The lady strictly kept her promise, and had the pleasure to see this poor chimney-sweeper grow up a good, pious, and intelligent man.

Scientific.

AN INGENIOUS JERSEYMAN.

In a notice of a recent fair held at Newark, N. J., the *Daily Advertiser* refers to a very ingenious clock which was exhibited by Mr. A. D. Crane. It requires winding but once in three hundred and sixty-five days, and hence the ordinary chances of accidents by removing the shade to wind it, &c., are very much lessened, as compared with an ordinary eight-day clock. By simple inspection, it gives the time of day, the days of the month during the whole year, the rising and setting of the sun and moon for any latitude, the phases of the moon, and the time of the sun and moon entering the signs, high and low tide, &c. This clock is also so improved as to compensate for differences of the motive power, and is calculated to be *isochronal*, the absence of which property in time-keepers has formerly been a very serious difficulty.

The inventor has always devoted himself to the study of *Horology*, and one of the editors of the *Evening Post* remembers having seen, many years since, at Caldwell, N. J., a wooden clock, made by him in his boyhood, with the assistance of no other tool than his penknife, which was unexceptionable as an ordinary clock. The farmers of New Jersey are also indebted to his inventive genius for the best horse-power now in use. The admirable clock in Trinity church, Newark, was constructed by Mr. Crane, and contains many novelties of value. The variation is but ten seconds in two months. The clock is divided into three parts: the time dial being in the gallery; the escapement is like that of a chronometer, with compensating pendulum, and the hands are carried by a separate weight, so that they may be moved irrespective of the clock, and are detached from it, though moved by it. This secures the works from receiving any injury from accidental movements of the hands by wind, ice, or other causes; but immediately, on the removal of any disturbing cause, the hands resume their proper position, and are again acted upon by the clock. The striking is performed by one wheel and an escapement acting on the hammer.

Mr. Crane's greatest achievement, however, has not yet met the public eye. He is now engaged in arranging the relative parts of a style of Chronometer for sea use, in a cheap form, with less than half the work of an ordinary movement. The train is calculated to run four days, but by a peculiar arrangement it runs four days more, making eight days, and this without any extra expense in its construction. The escapement is peculiarly constructed, and gives four times as much motion to the balance as the best chronometer escapement, being the great desideratum in time pieces. When manufactured, they may be afforded at one-sixth the usual price of ship-chronometers, and will perform equal to those of the highest cost.

The inventor has also made an improvement in the common Yankee clock, by which many parts are done away with, and their quality as time-keepers improved, while the price of a good brass clock will be lessened to one dollar.

A Useful Composition.

In the Scientific Convention, at New Haven, Professor Olmstead stated that rosin added to lard gives it a degree of *fluidity* not before possessed by the lard, and also prevents the latter forming those acids which corrode metals—copper and brass, for example:—

Several important practical applications result from this property. Its use for lubricating surfaces of brass or copper has already been adverted to. It is equally applicable to surfaces of sheet-iron. I have found a very thin coating, applied with a brush, sufficient to preserve Russia iron stoves and grates from rusting during summer, even in damp situations.

I usually add to it a portion of black lead, and this preparation, when applied with a brush in the thinnest possible film, will be found a complete protection to sheet-iron stoves and pipes. The same property renders the compound of lard and rosin a valuable ingredient in the composition of shaving soap. The quality of shaving soap is greatly improved by a larger proportion of oil than is usually employed, so as completely to saturate the alkali; but such soap easily becomes rancid when wet with water, and suffered to remain damp—as it commonly is when in use. If a certain proportion of this compound is added to common Windsor soap, (say one-half its weight,) the tendency to grow rancid is prevented.

A very soft and agreeable shaving compound, or cream, may be made by steaming in a close cup a cake of any common shaving soap, so as to reduce it to a soft consistence, and then mixing intimately with it half its weight of our resinous preparation, adding a few drops of some odoriferous substance.—The same compound forms an excellent water-proof paste for leather.

Fine Glass in England.

The English manufacturers have attained a degree of perfection in the manufacture of fine glass, which excels even the Germans.—In silvering glass they are particularly excellent. The silvering is indestructible in composition, and is coated over with glass, the vividness of whose colours, be they what they may, or however varied, are thus infinitely heightened, and the most delicate carvings upon them are so brought out as to recall the old Byzantine mosaics in their multiplicity of tints and lustrous harmony of combination.—They do this by a new process. Vases are made which are as high as $3,000 per pair; nine-tenths of the cost is incurred in designing and engraving alone.

Butternut Sugar.

We see it stated in the American Agriculturist, that the sap of the butternut tree yields a fine sugar, which has a peculiar flavor, something like honey. The tree is tapped and worked like the maple, but it has a tendency to form like jelly, hence it has to be strained and clarified, when very weak. This tree is tapped, like the maple, in the spring. As in many places there are plenty of butternut and walnut trees, experiments to make this kind of sugar should not be overlooked.

To Extract the Essential Oil from any Flower.

Take any flower you choose, place a stratum in a clean earthen pot, and over them a stratum of fine salt. Repeat the process till the pot is filled; cover closely, and place in the cellar. Forty days afterward, strain that essence from the whole through a crape by pressure. Put the essence thus expressed in clean bottles, and expose them for six weeks to the rays of the sun and the evening dews, to purify. One drop of this essence will communicate its peculiar and grateful odor to a whole quart of water.

The Farm.

THE MORAL INFLUENCE OF AGRICULTURE.

"Agriculture was almost the only peaceful business which the Romans counted consistent with their dignity. Other pursuits they reckoned servile, but farming they jealously reserved for themselves. What idea they had in this arrangement, or could have, cannot now be well divined. Tillage was a primeval occupation; it was Adam's in Eden; and, after his expulsion thence, he still practiced it,—and by many pious men in many countries and in many ages it has been accounted as being peculiarly conducive to righteousness. Certainly communion with God is more practicable in fields and meadows, and amid the creatures of his hands, than in towns and shops among objects of man's own making.

Of the occupations in a city, many are on luxurious objects, and partake themselves of the questionable character of their ends, and many others tend to contract and debilitate the mind; but country labour is invigorating and pristine; it is congenial with thought, solemn thought; and it operates in concert with higher, than human allies, working together with the elements, and in their turn, with each of the four seasons; under whose mysterious agency, governable to some extent by man, though inscrutable by his eye, soil is transmuted into waving woods, and dust and dew drops into pendulous fruits."—*Mountford.*

Management of the Horse.

The following is from the pen of Mr. Miles, Veterinary Surgeon to the Queen of England's Life Guards, and autnor of several valuable veterinary works.

SHOES.

"The shoes of the Horse should be of equal thickness throughout, with a flat ground surface, as those with high heels, which asinine smiths make in imitation of their own, are dangerously absurd. The toe, which ought to be raised, is thus lowered, and Nature's plan reversed, who elevates the point in order to avoid obstructions. The web should be wide, and of the same width throughout, instead of being pinched in, because the Vulcan operator 'likes to see the shoe well set off at the heels.' This is both unphilosophical and detrimental; it deceives the eye of man and injures the foot of the horse. 'The *outer* edge of the foot rests on the inner edge of the shoe, and the remaining width of the web projects beyond the hoof;' so that the master who thinks his horse has a good open foot, only has to be proud of a bad open shoe, which both conceals deformities underneath and 'invites with open arms a bad road to come in and do its worst.' The heels are made bare just where the navicular joint is most exposed; and if that be inflamed, what must the agony be when the unprotected foot treads on a sharp flint? The horse 'falls suddenly lame,' or 'drops as if he had been shot,'—'phrases in much too common use to require explanation;' and small is the pity which the suffering animal meets with from man; who having first destroyed the use of his victim's feet, abuses him because he cannot go; and imputes grogginess' to him as a crime, as if he were in liquor like a groom, and not in agony."

STABLING.

Mr. Miles, duly estimating the advantages of freedom of motion, had long converted his stable stalls into boxes, from a dislike to seeing his hobby horses treated worse than wild beasts, who at least, are allowed to traverse their den. Loose boxes are too generally left untenanted because no horse happens to be an invalid; yet they are more useful to sound animals than even to sick ones, since prevention of disease is better than its cure. The poor beast, cribbed, cabined, and confined, chained to his rack, and tortured, by being unable to change his position, is put for hours to the stocks, and condemned to the hard labor of having nothing to do—which destroys dandies and bankrupts commissioners. The prisoners suffer more from long standing still than from any trotting on the hardest road—it is the rest, not the work, that kills; and still more, when the pavement of the stall is uphill, which, as his legs are of equal length, and not like a camel-leopard's is at once painful and injurious; he meets the difficulty by standing on his hind toes in order to equalize the weight, and therefore strains his tendons and gets 'perched.' The floor should be perfectly level and paved with granite slabs, which should drain themselves by having herringbone gutters cut in them, as nothing is more fatal to the eyes of horses than the ammonia so usually generated under them. A box so arranged is not merely a luxury to a horse and a mare, but is absolutely as necessary a one as Haymarket is to a lord and lady. Nature is ever our surest guide. The animal when grazing in a field is never quiet a second.

"Mr. Miles gives working plans of the simple contrivance by which he converted a four stalled stable into one of these boxes. This suppression of supernumerary stalls was effected by shifting the divisions. A tripartite arrangement is far preferable to solitary confinement, for horses are curious social animals; they love their neighbors, and like to see what they are at, as much as country families do, whose pews adjoin in their parish churches. The best partition is brick nogging, which should be cased with boarding, and surmounted with iron rails; the separation should be carried highest near the manger, in order to prevent the company from watching each other at meals—a thing which is not only unmannerly, but injurious to health. Each hopes to get some of his neighbour's prog, and is also afraid of his neighbor getting some of his; insomuch that the best bred horse, even when next to a pretty filly, invariably bolts his feed—just as a senator oftimes does at a boarding house table d'hote, although a Fanny Butler sits at his side. Dyspepsia is the sure result of this imperfect mastication."

OF FEEDING.

"One word only on diet. The groom will persist in treating his horse like a Christian, which, in his theology, consists in giving him as much too many feeds as he does to himself, but shoes are not more surely forged on anvils than diseases are in the stomach of both beasts and men who make themselves like them.—Nature contrives to sustain health and vigour on a precarious, stinted supply, since it is not what is eaten but what is digested that nourishes. Her system should be imitated in quantity and quality; she regulates the former according to the length of the day and the amount of work required to be done, and bids the seasons, her handmaids, vary the latter by a constant change in the bill of fare. Provide, therefore, your nice nags with their cruet and salt-cellar, by placing in each manger a large lump of rock-salt and chalk, to which when troubled with indigestion or acidity, they will as surely resort as the most practised London diners-out do their glaubers and potash; nor will they often require any other physic. If a bucket of water be placed always in their reach, they will sip often, but never swill themselves out to distension, which otherwise are 'obligated to do' (like their valet) whenever liquor comes in their way, in order to lay in a stock like the camels who reason on the uncertainty of another supply."

GROOMING.

"Boxes, however beneficial to horses, are unpopular with prejudiced grooms, who have an instinctive dread of improvements which do not originate with themselves; and although in truth few classes are more ignorant of the philosophy and ologies of the horse than stable folk, yet, in common with all who handle ribbons or horse-flesh, they have jockied themselves into the credit of being the knowing ones *par excellence;* accordingly such servants, especially if old ones and treasures, generally rule and teach their masters, for gentlemen pique themselves vastly on connoisseurship of pictures and horses, and are shy of asking questions which imply ignorance.

"When masters remember that the natural life of a horse is from thirty-five to forty years, and that three-fourths of them die, or are destroyed under twelve years old—used up—with scarcely a foot to go upon; I take it," says Mr. Miles, "that they will be very apt to transfer their sympathies from the groom, and his trouble, to their own pockets and their horses welfare."

"Yet, were it not for the wise provisions of nature which causes legs to swell after inaction, and the overlively exuberance of antics by which a fresh horse exhibits his schoolboy exultation of being let loose and getting out of the stable—probably even less than the present poor pittance of exercise would be given by idle grooms and timid masters.

"The horney wall of the horse's foot is apt to get dry and brittle in a hot stable, where temperature ought to range from 56 deg. to 60 deg. Dry straw coupled with excess of heat, produces cracks in the crust, the natural effects of over-baking; this is counteracted by grease and moisture, using the first—which is an axiom—in order to prevent evaporation. Mr. Miles furnishes the receipt of an ointment which he has found to succeed admirably. In hot summer days the feet should be tied up in a cloth and occasionally plunged into buckets of cool water; beware, however, of washing the feet too soon after exercise, as it checks perspiration and induces fever; clean them when cool, and rub the hock and pasterns dry with the hand—the best of towels; a stopping also at night of fresh cow dung keeps the frog moist and sweet."

Fowls.

A farmer may keep a hundred fowls in his barn, may suffer them to trample upon and destroy his mow of wheat and other grains, and still have fewer eggs than the cottager who keeps a single dozen, who provides secret nests, chalk eggs, pounded brick, plenty of Indian corn, lime, water and gravel for them; and who takes care that his hens are not disturbed about their nests. Three chalk eggs in a nest are better than a single nest egg, and large eggs please them. I have often smiled to see them fondle around and lay into a nest of goose eggs. Pullets will commence laying earlier in life where nests and eggs are plenty, and where other hens are cackling around them.

Weights and Measures.

As all families are not provided with scales and weights referring to ingredients in general used by every housewife, Dr. Brown gives the following list:—Wheat flour, 1 pound is 1 quart; Indian meal, 1 pound 2 ounces is 1 quart; Butter, when soft, 1 pound 1 ounce is 1 quart; Loaf sugar, broken 1 pound is 1 quart; White sugar, powdered, 1 pound 1 ounce is 1 quart; Best brown sugar, 1 pound 2 ounces is 1 quart; Eggs, average size, 10 eggs, are 1 pound; Sixteen large table-spoonfuls are ½ a pint; Eight table-spoonfuls are 1 gill; Four large table-spoonfuls are ½ a gill; A common-sized tumbler holds ½ a pint; A common-sized wine glass holds ½ a gill.