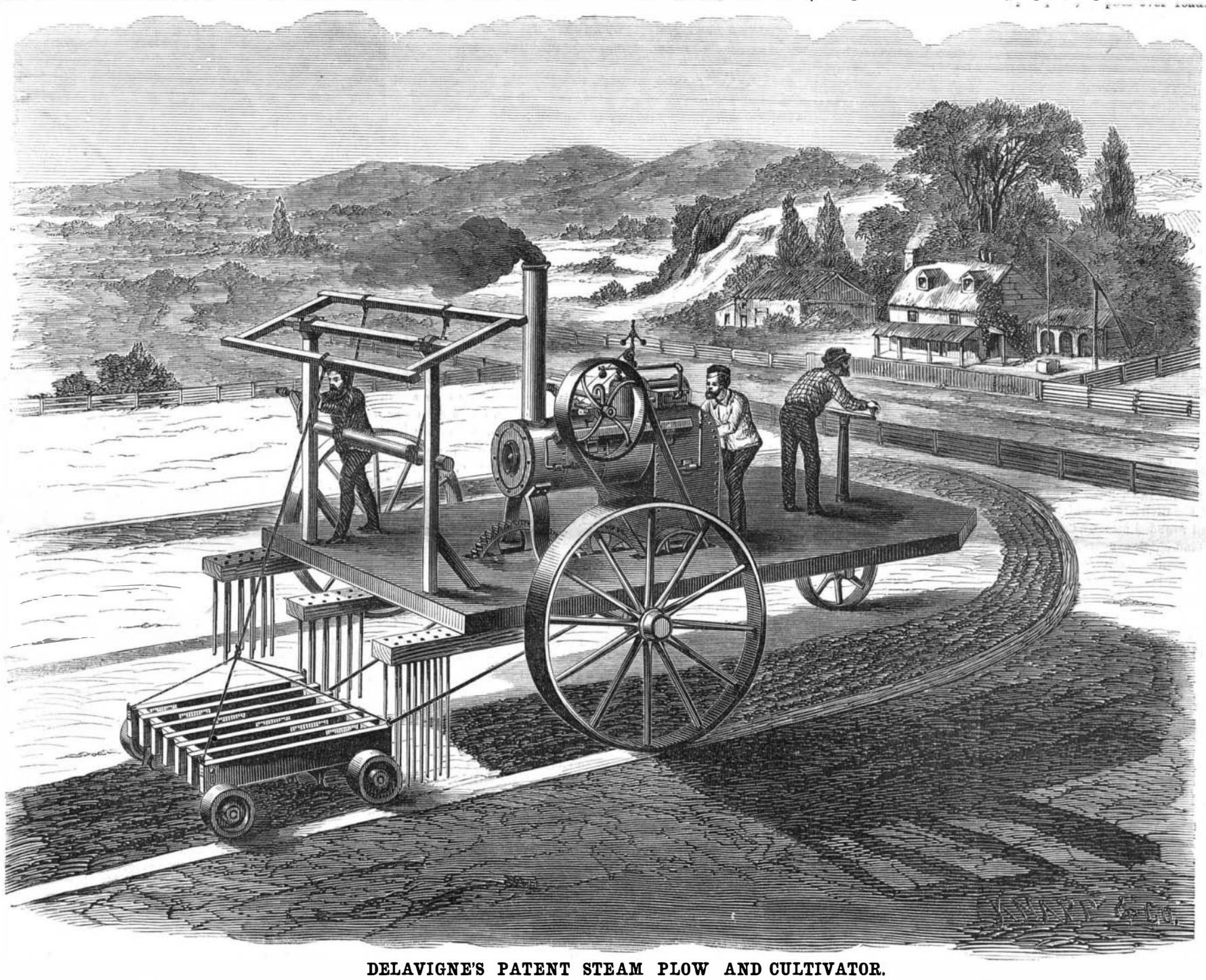
SCIENTIFIC AMERICAN

A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY, AND MANUFACTURES

Vol. XIX.---No. 19. [NEW SERIES.] NEW YORK, NOVEMBER 4, 1868. $3 per Annum [IN ADVANCE.]

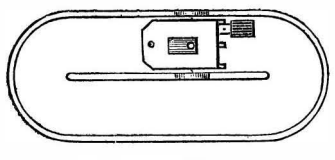
Improved Traction Engine and Steam Plow.

Many attempts have been made in England and in this country to adapt steam to the arduous labor of plowing, but none of them have as yet been so successful as to insure the general adoption of any one system, although, under favorable circumstances, some good results have been attained. The plan of employing stationary engines located on the borders of a field, and drawing, by ropes or chains, a plow or a gang of plows across from side to side, is cumbersome, costly, and not very satisfactory. The traction engine is unwieldy, and not adapted to loose soil or yielding surfaces. The peculiar feature of the machine shown in the accompanying engravings is, that it forms its own roadway, which it always travels in the successive operations of plowing, harrowing, and cultivating. The large engraving exhibits the machine in operation It



DELAVIGNE'S PATENT STEAM PLOW AND CULTIVATOR.

Fig. 2



is a platform 26 feet long by 15 or more wide, supported mainly on two wheels, 9 feet in diameter, with tires 15 inches wide. There is a steering wheel in front operated by a lever or hand wheel. The platform supports an ordinary portable engine and boiler, connected by suitable gearing to the propelling wheels. The gearing is so calculated, relatively to the number of revolutions of the engines, as to propel the machine forward at a rate of about 150 feet per minute, which rate may be increased or diminished by the change of a pinion. It is designed that the machine shall always travel on the same road or track in going forward and back over the field, so as always to have a firm road for the machine to travel upon, in the various operations of plowing, harrowing, seeding, cultivating, reaping, etc. For harrowing or cultivating, the whole space is taken in once passing, the cultivators being so arranged as to pass between the rows, the wheels being high enough for the machine to go over the crop until it is quite tall.

The main shaft, on which the driving wheels are fixed, is in three sections, the middle one turning in bearings near either end, and connected with two short sections which carry the wheels. The connections are made by sleeve couplings, either on square shafts or round shafts feathered. The object of this arrangement is to allow either wheel to be uncoupled in turning corners, so that the track of the inner wheel shall be a straight line, the wheel turning as a pivot, while the traveling wheel describes the curve. The plan is shown plainly in fig. 2. It will be seen, that after being plowed, the field lies in beds, 15 feet wide, with the path or track of 15 inches between each bed undisturbed.

The plows are seen in the gang, Fig. 3; the harrow, in Fig. 4; and the cultivator in Fig. 5. Either of these is attached to the machine by rods or chains, and can be elevated or depressed, as occasion may require, to pass over roads or uncultivated portions of the field, or to adapt them to work at any depth, according to the nature of the soil, by means of the hoisting appendage seen in Fig. 1, at the rear of the machine. A group of rods—Fig. 1—extend from the platform in advance of the plowshares for the protection of the growing plants, to prevent them from being injured by the deposition of the soil by the plows. It is evident, that in addition to the work of cultivation, this machine may also be used as a power to drive thrashing machines, saws, and to perform other labor required on the farm or plantation.

Fig. 3

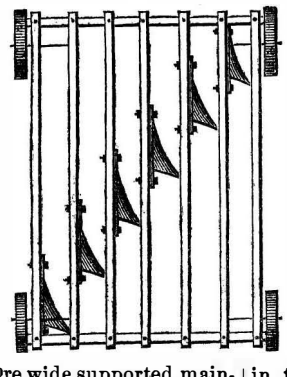


Fig. 4

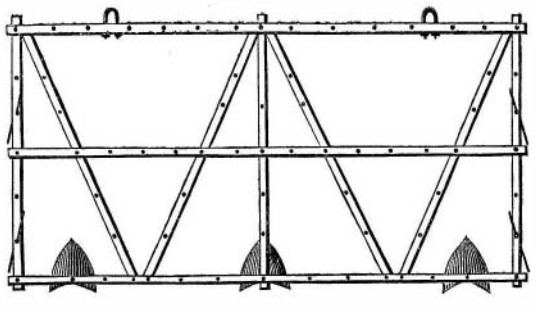
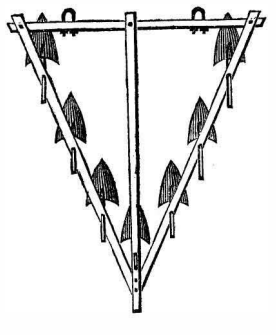


Fig. 5



Patented March 31, 1868, by John C. Delavigne, who may be addressed at New Orleans, La; or application may be made to E. E. Tiffany & Co., 15 Wall st., New York city.

A BRILLIANT meteor was observed in London on the night of October 7. It lasted about five seconds. Everything was as clear as day, the cathedral and houses at the northwest corner of Cannon street standing out in bold relief against a brilliant sky. The lights in the gas lamps were for the time invisible.