

IMPROVED TILE-MAKING MACHINE.

The annexed illustrations, which we take from the *Agricultural Gazette*, represent a new continuous-feed, brick, pipe, and tile making machine of English construction. Machines of this pattern for solid bricks only have been in use for a considerable period; but in the present apparatus not only solid, but perforated, hollow, or tubular bricks, roofing tiles of all descriptions, paving bricks, and drain pipes up to 12 inches in diameter, may be made.

The clay is both ground and pugged in the upper part of the machine. Thence it passes to the lower horizontal cylinder, whence it is expressed around a core, if for tiles or other curved forms. The material then slides upon the table on the surface of which are horizontal rollers, and passes (if in the form of solid bricks) between the vertical rollers shown. The tiles or bricks are separated by means of the wires placed in the movable frame shown.

Fig. 1 shows the arrangement of the machine for producing solid bricks, and Fig. 2 the construction for tile making. The apparatus is self-contained and can be put down anywhere in a very short time without skilled labor. It is mounted on wheels so as to render it portable; and can be opened by simply removing a few bolts so that the interior of the mill is readily accessible. The power required is stated to be 4 horse power nominal, and the capability of the machine 15,000 bricks per day.

The Increase of Near-sightedness.

It is undoubtedly true that there are far more near-sighted people in proportion to numbers at the present time than there was fifty or a hundred years ago. This increase is due to greater habits of reading, the necessities of education, lateness of hours kept, gas light, and many other causes which our forefathers did not have to contend with. Advanced civilization makes every day greater demands on the resources of human nature, and yet we are no richer in merely physical wealth than the generations before us. Unless civilization shall teach us methods of husbanding our strength, or of increasing its power, we may in the end come to a dead stop, for our faculties will no longer be able to do the work required of them.

Dr. E. G. Loring lately delivered an address before the New York County Medical Society on the subject, "Is the Human Eye gradually changing its form under the influence of Modern Civilization?" He points out that constant study creates short-sightedness, and heredity often perpetuates it, hence the number of short-sighted persons must necessarily increase in a nation devoted to intellectual pursuits. In considering the effect of prolonged use and overexertions of the eyes, Dr. Loring examined 2,265 eyes of scholars in the New York public schools. The proportion of normal eyes was 87 per cent among those under seven years of age, and 61 per cent in those above this age but under twenty-one. The proportion of near-sighted eyes in the younger was 3.5 per cent, and in the elder 26 per cent. In St. Petersburg, among the same classes, the proportion is respectively 13.6 per cent and 43.3 per cent, and in Königsberg, Germany, 11.1 per cent among the younger, and the enormous figure of 62.10 per cent among the elder class. Thus there is an increase of near-sightedness with the advancing years of the school term. It is more common in Eastern and older cities than in Western ones, and among the cultivated classes than the uncultivated. In New York city the percentage is 24 among Germans, 19 among Americans, and 14 among the Irish. Poor food, bad ventilation, and disregard of other hygienic requirements and a sedentary life—all of these conduce to a laxity of tissue which finds its expression in the eye.

The English are less troubled than other nations, probably

because of their passion for outdoor games, which are decidedly beneficial to the sight. Near-sightedness is a disease of childhood, and rarely begins after the fifteenth or eighteenth year. The reason why there is less near-sight among people using their eyes in minute mechanical work is because of this rule. Different examiners have found about 10 per cent of near-sighted people among watchmakers and 70 per cent among the studios. "The only method," said Dr. Loring, in conclusion, "of preventing near-sight is to lessen the amount of work done by school children during the period of life from eight to sixteen years. It is by complying with these conditions that the English have become so eminently a literary people."

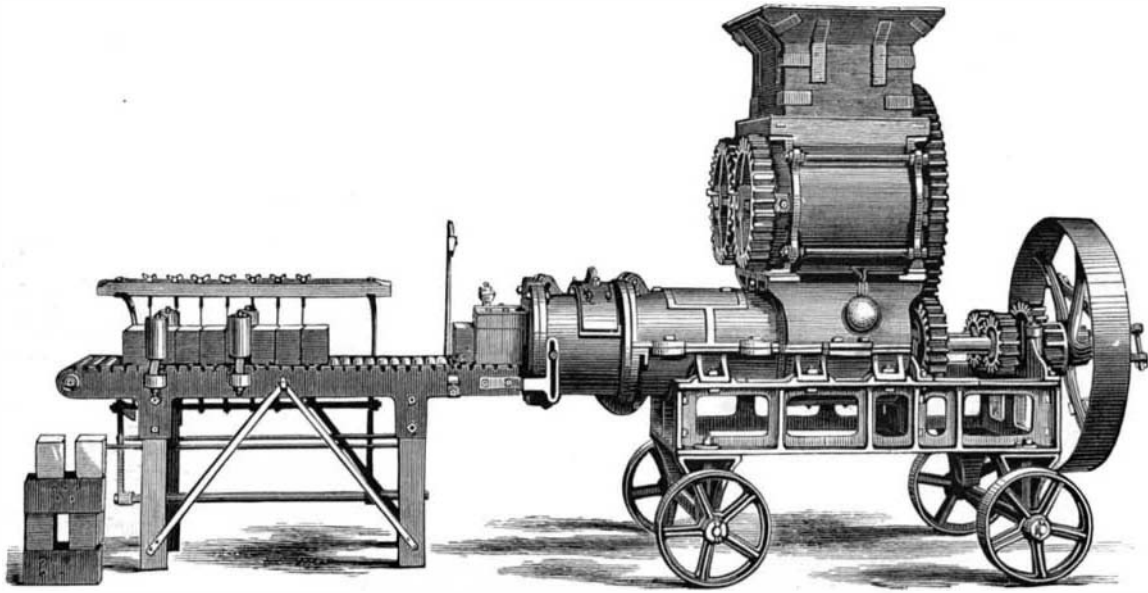


Fig. 1.—NEW TILE-MAKING MACHINE.

These suggestions are certainly worthy of consideration by parents, who may be hereafter more indulgent to their children when nature prompts them to avoid what it knows to be injurious. After the sight is firmly established an increased amount of study may make up for lost time.

New Mode of Purifying the Water of Condensation.

Water from the condenser aboard sea-going vessels, although fresh, is often found unsuited for both the purposes of drinking and as feed water. Under the influence of highly heated steam, the oil which lubricates the slides becomes saponified, yielding glycerin and fatty acids, and among the latter oleic acid. Water tainted with oleic acid is extremely disagreeable to the palate, and it also has the property of attacking boiler iron, forming an oleate, which in two French government vessels has recently been found

Another coat of varnish applied over the drawing, when the tracing is fixed and dry, will prevent the lines from being washed out or removed. It is then ready for the workshop, and can be carried about and used without damage. When a drawing is to remain in a workshop for several weeks or months, the delineation can be made on a smooth, well planed, squared board, which, after being sand-papered and washed over with a thin sizing of glue and water, will take pencil and ink lines, and pencil shading, like paper. When the drawing is completed, a coat of white or ordinary shellac may be applied. The latter plan is much used in English machine shops, and answers the purpose in an admirable manner.

The preparation of construction drawings always involves more or less expense, requiring, as they do, time, study in design, and attention to accuracy. Therefore, when completed and deemed ready for permanent use, their preservation becomes of great importance, and it is poor economy to allow such drawings to get soiled, greasy, and mutilated, a practice, however, too prevalent in many of our machine works and manufactories.

A Good Idea for House Numbering.

An excellent method of affixing the street numbers on houses has lately been introduced in Paris, the object being to render the numbers plainly visible by night as well as by day. On the front of the building is placed a small three-cornered lantern, one side resting against the wall and the angle projecting outwards. This is made of blue glass, with the number in white, the blue flashing being simply cut away in the usual manner by graving tool,

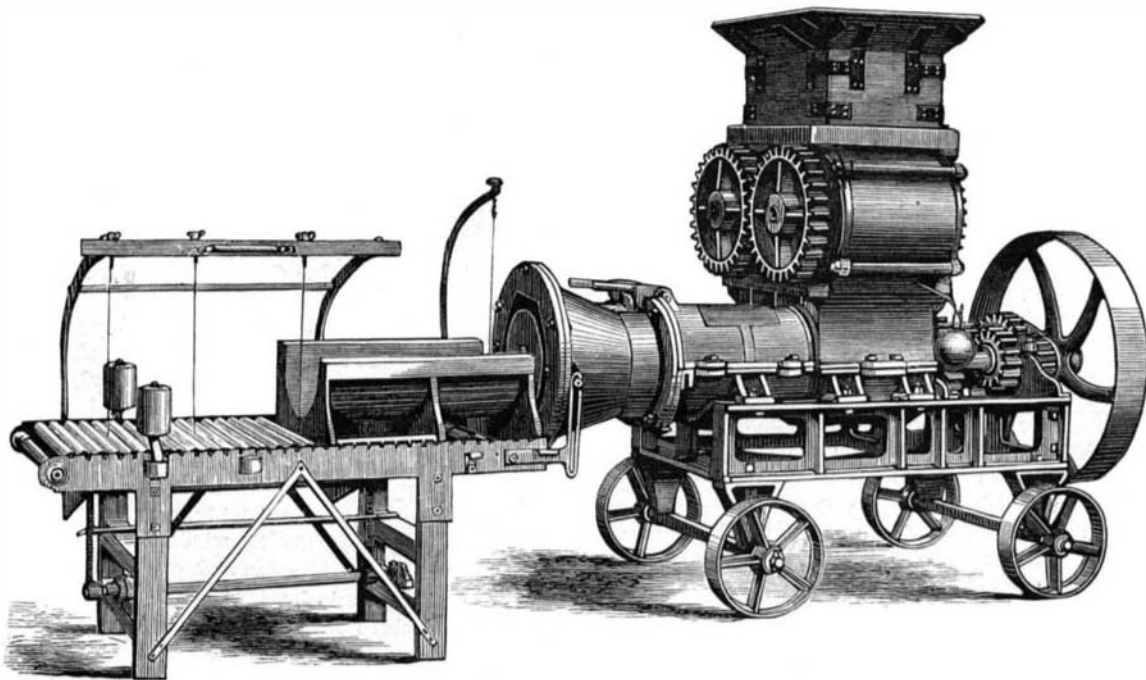


Fig. 2.—NEW TILE-MAKING MACHINE.

to develop at the rate of over 400 lbs. a day. This substance causes very rapid deterioration of the boilers, and produces deposits, the evil effects of which are well known.

M. Etais has lately conducted some experiments on board of a French man-of-war, which indicate that a method he has discovered of avoiding the above difficulties is both practicable and useful. He simply passes the water of condensation into a reservoir containing lime water. The oleic acid then enters into the formation of oleate of lime and the water is purified.

PORTABLE corrugated iron huts, capable of accommodating each from 25 to 500 men, are in use instead of tents, by the Russian army.

acid, or sand blast. A gas burner serves as the means of illumination. In this city, especially in the up-town streets, some system similar to this is very much needed, as numbers when painted on fanlights become invisible when there is no illumination in the hall, making it a matter of no small difficulty to find a given address late at night, more especially when intervening empty lots break up the regular sequence of the numbers. Four hundred and fifty public buildings in Paris have already been numbered in this way.

WORK on the St. Gothard tunnel is progressing favorably. On October 14 last the distance completed was 5.6 miles.