

poses; he merely desired to have the two parts of the machine so adjusted that they could be put in motion independently of each other.

In the next chapter to that from which we have made the above quotations, we meet with the following graphic description of the very machine, in all its essential details, just brought out by Messrs. Crosskill. It is, we believe, a rule of law, that no patent will be upheld for any machine previously "described in a book." If Mr. Romaine has never read "*Talpa*," we advise him to read it now. It might save him both trouble and expense, if he contemplates a patent:—

"Before we depart this life, we shall see one more wonder moving on the face of the earth, something of this form and fashion—to wit—a complete locomotive engine on four wheels, the front pair turning on a transome, the hind ones fixed; behind them (suspended) a transverse, cylindrical shaft, three feet in diameter, from six to eight feet long, reminding one of a cross-breed between a clod-crusher and a hay-tedding machine, armed with case hardened steel tine points, in shape like a mole's claw, arranged so that the side lap of each claw may cover the work of the other, and no interval or ridge be left uncut: the extremities of the cylinder just covering the wheel tracks. This cylinder of claws you will see raised or depressed at pleasure by the engine driver, and adjusted to slow or rapid revolutions, worked either by cog wheels, or geared from the drum of the engine. That is the 'cultivator.' A platform from the engine extends over it, ending in a sort of moveable tail-board, which may be raised or depressed at pleasure, to regulate the settlement of the soil which scatters from it. The revolution of the cylinder is not *against* but *with* that of the wheels—not dragging or retarding, but rather helping the advance of the whole machine, which is moved slowly forward by a detached force of about two horse-power from the engine."

ENERGY OF THE BRITISH WAR DEPARTMENT.—*The London Times*, in stating the preparations, made for the re-conquest of her Indian empire, thus effectually groups the results of what has been done within three months:

It takes a long time to rise to the scale of a grand operation. We are a long time about it, and a still longer time knowing what we are about. By successive efforts of intelligence and resolution, we are at last sending out a great expedition to India; and most of our readers will have to open their eyes, and look around, and sum up, and compare, before they can appreciate the magnitude of the work and its place in the world's history.—Let them imagine themselves, then, on the beach of the South sea last Saturday afternoon. They would there see two immense clipper ships, each as large again as the largest ship in Nelson's fleet, towed from their anchorage by immense steam-tugs, and each with a thousand men on board, of whom near nine hundred were soldiers for the re-conquest of our Indian empire. Instead of two such ships, objects of admiration even to those who see three-deckers every day, let us suppose forty, most of them filled with men, a few with materials of war, and then you have an Armada which combines in one the adventurous spirit of early days, the vast idea of modern times, the hardihood of a rude age and the science of a civilized one. The joint expedition of England and France to the Crimea surpassed everything in ancient or modern times, including even the vast struggles of the latter power at the close of the great war. But even that must yield in turn to the grander fact of an army of 30,000 well-trained soldiers, well found, well officered, despatched in the course of three months from England right across the globe, to re-assert our authority on the shores of the Ganges and the central plains of Hindustan.

OVER-REACHING HORSES.—A writer in the *N. E. Farmer*, who is a blacksmith, cures over-reaching horses, and increases their trotting speed fifteen or twenty seconds per mile, by the following mode of shoeing which increases the motion of the forward feet and retains the motion of the hind ones. He makes the toe-caulks very low, standing a little under, and the shoes set as far backward as convenient, on the forward feet, with high heel-caulks, so as to let them roll over as soon as possible. On the hind feet, the heel-caulk is low and the toe-caulk high and projecting forward. Horses shod thus, travel clean, with no click.