from this chest through the crevice made. The want of a larger wedge was felt towards the end of this operation, and the suggestion was made to allow Mr. Chatwood's men one wedge similar to those which were used on the other side. This, however, was not carried out, as Mr. Chatwood's safe had been broken into and the block of wood removed from it at this time, 7 25 P. M., the men having removed the side plate entirely, and cut a hole into the thin sheet-iron plate which forms the inside skin. The hole was just large enough to insert the hand and pull out the small wood block, but there was no access to any one of the drawers in Chatwood's safe, nor would it have been feasible to get at the block if it had been placed in the inside chest without expending a very considerable amount of further time and labor. Mr. Herring's safe being by this time so nearly destroyed that it appeared to be the work of a few minutes only to force the small box open, it was resolved to complete this operation on the following day. The trials were consequently adjourned at 7 40 P. M.

PARIS, August 14.

The jury met at 11 o'clock this morning, and after deliberation, called upon Mr. Chatwood's men to complete their work, which was done in three minutes. This is only one of a series of tests which these safes are to undergo, and it will be acknowledged by every competent man that it was not of a very scientific character, the *résumè* stands simply as follows: The two safes were both "third-class bankers' safes" according to the maker's catalogues. They had each a small separate compartment inside the safe proper. Mr. Chatwood deposited his wooden block in his safe proper, making no use of the inside chest. Mr. Herring deposited his wooden block in the small wooden chest within his safe. Mr, Chatwood's men were skilful, but unacquainted with the exact construction; Mr. Herring's men showed less manual dexterity, but an intimate acquaintance with the construction of Chatwood's safe. The tools of the English workmen were proper burglar's tools, while the tools of the American workmen were boiler-maker's implements of full size, and incomparably heavier than the others, including even the sledge-hammer given to the English workmen at a later hour. Under these conditions Herring's safe was opened in 29 minutes, and the contents of it thrown out to the public. Chatwood's safe proper had a hole made in its side in 4 hours 35 minutes working time. Herring's small box inside the safe was completely broken open within 4 hours 43 minutes working time. Chatwood's small box inside the safe was not opened at all in this trial.

Type Writing Machine.

A machine by which it is assumed that a man may print his thoughts twice as fast as he can write them, and with the advantage of the legibility, compactness and neatness of print, has lately been exhibited before the London Society of Arts by the inventor, Mr. Pratt, of Alabama. He draws up his alphabet in a solid square battalion, say seventy characters in seven rows, the whole in a solid electrotype plate about five-eights-inch square or more according to the size of type desired. He prints a letter by the blow of a minute hammer of uniform size with all the type bodies, striking the letter, with the paper interposed, and a carbonized sheet also between that and the type. Each letter, as wanted, is moved into position before the hammer by compound levers actuated by keys like those of a piano. The same touch of the key readjusts the paper to the new impression (with or without a space before it, according to the force used), readjusts the type plate so as to present the desired type to the hammer, and gives the printing blow. Simple arrangements also retract the page at once laterally and vertically to begin a new line. The type plate and paper are placed vertically, the latter with its face to the operator, so that the work done is before his eyes as in writing. The keys actuate two double-acting levers, one of which raises or lowers the type plate, while the other moves it laterally. Each key is so applied to the levers as to adjust the plate at once sideways and vertically to the position for bringing a particular character into play. Or, a better way, one key will do duty for the vertical movement of each entire horizontal row, another key for the lateral movement of each vertical column; and thus by pressing two keys for each character, seventeen keys will be sufficient to operate the whole font of seventy characters above supposed. The case of the instrument is small and compact, the parts are mostly of wood, and it could be manufactured and sold on a large scale for about $15, with a handsome profit.

The subject of type writing is one of the interesting aspects of the near future. Its manifest feasibility and advantage indicate that the laborious and unsatisfactory performance of the pen must sooner or later become obsolete for general purposes. "Printed copy" will become the rule, not the exception, for compositors, even on original papers like the *Scientific American*. Legal copying and the writing and delivery of sermons and lectures, not to speak of letters and editorials, will undergo a revolution as remarkable as that effected in books by the invention of printing, and the weary process of learning penmanship in schools will be reduced to the acquirement of the art of writing one's own signature and playing on the literary piano above described, or rather on its improved successors.—*Scientific American.*

Glass from Native Ore.

On the 27th of February, 1866, a patent was issued through the *Scientific American* Agency to Richard Washburn, of Monsey, N. Y., for the manufacture of glass from the native ore. This ore, which is really pure glass, or silicate of iron, in a crystallized and hence opaque condition, exists in abundance in many parts of the world, as in the columnar basaltic rock of the Palisades of the Hudson, of St. Helena, and of the famous "Giant.s Causeway." But all efforts to utilize it for the manufacture of glass had proved singularly unsuccessful until the invention we have referred to. Messrs. Chance, Son & Co., the celebrated manufacturers of Birmingham, who export great quantities of plate glass to this country, are reported to have expended not less than a quarter of a million dollars, some years ago, for this purpose. It is gratifying to be able to add this important