

Rubber Nipples.

To enumerate different kinds of rubber nipples alone would be a weariness. Scores of kinds there are of all shapes, sizes, and colors, good, bad, and indifferent, and still new devices are daily added and the demand increases. Nipple making is among the most interesting of rubber specialties. When made by hand the operatives are always girls, as the work, though light and pleasant, need dexterous, rapid fingers.

The first step in the preparation of a first-class hand-made nipple is the material. It is commonly mixed sheet, either white, black, or maroon. "Lead gums" are but seldom used for black, because of their alleged poisonous qualities. The fine tracery of parallel lines that cover the surface of certain kinds of nipples, imparting a flesh-like grain, is called the "print," and is given to the mixed sheet before it is cut into nipple pieces.

A simple and inexpensive manner of producing this print is to have a metal plate upon the surface of which parallel grooves are marked. These grooves are clear cut and even, with no breaks, and of the same depth. From this rubber impression plates may be made, by placing a sheet of vulcanized rubber upon the metal plate, rubber side down, and curing in a steam press. The result will be a plate as good as the original, and capable of more wear and tear. Indeed, this new plate is, for practical use, far superior to the metal, for where the latter would unavoidably receive dents and abrasions which would soon obliterate the print, and in addition to this, would be so heavy as to be cumbersome in the extreme, the former may be hammered and knocked in all possible ways and yet show no abrasion, and, better still, is so light that it can be handled with the greatest ease.

After a sufficient number of impression plates have been prepared the mixed sheet for the nipples is cut into lengths that shall fit between the plates; each plate is wiped lightly with a brush dipped in talc, and a sheet of rubber is placed upon it. These sheets and impression plates are then placed in a compact pile and submitted to gentle pressure. In due time the unvulcanized mixed sheet takes from the impression plate the print, and after it is fully set it is ready to be cut into nipple pieces. When taken away from the pressure, the plates and mixed sheets seem to be one compact mass. They can, however, be separated if not left too long.

The condition of the print, although primarily depending upon the condition of the impression plate, may be materially injured by careless "stripping."

The printed sheets, after being stripped, if they have been stretched, are plunged into hot water, or otherwise heated, in order to shrink them, and then given to the nipple cutters. Several sheets may be cut at once, if brushed lightly with talc. The die should be very sharp, as otherwise the edge of the nipple piece will be rounded, and consequently harder to knit in the making.

The nipple pieces when cut are: for small nipples, nearly heart-shaped; for large, cone-shaped. In the former the seam extends from the bottom up one side and just over the crown, the other side being seamless; while in the latter the seam completely divides the nipple. Small nipples are therefore made in one piece, large nipples in two pieces. To cut large nipples two sheets are laid together with the print inside. The natural stickiness of the stock will hold these pieces together, which helps materially in the making up.

After the nipple pieces have been delivered to the makers, the next process is cementing. The pieces are neatly laid in piles, and then, by means of a small brush, painted with a cement made of mixed sheet dissolved in naphtha. They are then spread upon tin plates to dry. To facilitate the drying process, each nipple table has attached to it a small steam oven, so arranged that it may heat a number of tins, and yet cause little annoyance by its proximity to the makers.

The kit of tools for a nipple maker consists of a small slanting "case," in which are places for a certain number of nipple formers, two cement cups with brushes and "steep tops," a small glass "naphtha well" set in the case, similar to an ink well, a naphtha brush, thumb cots for taking off nipples after being vulcanized—tin plates for drying—pans for packing, cleaning sponge, and set of nipple formers.

The small nipple formers are pear-shaped pieces of metal set upon iron pins. The large formers are simply hollow cones of metal or glass. The case has holes for small and "rests" for large formers. The rows are so arranged that their nearness to one another does not interfere with the most rapid work. By the side of each case is a rest for the tin, which is provided with a small adjustable clamp to hold it in position. Beneath this case are skeleton drawers, on which are set pans of talc for packing the nipples when finished.

After the nipple pieces, placed in the oven to dry, have become thoroughly warmed, and the solvent has so evaporated as to make the cement just right to knit well, the maker takes a former, dips it in the talc, places it in the center of a piece, draws the edges together, and, with a rapid pressing of the thumb nail against the two edges, closes effectually and neatly the gaping seam. The former with its half-made nipple is then returned to its place, and another former covered. In the same way the whole case is studded with pear-shaped rubber covered formers.

Next in order is the making of the flange at the lower end. For this purpose the cement brush is again brought into requisition, and the lower end cemented. When dry, the operator, with the right thumb, presses firmly on the lower edge with an upward motion. This turns it over a

little, and, when continued around the stem, makes a small ring at the lower end of the nipple. A continuation of this brings out the flange. Large nipples are cemented, seamed, and flanged, and then turned inside out, as they were cut with the print within.

When finished, the nipples, formers, and all are packed in shallow pans half filled with talc. The packing in itself is quite an art, as there must be economy of space, and as a quick thrust must be given to each one, in order to force a little talc between the stems of the former and the nipple, to prevent the flange from adhering to the stem. When packed they are taken away to the heater, where, after being filled full of talc, the pan is loaded upon a car and run into the heater. The "chalk room," in which the nipple pans are filled, is provided with tables, under which are large bins. Below the level of the table tops are a set of sieves, and into these the pans of vulcanized nipples and talc are poured and sifted, each worker keeping her "heats" separate.

Taking the nipples off from the former is oftentimes very hard work. Especially is this true of small nipples. Then it is that the "cots" come in place and save many tender fingers from blistering. But after the knack of slipping them off has been learned, it is wonderfully easier. A short season of scouring in the cylinders is next in order, after which the nipples go to the potash boiler.

The punching of the holes in the crown of the nipple is done by hand. Small punchers are set in standards at each table. The nipple is placed upon the punch and hit firmly with a small wooden mallet. The rapidity with which many of the makers punch the nipples is surprising. For a finishing touch the girls take them again in hand, pack them in paper boxes, and the nipple is ready for market.

A curious part of the process of nipple making is the care the girls take of their finger nails. These before all other tools are a necessity. If brittle the utmost care in trimming is taken, and they are washed, scrubbed, and oiled with daily solicitude. A cracked nail is a calamity, as no seaming at all can be done until it is grown to the proper length.

Black nipples, after being washed frequently, have a grayish dirty tinge, which is removed by dipping them in a liquid black.

Nipples, instead of being always made by hand, as in the foregoing, are frequently "dipped;" that is, the former is plunged into a cement made of rubber dissolved in some solvent, and then dried. This being repeated until a suitable coating is obtained, when the flange is rolled as in other nipples. They are also made in moulds. Finger cots and other rubber articles of similar shape are cut, cemented, and made over formers in the same manner as nipples.—*Rubber Era.*

MISCELLANEOUS INVENTIONS.

Mr. William Slow, of New York city, has patented an improved strainer for the outlets of tubs and basins which can be removed from the washer of the outlet of a tank, tub, or basin, for the purpose of clearing it in case it becomes clogged. The invention consists in the combination with a washer having an internally-threaded neck, of a strainer having an externally threaded vertical flange capable of receiving a plug. It is readily removed by means of a small key or wrench furnished with it, when it can be cleaned and the waste pipe can be readily cleaned when the strainer is removed. The strainer may consist of an apertured plate, or of netting, or of two bars, as may be desired.

An improved tracheotomy has been patented by Mr. Lewis J. Lyman, of Manhattan, Kan. The improvement relates to surgical instruments for use in opening the trachea in cases of membranous croup, or in any case when it is necessary to practice tracheotomy. The object of this invention is to provide for more easily effecting an entrance to the trachea than can be done by instruments heretofore in use, and for retaining the instrument in proper place after insertion. The invention consists in a blade of peculiar shape upon a spring arm fitted between two spring-holding arms that are formed with T-ends, and also in a catch for simultaneously securing and loosening the spring-arms.

Mr. Charles W. Posten, of Boone, Iowa, has patented an improved washing machine, which consists of a circular vessel formed of two cones united at their bases, and is provided with a shaft attached to the apex of each cone, and resting on suitable bearings in the sides of a tub or tank adapted to receive it. The double conical vessel has numerous perforations and indentations all over its surface.

An amusing toy bank for children has been patented by Mr. John Murray, of New York city. The invention consists in the combination, with the head that forms the body of the bank, of the tongue and the inclined and weighted pivoted bar carrying the tongue, whereby the weight of a penny placed upon the tongue will turn the pivoted bar and cause the tongue to pass into the head and drop the penny into the interior of the head.

An improved sash holder, patented by Mr. John H. Lynch, of Lowell, Mass., consists in a roller wheel pivoted in journals sliding horizontally in the lugs of a plate attached to the outer surface of one of the side rails of a sash, which wheel is pressed against the pulley stile of the window frame by a spring, and is provided on one of its sides with a ring of ratchet teeth, which engage with like teeth of a peripherally ratcheted wheel loosely mounted on the shaft of the rubber wheel, which ratchet wheel is acted upon by a spring pawl, that permits both the ratchet wheel and rubber wheel to

rotate when the sash is being raised, but locks the ratchet wheel and the rubber wheel as soon as the sash is released, and thus holds it in place; but if force is exerted the rubber wheel is disengaged from the ratchet wheel and the rubber wheel can rotate, thus permitting the sash to descend.

An improved device for drying fruit and vegetables and evaporating liquids has been patented by Mr. John A. Warner, of Furnaceville, N. Y. The invention consists of two upright fixed cylinders placed concentrically one within the other, the outer cylinder having rollers fixed on its inner face in such a position as to form a disconnected spiral track for the outer ends of the evaporating trays, and the inner cylinder being provided around its outer face with a continuous spiral for the inner ends of the evaporating trays.

An improved draught equalizer has been patented by Mr. Albion Wheeler, of Ridgeway, Iowa. The invention consists of a novel arrangement of levers in combination with the tongue and stay or bed-rest of the machine.

An improvement in magnets for separating iron chips patented by Mr. George E. Bowers, of Fitchburg, Mass., consists of a magnet having a straight core and helices wound in opposite directions inclosed in a tube or hollow cylinder that is attached to one pole of the magnet, and also provided with a switch, whereby the direction of the current around a portion of the magnet can be reversed, so as to demagnetize the core and cylinder and thereby release the chips.

An improvement in storing compressed air or other gas in vessels has been patented by Mr. Alexander James, of Edinburgh, Scotland. The invention relates more particularly to a method and means for storing compressed air for motive power for locomotives or cars for railroads. The invention consists in a method of compressing air wherein the adhesive attraction of an absorbent material or materials is made to assist in reducing the volumes of gaseous bodies in confined spaces or inclosures.

Mr. Jabez Smith, of Sabula, Iowa, has patented a sling for throwing missiles, such as stones, bullets, etc., by hand, with considerable force. It consists in a band of rubber or other elastic material having a pocket to receive the missile in the middle, the ends of this elastic band or equivalent being attached to the ends of the prongs of a fork provided with a suitable handle.

An improved stove leg has been patented by Mr. William R. Fenerty, of Louisville, Ky. This invention consists in casting the lower edge of the stove with a downwardly-inclined flange having undercut projections on the inside thereof, in combination with the leg cast with a surrounding shoulder to support the weight of the stove, and with an upwardly inclined shank the side ends of which are beveled to correspond with the undercut projections, forming a dovetail therewith, the leg being also provided with a central stud for locking the leg to the flange of the stove.

An improved life-preserver has been patented by Mr. John Thompson, of Victoria, British Columbia, Canada. The invention consists of a series of floats so hinged to a belt that is to be fastened around the body that when not in use the floats hang perpendicularly from the belt, and when the device is in use the floats extend radially and at right angles from the belt and lock themselves in position.

An improved method of improving the appearance of furs, patented by Mr. Lucinius Havasy, of New York city, consists in attaching the tips or outer ends of feathers to the fur in such a manner that these feather tips will appear between the hairs of the fur, and will produce various effects, according to the position in which the fur is held.

Agricultural Notes.**LAWN GRASS.**

The very best grass I have made use of for a lawn is unquestionably orchard grass. But then to make it effectual for this purpose no half-way measures should be practiced in preparing the ground, sowing the seed, and cutting the grass. The soil should be rich, in fine tilth, and free from weeds. The best preparation of it is to cultivate it in potatoes or some other hoed crop the preceding year. If this can be taken off in August, early or late, according to climate, the seed may be safely sown in that month, if not, leave it till the following spring, and then put it in as early as possible. Plow, harrow very fine, and level the ground. Then sow at least at the rate of four bushels per acre, so that the ground can be thickly stocked. If this is not done the grass forms tussocks, and these spoil the beauty of the lawn. Never sow clover or any other seed with this for a lawn, but one may do so with clover only for a field crop if desired, as both are ready at the same time to cut for hay, which, to have it tender and succulent, should be in the earliest of blossoming. After sowing brush the surface nicely and then roll. Cut the grass as often as it gets about four inches high. This keeps it from growing coarse, and makes a closer, firmer sod. This grass is the first to shoot up in the spring, and the last to turn brown in late autumn or during the winter. Ray grass, if treated in the above manner, comes next to orchard grass in making a superior lawn.—*Correspondence Country Gentleman.*

SOILING SEEDS.

In sowing grass and vegetable seeds remember Mr. Peter Henderson's caution about "firming the ground." By pressing the roots about the soil they germinate quicker and the young roots more readily take a firm hold upon the soil. The neglect of this process may cause the loss of the crop if the season should prove dry.