



Needle and Pin Making.

Needles go through a number of operations before they are complete. Some commence with steel wire hardened, others harden it afterward. The wire is first reeled into a coil, which is cut apart in two places with shears, and then drawn a second time, after which it is cut into lengths just sufficient for two needles in each piece: these pieces are then straightened by rolling a bundle of them together upon a hard surface, being afterwards sharpened upon a revolving grindstone. The pieces are now cut in two at the middle, the blunt ends flattened by a hammer, preparatory for the eye, which is afterward pierced by machinery. They are then tempered by plunging them into a bath of melted metal, and immediately after into cold water; then thrown into a wabber—a barrel rapidly revolving upon an axis not placed through its centre—with emery and a putty made from the oxide of tin, by which they are burnished. They are then taken out, separated by a winnowing apparatus, and put up in papers for sale; the quantity not being counted but regulated by weight. The eye was formerly pierced by children, who became so expert that with one blow of a punch they would frequently pierce a hole, through which they would thread a hair from the head and hand it to their visitors.

There are but three manufactories in this country, and one of these imports them from England in a half finished state and then finishes them, the European labor being less expensive.

Homer Whittemore invented a machine as long ago as the Revolutionary war, for making Pins. The present operation consists in strengthening the wire, cutting into proper lengths, grinding the points, putting on the heads, and then coating with tin. There are two kinds of heads, one being solid and the other made of fine wire. The solid heads have heretofore required the pins to be annealed, which took away its stiffness, but now this is obviated by dipping the ends into prosiate of potass and softening it by a blow pipe, which saves the main body of the pin. The silvering operation is performed by placing the pins in a metal dish with alternate layers of grained tin; a solution of acids is then thrown on and the whole boiled to make the tin adhere to the pins, which gives them a silvery looking coat.

There is what is called the American Elastic Pins for shawls, &c., invented by Mr. Rabbeth, of Conn. It is a patent pin, very beautiful and convenient. The inventor desired to sell his patent right and we gave notice of this in the Scientific American.

#### The Cycloid.

If we make a spot in the periphery of a wheel when travelling on a plane, the figure which that spot describes is a cycloid. Now there is no figure in which a body can be moved with so much velocity and such regularity of speed, not even the straight line. Mathematicians discovered this not many years ago: but nature's God taught it to the eagle before mathematics were invented; and when the eagle pounces on his prey he describes the figure of a cycloid.

A globe placed in water or in air, meets with resistance, and its velocity will be retarded,—if you alter the globe to the form of an egg, there will be less resistance. And then there is a form called the cycloid, of least resistance, which mathematicians studied many years to discover; and when they had discovered it, they found the form in a fish's head! Nature had "rigged out" the fish in just such a figure.

The feathers of birds and each particular part of them, are arranged at such an angle as to be most efficient in assisting flight.

In Saxony there are 75,000 persons who make their living, in one way or another, from the manufacture of musical instruments.

For the Scientific American.

#### Blue Color for Stamping Patterns on Cloth.

Take one ounce of Prussian blue, pound it to powder and dissolve it in a little gum water wherein is mixed a little oxalic acid and white sugar. By having a greater or less quantity of water mixed with the blue and thickened to stamping consistence with gum, there will be dark and light shades produced, as may be desired.

Powdered indigo mixed with gum water, for stamping, makes but a poor color, and is easily washed out. The above receipt is rather a fast color. If one ounce of powdered indigo be dissolved in 4 ounces of sulphuric acid, and the acid neutralized with the addition of one ounce of the acetate of lead and half an ounce of whiting, makes a fine blue for stamping, with the addition of being thickened with gum.

#### Speaking Machines.

The Abbe Mical, a celebrated French mechanician, constructed two colossal brazen heads, which are said to have uttered not only words, but entire phrases. He submitted these master pieces of his skill to the Academy of Sciences in July, 1783; but being disappointed of the reward which, on the recommendation of the Academy, he had expected from the government, he broke them to pieces. A celebrated anatomist gives us the following account of their construction:—

The heads covered a hollow box, the different parts of which were connected together by hinges, and in the interior of which the inventor had disposed artificial glottises of different forms over stretched membranes. The air passing through these glottises was directed on these membranes; which gave sounds of different pitches; and from their combination there resulted an imperfect imitation of the human voice. Sir David Brewster thinks that "before another century is completed, a talking and a singing machine will be numbered among the conquests of science."

That may be, but a thinking one never.—Yet we have no doubt but the talking machine when invented, if ever, would sell for more money than the thinking and talking one combined.

#### New Mode of Making Coffee.

Take one pint of Orleans molasses boil it in an iron pot, until it becomes quite thick and the sweet taste burnt, then take it off the fire and pour in hot water gradually and stir it till it becomes a little thinner than the molasses was at first, then to one spoonful of this burnt molasses add two spoonfuls of ground coffee, boil as usual and clarify with the white of an egg.—*Ohio Cultivator.*

#### Another Mode.

Take sweet potatoes, and cut them about the size of ordinary dice, then toast them over a fire like coffee beans, grind it and scald it like ground coffee. This potatoe coffee is as strong and dark in appearance as any other, and only differs in taste from "Havanna" by reason of a slight resemblance to cocoa. It takes very little sugar, and is a substantial, cheap, and no doubt healthy drink.—*Southern Planter.*

We have tried both these modes and like Paul chose to abide by the old ship. The first is a very poor method and will in no manner pay for the trouble, but the latter is both original, homespun and has merit.

#### Cure for Rattlesnake Bites.

A correspondent of the Philadelphia Inquirer states that tobacco applied to the wound made by a rattlesnake's bite, is an antidote to the deadly effects of its poison.

Dr. Lee, of Hartford, Conn., states that he has treated a number of cases successfully at the South by applications inwardly of alcoholic liquors.

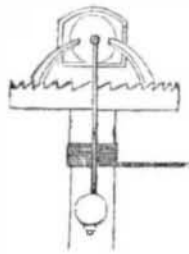
J. W. Rose, M. D., of Philadelphia, in a communication to the N. Y. Tribune, says that if the following mixture is applied to the wound, the cure is soon complete:—

Indigo 4 drachms; gum camphor 8 drachms; alcohol 8 ounces; mixed and kept in close bottles.

The newest invention out is a pair of bellows for taking snuff. It is loaded once a week and all that is needed is just to elevate the spout to the olfactory and blow away and sneeze for a fortnight.

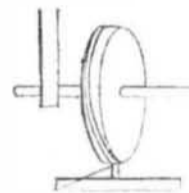
#### MECHANICAL MOVEMENTS.

##### Vibrating Lever and Chain.



The above cut exhibits a mechanical movement from which it will easily be perceived that by the motion of the vibrating lever arrangements for drawing a rope are exhibited in a very plain and simple manner. Connected with catches which gather a tooth of the ratchet wheel at every vibration, the shaft is revolved on which the rope is coiled. This arrangement belongs to that fine mechanical art, watchmaking, and the same principle is exhibited in the working of every clock. The swinging of the pendulum in an arc lifts a clamp each vibration and round and round goes the shaft on which is fixed the ratchet wheel.

##### Transverse and Oblique Motion.



This is a cut of an arrangement showing how a small traverse may be produced by a revolving wheel. There is an oblique groove in the periphery of the revolving wheel in which a cord plays that is attached to the lower bar and as the wheel revolves a small traverse is produced. The idea of operation is very plain and will be understood at once, as it is produced upon the very same principle of the parallel motion in a shaft that may be attached eccentrically to a small wheel moving in the inside of a larger one.

##### Beet Root Sugar.

Beet root sugar is fast superseding the Cane sugar in various parts of Germany. Good strong loaves manufactured from cane sugar by the refineries at Stettin and Berlin, cost 15 dols. per cwt. a quality in every respect equivalent, in color as well as strength, and being of a pure taste, made at Madgeburg from beet-roots, sells at 17 dols. or from five to six per cent, less; and with such a price, which leaves a clear profit of 20 per cent.

The progress made in this branch of industry is astounding. The produce of two sugar houses in that neighborhood, is of such a superior quality that in none of the refineries within the boundaries of the customs union who use cane sugar, an article is made which could successfully compete with it. A number of new establishments are being erected every year in that district, (within a circuit of from six to eight German miles) on the left banks of the Elbe, and in this season the quantity of beet-root sugar produced there will exceed 200,000 cwt.

##### Sponges.

Sponges afford another curious instance of zoophitic life. There are forty-nine species of this zoophite, each of which is characterized in the Linnaean system as a fixed animal flexible torpid, of various forms, composed either of reticulate fibres, or masses of small spines, interwoven together, and clothed with a gelatinous flesh, full of small mouths on its surface, by which it absorbs and rejects water. The existence of the animal inhabitant within its cell has been satisfactorily ascertained by the observations and experiments of Ellis on the spongia tormentosa. He remarked its contraction when exposed to pain, or injury, as well as the expiration and inspiration of water through its tubes. He thus establishes the position that sponge is an animal, and that the ends or openings of the branched tubes are the mouths by which it receives its nourishment and discharges its excrementitious matter. This position chemistry has since abundantly supported, by

proving the ammoniacal property of the cellular substance of sponge.

The sponges from the Levant are the most valuable, being much finer than those got in the Gulf of Mexico.

##### Preserving Pork.

One of the correspondents of the Genessee Farmer says that it is wrong to scald old brine for the purpose of salting new meat, and that for eight successive years he assisted in putting down pork and pouring upon it the same brine without being once scalded, and the older the brine, the sweeter and better was the pork. The brine was always sweet, and had plenty of brine at the bottom. The pork was laid down in the usual manner with salt, and the old brine poured back upon it. The advantages are saving of labor, and trouble.

##### Chloroform Yet.

There has been a novel application of chloroform at Cambridge. A horse in a gig began to kick furiously, and at length threw himself down in a rage. A chemist poured some chloroform on a handkerchief, and held it to the horse's mouth and nostrils; it became insensible for a time; the gig was removed and the horse, on recovering, quietly got up and walked into his stable.

##### Petrified Body.

A short time ago there was found in a coal pit near Edinburgh, Scotland at a depth of twenty to thirty fathoms, a petrified human body, which, unfortunately the miners broke, but three pieces have been preserved—viz., portions of the arms, and a foot and a leg half way up to the knee, the toes broken off,

##### Paper Folder.

A working engineer at Preston, England, has invented an apparatus for folding newspapers as they are received from the printing machine.

The British Museum has purchased the reversion, after the death of the present proprietor, M. Michel of Hamburg, of a rich collection of Hebrew books, amounting to 5000 printed volumes and 800 manuscripts.

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