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Arts, Manufactures and Ma- ition, in such a form that they shall be all almost off, bends it nearly at right angles. | ning wheel, axis, and cutter knives vertical, chinery.

(Continued from No. 36.) The economy produced by Manufactures ufacture of hob nails.

tures is-the economy which they produce peculiar manner, by throwing them up a veis this effect, that we might, if we were in. longitudinal motion. The shape of the need. clined to generalize, embrace almost all their i les assists their arrangement; for if the needadvantages under this one head; but the elu. les cross each other, (unless which is exceedcidation of principles of less extent will con- ingly improbable, they happen to be precisely tribute more readily to a knowledge of the the same,) they will, when they fall on the point.

glass has undergone, within a few years, a very important improvement. A glaziers ap., three or four minutes. The direction of the to the first specification being defective. Some prentice, when using a diamond set in a conical ferrule, as was always the practice about little, but the tray is shaken endways; the and that the original was not an original intwelze years since, found great difficulty in result of which is, that in a minute or two vention. That Hale and Bentham and Muir's the art of employing it with certainty, and at the needles which were previously arranged patents for the same thing were older. Mal- son. the end of a seven years' apprenticeship, endways become heaped up in a wall, with com Muir's invention for planing, tonguing many were found but indifferently skilled in their ends against the extremity of the tray. its use. This arose from the difficulty of fin- They are now removed by hundreds at a time ding the precise angle at which the diamond by raising them with a broad iron spatula, tent Office in 1842, and it was farther extendcut, and of guiding it along the glass at the on which they are retained by the fore-finger ed by special act of Congress on the 26th of proper inclination when that angle was found. of the left hand Almost the whole of the time consumed and of the glass destroyed in acquiring the art of furnishes an example of one of the simplest fit, because he had then gone to that "bourne courts, and sixty five squares It has 246 cutting glass may now be saved by the use contrivances which can come under the de- from whence no traveller returns." It was a churches and chapels, 307 meeting houses of an improved tool. The gem is set in a nomination of a tool. After the needles have special law for the benefit of a monopoly, for dissenters, forty-three chapels for foreign small piece of squared brass, with its edge been arranged in the manner just described, whose selfish schemes will be more fully denearly parallel to one side. A person skilled in it is necessary to separate them into two parits use, now files away one side of the brass, cels, in order that their points may be all in until, by trial, he finds that it will act well, one direction. This is usually done by wo- tent, and making part of the same, containing 2,000,000. In this vast city there are 4,000 when guided, by keeping this edge pressed men and children. Their needles are placed ; a description in the words of the said William against a ruler. The diamond and its mount-sideways in a heap, on a table, in front of Woodworth himself, of his improvement in promoting the arts and sciences, 122 asylums ing are now attached to a stick similar to a each operator just as arranged by the pro- the method of planing, tonguing, grooving for the indigent, 17 for the sick and lame, 13 pencil, by means of a swivel allowing a small cess above described. From five to ten are and cutting into mouldings, or either, plank, dispensaries, 704 charitable institutions, 58 angular motion. Thus the merest tyro, using rolled towards the person by the fore-finger boards, or any other material, and for reduit in this form, at once applies it at the proper, of the left hand; this separates them a very angle, by pressing the side against a ruler; short space from each other, and each in its ness; and also for facing and dressing bricks vessels trading on the river Thames in the and even though the part he holds in his turn is pushed length wise to the right or left and cutting mouldings on, or facing metallic, year, and 40,000 wagons going and returning hand should deviate a little from its proper according as its eye is on the right or the mineral and other substances. angle, yet it communicates no irregularity left hand. This is the usual process, and in to the position of the diamond, which but it every needle passes individually under the rarely fails to do its office when thus employ. finger of the operator. A small alteration ed.

for the purpose alluded to, effects are frequently produced which could not. even with the best tools be accomplished by other means in less than many months.

a black dye for the consumption of calico printers.

chine is not capable of very prec tion, nor is it necessary in our popular expla nation of them, to limit very strictly their popular sense. A tool is usually more simple than a machine: it is generally used with the hand, whilst a machine is frequently moved by animal or steam power. The ker. simpler Machines are often merely one or more tools placed in a frame, and acted on advantages of tools, we shall commence with some of the simplest.

To arrange twenty thousand needles thrown promiscuously into a box, mixed and entang-

expedites the process considerably; the imals. The hoofs of horses and cattle, and hand do not stick into the finger cover, and thickness required; and the carriage, moving other horny refuse, are employed in the pro- are pushed to the heap on the right side pre- by a rack and pinion, or rollers, or any laterduction of the Prussiate of Potash, that beau- vious to the repetition of this process By al motion to the edge of the knives or cutters

by any moving power. In pointing out the hob-nails, require a particular form of the rabbiting wheel, also of similar form, having for my companious are often very unhappy out of which he forms them in his left hand, wheel, cuts the rabbit on each side of the with his right hand he hammers the end of | edge of the plank, and leaves the tongue a

parallel to each other, would, at first sight, He puts this into a hole in a small stake-iron the same wifeel will plane two planks or appear a very tedious occupation; in fact, immediately under a hammer connected with other material in the same time of one, by if each were to be separated individual- a treadle, and which has sunk in its surface moving the plank or other material opposite and Machinery.-Cutting glass with the ly, many hours must be consumed in the pro- a die corresponding to the intended form of ways, and parallel with each other against diamond .- Production of valuable mat- cess. Yet this is an operation which must the head; and having given one part of the the periphery of the planing or moulding ter from worthless materials .- Distincti- be performed many times in the Manufacture form to the head by the small hammer in wheel. The groove and tongue may be cut on between a tool and a machine.-Longi- of needles; and it is accomplished in a few his hand, he noves the treadle with his foot in the plank or other material at the same tudinal arrangement of needles, arran. minutes by a very simple tool, which is, in which disengages the other hammer, and time, by adding a grooving and rabbiting ging the points in the same way. - Man- fact, nothing more than a small flat tray of completes the figure of the head; the return- wheel. sheet iron, slightly concave at the bottom. ing stroke of this hammer strikes the finished The next use of Machinery and Manufac. The needles see placed in it and shaken in a nail out of the hole in which it was retained. Without this substitution of his foot for anothin human time. So extensive and important ry little, and giving at the same time a slight | er hand, the workmen, would, probably, be but he claims as his invention, the improve-

obliged to heat the nails twice over. (To be continued.)

Woodworth's Patent.

shake is now changed, the needles are but say that the re-issue was obtained by fraud, December 4th, 1828. and grooving, was older undoubtedly. The Schedule attached to my patent. Woodworth patent was extended by the Pa-Feb. 1846. The act of Congress was not three, and in circumference, twenty-six. It Another process in the same manufacture granted to Mr. Woodworth, nor for his beneveloped at some other time.

cing the same to an equal width and thick- connected with the law. There are 13,300

reduced to a width by circular saws, or friction wheels, as the case may be, is then pla- the property floating in the vast city every ced on a carriage, resting on a platform with As another example of the economy of time child puts on the fore-finger of its right hand a rotary cutting wheel in the centre, either the use of gunpowdor in blasting rocks may a small cloth cap or finger stall, and rolling horizontal or vertical. The heads or circube noticed. Several pounds of that substance from the heap from six to twelve needles, it lar plates fixed to an axis, may have one of may be purchased for a sum acquired by a keeps them down by the fore finger of the the heads moveable, to accomodate any length few days labor: yet when this is employed left hand; whilst it presses the fore-finger of of knife required. The knife fitted to the the right hand gently against the ends of the heads with screws or bolts; or the knives or needles, those which have their points to- cutters for moulding fatted by screws or bolts wards the right hand stick into the finger. to logs, connecting the heads of the cylinder, stall: and the child, removing the finger of and forming with the knives or cutters a cy-Itess than many months. Instances of the production of valuable mat-the left hand, allows the needles sticking in-linder. The knives may be placed in a line reports, to domestic unkindness; and, unforter from the most worthless materials are to the cloth to be slightly taised, and then with the axis of the cylinder, or diagonally. constantly occurring. The skins used by the pushes them towards the left side. Those The plank or other material resting on the tunately, the best, under such circumstances gold beater are produced from the offal of an. needles which had their eyes on the right carriage, may be set so as to reduce it to any tiful, yellow, crystallized sait, which is ex- means of this simple contrivance each move. on the periphery of the cylinder or wheel, hibited in the shops of some of our chemists. ment of the finger from one side to the other reduces it to any given thickness. After pas-The worn-out sauce-pans and tin-ware which carries five or six needles to their proper heap sing the planing and reducing wheel, it then dampness corrodes, and the rust, though reare beyond the tinker's art, are not utterly whereas, in the former method, frequently approaches, it required, two revolving cutter worthless, they are conveyed to the Manufac- only one was moved, and rarely more than wheels, one for cutting the groove, and the turing chemists who employ them in con- two or three were transported at one move-iunction with a pyroligneous acid, in making ment to their place. My tather liked to have, as often as he converse with him and always took even to There occur operations in the arts in which other, and the lateral motion moving the converse with him, and always took care to the assistance of an extra hand would be a plank or other material between the start some ingenious or useful topic for dis-The difference between a Tool and a Ma- great convenience to the workmen, and in grooving and rabbiting wheels, so that one course, which might tend to improve the these cases tools or machines of the simplest edge has a groove cut the whole length, minds of his children. By this means he turned our aid. Vices of different and the other edge a rabbit cut on each side, turned our attention to what was just and forms, in which the material to be wrought is leaving a tongue to match the groove. The prudent in the conduct of life, and little or firmly grasped by screws, are used in almost grooving wheel is a circular plate, fixed on no notice was ever taken of what related to every workshop: but a more striking exam- an axis with a number of cutters attached to the victuals on the table, so that I was brought ple may be found in the trade of a nail-ma- it, to project beyond the periphery of the up in such a perfect inattention to those plate, so that when put in motion, will per- matters, as to be quite indifferent to what Some kinds of nails, such as those used for form deep cut or groove parallel with the kind of food was set before me. In after defending the soles of coarse shoes, called face of the plank or other material. The life this has been a great convenience to me, head, which is made by the stroke of a die a number of cutters on each side of the for want of a suitable gratification of their The workman holds the red-hot rod of iron plate, projecting like those on the grooving very much more delicate tastes and appetites. led with each other in every possible direc- it into a point, and cutting a proper length match for the groove. By placing the pla- best baby jumpers.

Said William Woodworth does not claim the invention of the circular saws, or cutter wheels, knowing they have long been in use, ment and application of cutter or planing wheels to planing boards, plank, timber, or other material; also his improved method of cutters for grooving and tonguing, and cut-The Woodworth Patent has been the sub- ting mouldings on wood, stone, iron, metal, subject, and as numerous examples will be bottom of the tray, tend to place themselves ject of more litigation than any other in the or other material, and also for facing and presented to the reader in the ensuing Nos. side by side, and the hollow form of the tray United States. The original schedule is not dressing brick : as all the wheels may be u-we shall restrict our illustrations upon this assists this disposition. As they have no exactly a correct data for decision as regards sed separately and singly for moulding, or projection in any part to impede this tenden- the full claim of patent held by the executors any other purposes before indicated. He al-The art of using the diamond for cutting cy, or to entangle each other, they are by of Woodworth. The first patent was granted so claims as his improved method the applicacontinually shaking, arranged lengthwise, in in 1828, butafterwards it was re-issued owing tion of circular saws for reducing floor plank, and other materials to a width. Dated Troy,

WILLIAM WOODWORTH. Witnesses: HENRY EVERTS: L. S. GLEA-

15- I certify the above is a true copy of the

WILLIAM WOODWORTH.

London. London in length is eight miles, in breadth contains 8,000 streets, lanes, and alleys, and ers, and six synagogues for Jews-making 602 "The schedule referred to in these letters pa-habitants is at property of the schedule referred to in these letters pahabitants is at present estimated at about semimaries for education, 10 institutions for to the metropolis in the same period. The The plank, boards or other material, being exports and imports, to and from the Thames is estimated at £66,711,222 annually, and year is £170,000,000 sterling.

A Gem.

The sunlight that follows a shipwreck is not less beautiful though it shines upon the remnants of the broken bark-that which is saved is so much more precious than that which has been lost. The domestic circle is always too precious to make excusable, any neglect to prevent or to heal disturbance. are much prone to mistake, and thus misrepresent motives and trifles, with no direct object, are magnified into mountains of unintentional offence. It is the same in social life. Let us guard against it. Delicate relations are like the polish of costly cutlery; moved, leaves a spot

Advice to Parents.

-Franklin.

Somebody suggests that birch rods make the