SCIENTIFIC AND PRACTICAL INFORMATION.

ARTIFICIAL TEETH ON NATURAL STUMPS.

Mr. Moon has recently stated, in a communication to the English Odontological Society, that the stump of a tooth may be preserved as the basis of an artificial tooth, and rendered painless, by leaving the root canal empty and drilling a hole into it just below the edge of the gum. This hole becomes a permanent vent and thus saves the stump from disturbing influences, which, if deprived of means of escape, would ultimately destroy it by a painful process.

LIFTING EFFECT OF FROST ON TREES.

Dr. Lapham, State Botanist and State Geologist of Wisconsin, says that frost exerts a lifting power on full grown trees, so as to cause the impression on some that the tree begins to grow again after once attaining its full growth. When the land freezes expansion ensues, drawing the tree up with it, leaving of course a cavity whence the root was drawn. When the first frost comes, the moisture, carrying earthy matter, enters the cavity, and thus the root is prevented from returning to its original position. Dr. Lapham suggests that one of the chief offices of the tap roots may be to guard the tree as much as possible against this frost-lifting.

AMERICAN MEAT SOLD IN ENGLAND.

Quite a large quantity of American meat was recently sold in the Liverpool markets at paying prices. It was taken over by the steamer Illinois, in a large tank surrounded by ice and cooled by air driven in by a steam-worked blower.

BEET CIDER.

We mentioned not long ago that a cider made from beets was coming into use in France. We learn that it is prepared by adding 7 lbs. of red garden beet to every 2½ bushels of apples, pressing all together. The cider must not be used for about eight months, when it will be free from the beet flavor.

TO OBTAIN A BROWN PATINA ON ZINC.

A solution of molybdic acid, or molybdate of ammonia, in very dilute aqua regia, or a solution of molybdic acid in excess of very dilute caustic soda, produces, according to Kletzinsky, a very useful patina bath for articles of cast zinc. Zinc statues or other ornamental articles, when dipped into this bath, become covered with a very pleasing brown patina showing the prismatic colors. This covering is nothing but a thin film of oxide of molybdenum, which exhibits polarization colors and adheres firmly to the metallic zinc.

EXPLOSION OF CHROMIC ACID WITH GLYCERIN.

Explosive prescriptions are sometimes sent to innocent pharmacists by careless or ignorant physicians. The latest case of this kind is related by Austrian journals. The following mixture was ordered for external use: 7·5 grains chromic acid and 60 grains glycerin. The chromic acid was mixed with water in a flask and the glycerin mixed with it by shaking. Suddenly the contents of the flask exploded with a loud report, flying all about the shop, while the vessel remained unhurt in the hand of the astonished apothecary, and was covered with a black mass. This case deserves the more notice because the quantity was so small and the detonation so extremely violent.

Economy in Machine Shops.

The following suggestions, in regard to the care of tools and waste of oil in machine shops, are contained in a paper read before the New York Society of Practical Engineering, by James C. Bayles, editor of the *Iron Age:*

"The proper care of tools is always attended with an important economy. In small establishments this seldom receives due attention. As a rule, a tool belongs to anybody who happens to have it; consequently, no one is responsible for it. It is neglected, abused, mislaid, broken, stolen, or worn out before it has rendered half the service it is capable of performing. In some shops the time of one man, and sometimes two, is constantly lost in looking for missing tools and putting them in order for use when found; and a great deal of capital is wasted by the premature destruction of tools which, with proper care, should have lasted for years. In all manufactories there should be a place for tools not in constant use, and some one should have charge of them. A very good system, which I have always found to work well, provides for the charging of every tool in use to the man using it. When it is returned he receives a credit for it which balances his account with the tool department. For tools added to his individual kit, such as files and other implements supplied by employers, charge is made and no credit is given until the tool is returned broken or worn out, when a credit entry is made, with date, showing how long it has been in use. Such a record induces men to be careful of tools, and, by inculcating good habits in this respect, leads to economy in a direction in which waste and extravagance are easily overlooked.

"Another important saving in many shops would attend a more judicious oversight of the consumption of oil. In machine shops, and to a greater or less extent in all shops where machinery is used and iron worked, the amount of oil wasted constitutes a very large proportion of the total amount used. This waste results from a certain looseness of habit which most men acquire in handling materials which some one else pays for. When a drop of oil is needed, it is customary for the mechanic to pour a stream from his oil can, and wipe off the surplus with a wad of cotton waste. It is no exaggeration to say that half the oil used about many manufactories of machinery and metal goods is wasted, and the waste constitutes a serious item of expense. Oil is almost always used exclusively for lubricating purposes, especially in small establishments, yet there are other lubricants that might be kept constantly on hand, which are at once much cheaper and much better than oil, for such purposes as drilling, tapping, screw cutting, etc. There is also a great deal of oil wasted in applying it to machinery and shafting. Whenever we see a drip pan that has not been attended to for a few days, we may be pretty sure of finding it half full of oil which has rendered no service, and which has become unfit for use, being gummy, foul, and filled with foreign impurities There is no need of this waste, which never occurs when the oiling of the shafting and machinery is properly looked after; but it is an evil against which the manufacturer can guard only by constant watchfulness."

THE PATENTS OF 1875.

[FROM THE FORTHCOMING ANNUAL REPORT OF THE COMMISSIONER OF PATENTS.]

Number of Patents issued by the United States Patent Office to Residents of the different States, Territories, and Foreign Countries, from Jan. 1, 1875, to Dec. 31, 1875.

[The proportion of patents to population is shown in last column.]

States, etc.	No. of Patents.	One to every	States, etc.	No. of Patents.	One to every
District of Columbia	214	615	Nebraska	22	5,833
Connecticut	706	761	Texas	118	6,939
Massachusetts	1,846	787	Louisiana	103	7,057
Rhode Island	229	943	West Virginia	48	9,209
Colorado Territory	36	1,107	Kentucky	132	9,303
New York	3,771	1,163	Montana Territory	4	9,974
California	399	1,404	Tennessee	117	10,765
New Jersey	656	1,534	Virginia	101	12,180
Pennsylvania	2,034	1,728	Washington Territory	3	12,710
Illinois	1,098	2,313	Idaho Territory	1	14,999
Ohio	1,091	2,443	South Carolina	46	17,513
New Hampshire	127	2,506	Georgia	63	18,795
Vermont	122	2,709	Utah Territory	5	19,916
Delaware	44	2,841	Mississippi	38	21,787
Michigan	405	2,923	Florida	7	26,821
Maryland	260	3,003	North Carolina	37	28,956
Minnesota	146	3,011	Alabama	31	32,161
Nevada	16	3,969	New Mexico Territory	3	37,101
Wisconsin	284	3,743	Arkansas	11	44,042
Iowa	315	3,790	U. S. Army	5	
Maine	158	3,964	U. Navy	1	
Indiana	378	4,462			
Oregon	22	4,631	Total for U. S.	15,698	2,414
Dakota Territory	3	4,727	To subjects of foreign governments	590	
Missouri	362	4,754			
Arizona	2	4,829	Aggregate	16,288	
Kansas	66	5,521			
Wyoming Territory	2	5,759			

RECAPITULATION.

Issued to citizens of—	
United States	15,698
Canada	150
Other subjects of Great Britain	221
France	91
Other foreign countries	128
Aggregate	16,288
Number issued in 1874	13,599
Increase over 1874	2,689

PATENTS EXPIRED.

Number of patents expired during the year 1875	579
Number of design patents expired during same time	782
Whole number of expirations	1,361
Less number of extensions granted	38
Leaving the actual number expired	1,323

SECTIONAL ANALYSIS.

An analysis of the table shows interesting facts. The geographical distribution of inventors, to whom patents were granted in 1875, appears by it to be as follows:

To the six New England States there were issued 3,188 patents, being one to every 1,094 people.

To the seven Middle States (including Delaware, Maryland, and West Virginia) 7,905, one to every 1,623 people.

To the nine Western States (including Missouri) 3,076, one to every 3,360 people.

To the twelve Southern States, 814, one to every 13,279 people.

To the three Pacific States, 437, one to every 1,699 people.

To nine Territories, 59, one to every 12,203 people.

And to the District of Columbia, 214, one to every 615 of population, being the highest ratio in the Union.

GAINS AND LOSSES.

All the States and Territories have held their own, or made gains over 1874 in the number of their patents, save the following, which show losses: Alabama, Arkansas, Florida, Georgia, Kansas, Mississippi, Nebraska, Oregon, Vermont (for a wonder), and Dakota, Utah, Washington, and Wyoming Territories.

New Hampshire and Nevada remained stationary, the former having 127, the latter 16 patents, the same as in 1874.

The principal increase was made in the following States: New York, 986; Pennsylvania, 390; Massachusetts, 340; Illinois, 164; California, 98: and the District of Columbia, 69.

Useful Recipes for the Shop, the Household, and the Farm.

A great many directions have been published for mending india rubber boots and shoes, most of which were worthless. The following can be relied on: Procure a small tin box of prepared rubber in a semi-liquid condition, which can be purchased for a few cents at almost any store where india rubber goods are kept for sale. The boot must be washed clean and dried. Then the surface around the rent is to be roughened a little with the point of a knife, after which the semi-liquid rubber is spread on with a spoon as thickly as it could be without flowing away. Then a neat patch is prepared and covered with one or two coats of rubber. When the prepared rubber is almost dry, the patch is applied and held on firmly for a few minutes.

It frequently happens that chemists and others desire to utilize pieces of broken glass apparatus by cutting the same into forms. The following is a simple method of this. Make a paste of ½ oz. gum tragacanth with water, and also ½ oz. powdered gum benzoin with alcohol. Mix the two compositions, and add powdered beech wood charcoal, forming a thick dough, which mold into little sticks about 4 inches in length and ⅛ inch thick. The glass to be cut is first scratched deeply with a diamond, and then one of the sticks, previously ignited, is held against the crack. The glass will divide neatly as the end of the stick, which becomes a pointed glowing coal, is drawn over the diamond scratch.

S. A. T. says: To stick leather, paper, or wood to metal, to a gill of glue dissolved in water add a tablespoonful of glycerin.

The best treatment for slight burns is to apply cotton batting soaked with a liniment made of equal parts of linseed oil and lime water. Be careful not to break the blisters, should any form.

The finest quality of indigo has the least specific gravity, and floats upon water. It may also be tested by its not readily leaving a mark on drawing it across a piece of paper, and also by the clear blue which it imparts to water when dissolved.

To prevent the skin discoloring after a bruise, take a little dry starch or arrowroot, merely moisten it with cold water, and place it on the injured part. This is best done immediately, so as to prevent the action of the air upon the skin. Invaluable for black eyes.

Excellent toy balloons can be made out of turkey's crops, in the following manner: Free the crop from the thick coating of fat, turn the inside out, and cleanse. Soak in water for two days, and then, with a blunt knife, scrape off the internal coating. Wash the crop well, and dry. Turn it right side out again, and make an incision through the external coats, carefully avoiding cutting the lining membrane. Draw the coats at one side over one neck of the crop, and tie the latter firmly with silk. Proceed at the other neck in the same way. Distend the bag thus formed with air, and hang it up to dry. A light coat of varnish may be added afterwards. Thus prepared, an ordinary crop will hold a gallon of gas and will weigh only 30 grains, which is considerably less than the weight of a bladder of similar capacity.

When a teaspoonful of any medicine is prescribed by a physician, it should be borne in mind that the quantity meant is equal in volume to 45 drops of pure water at 60° Fab. It is a good plan to measure off this amount in water in a small wineglass, and mark on the latter the exact hight of the fluid. This will give an accurate and convenient standard for future use. Teaspoons vary so much in size that there is a very wide margin of difference in their containing capacity. It is well to remember, also, that four teaspoonfuls equal one tablespoonful or half a fluid ounce. A wineglassful means four tablespoonfuls, or two fluid ounces; and a teacupful, as directed by cookery books, indicates four fluid ounces or one gill.

A good dentifrice, largely sold and advertised, is made of ½ drachm white Castile soap, dissolved in 1 oz. alcohol, ½ oz. water, and ½ oz. glycerin. This is colored with cochineal and flavored with peppermint, wintergreen, and clove oils. The powder which accompanies each bottle is a mixture of precipitated chalk, powdered orris root, and carbonate of magnesia.

To make a handy snow shovel, take a light, tough, half inch board, twenty inches long and a foot wide. Sharpen one end, and over it rivet a strip of thin sheet iron, bent sharp to fit the edge; this forms the cutting edge. Across the other end nail firmly a piece an inch thick, five inches wide, and long enough to extend across the shovel board. Bore an inch hole through this, slanting downward and forward, so that the handle when passed through the hole will strike the board three or four inches in front of the cross piece. Bevel the end of the handle to fit the shovel board, and fasten it with a staple. The handle should be long enough to work without stooping, and the whole thing should be as light as possible.

The easiest way to burn stumps is to use a sheet iron chimney, big enough in diameter to fit over the largest stump, and some six feet in hight. An opening near the bottom answers for a door. The stump should be set on fire by placing around it some kindling wood inside the chimney, and the latter will produce a draft which will materially hasten the burning of the wood.

Black lead well mixed with white of egg is a good stove blacking. Lay on with a paint brush, and when dry polish with a hard brush.

To prevent flat irons from rusting, melt ½ oz. camphor and ½ lb. fresh hog's lard over a slow fire, take off the scum, and mix as much black lead with the composition as will bring it to the color of iron. Spread this over the articles for which it is intended. Let it lie for 24 hours, and then rub it well with a dry linen cloth. Or smear the irons over with melted suet, and dust thereon some pounded unslaked lime from a muslin bag. Cover the irons with baize in a dry place when not in use.

A farmer correspondent sends us an excellent wrinkle for finding the weight of horses or steers without scales. He says: "Make a weighing stall about 3 feet wide with a level floor. In the latter make a recess for the platform of the scales so that the platform will be flush with the planking. Now lead your horse or steer into the stall so that the forefeet of the animal rest on the platform and note the weight. Start him ahead until his hind feet are on the platform; note the weight again. Add the two weights thus taken, and the sum will be the total weight of the animal."

Leather pump packing requiring to be very tight, for small work, should not be more than $\frac{1}{32}$ inch thick, and not be bent up round the bore or sides of the barrel more than $\frac{1}{16}$ inch.

The cause of streaked butter is the imperfect working of the butter after it is salted. Salt in butter sets the color, or deepens and brightens it; so that if the salt is worked into the butter and not so fully worked as to salt every part, then the fresh butter retains the color it had when it came from the churn, and the salt butter grows so much darker that it is decidedly streaked. The remedy is to work the streaked butter more thoroughly.

Patent Matters in Congress.

Senator Frulinghuysen, of New Jersey, presented (on January 6) a petition from George W. Hunt, administrator of the estate of Walter Hunt, deceased, praying for an extension of Walter Hunt's patent for a paper collar-making machine. It was referred to the Committee on Patents.

Senator Eaton, of Connecticut, presented (on January 8) a petition from Ezra G. Cone, of East Hampton, Conn., praying for an extension of his patent for a sleigh bell. It was referred to the Committee on Patents.

Mr. J. H. Bagley, of New York, introduced (on January 11) into the House of Representatives a bill to protect the revenues of the Patent Office. It was referred to the Committee on Patents.

A Boiling Lake.

The discovery of a boiling lake in the island of Dominica has excited much scientific interest, and investigations of the phenomenon are to be made by geologists. It appears that a company exploring the steep and forest-covered mountains behind the town of Rosseau came upon the boiling lake, about 2,500 feet above the sea level, and two miles in circumference. On the wind clearing away, for a moment, the clouds of sulphurous steam with which the lake was covered, a mound of water was seen ten feet higher than the general level of the surface, caused by ebullition. The margin of the lake consists of beds of sulphur, and its overflow found exit by a waterfall of great hight.

DECISIONS OF THE COURTS.

United States Circuit Court---Eastern District of Missouri.

PATENT FIRE BRICK COMPOUND.—INTERFERING PATENTS.

ALFRED T. FOSTER *vs.* WM. M. LINDSAY.

[Before Treat, J.—Decided October 28, 1875.]

Treat, J.:

This is a suit in equity under section 4,918 of the Revised Statutes of the United States, concerning alleged interfering patents. The defendant's patent was prior in date to plaintiff's; also the application therefor. The plaintiff claims that the invention was by him; that he had, previous to any knowledge thereof by the defendants, not only invented the patented composition, but actually reduced it to a practical and successful test; that he had shown to the defendants the manufactured article, and when, as their foreman in the brick business, he was consulted thereafter about manufacturing fire-brick by means of which they could obtain a large and profitable order, he called their attention to the fact that he had exhibited to them before entering upon their service a specimen brick of the needed quality, that thereupon he, as their foreman, directed various experiments to be made at defendant's brick yard; that when the defendants suggested subsequently that they proposed to obtain a patent for that mode of making an improved fire-brick, he remonstrated against their doing so, claiming that he was the original inventor, and alone entitled to a patent, if one was obtainable.

On the other hand, the defendants claim that it was only after a series of experiments under their direction and supervision, in their own establishment, that the success of the mode patented was ascertained.

The defendant in this case, among other defenses, has set up that the patented compound or process had been anticipated and in use before either of the interfering patents had been claimed or issued. The evidence fully establishes the fact.

The plaintiff in this case contends that he has the prior and better right, although his application and patent are of subsequent date, and that the court is bound to adjudicate solely as between his and the interfering patent, leaving one of the patents to stand for subsequent adjudication when assailed in a proper suit.

The controversy is between two patentees or those claiming under them. If neither has a valid patent, the court should adjudge both void, and thus end the strife. It is on this theory that the defendant was permitted to set up in his answer the lack of novelty, not of plaintiff's patent alone, but of his own. True, he might voluntarily have surrendered his patent, and contested the plaintiff's right in a suit for infringement; but why should he not, when sued, insist upon a full defense, whereby a second suit could be avoided? The power vested in the court to adjudge either of the interfering patents void, in whole or part, is held to confer ful authority, where the evidence justifies, on issues fairly made, to decree, not one of the patents alone, but both to be void.

The court so adjudges in this case, and the decree will be accordingly at the costs of the plaintiff.—*St. Louis Central Law Journal.*

Recent American and Foreign Patents.

NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

IMPROVED RUNNING GEAR.

Lorenzo D. Hurd, Wellsville, N. Y., assignor of one half his right to Thomas Puller, of same place.—This is an entirely new construction of the running gear of wagons, which cannot be explained without detailed drawings. It however includes several simple devices of much strength, and also is so made that any one of the wheels may rise to pass over an obstruction or elevation, or sink to pass through a hollow, without affecting the other wheels or straining the reach.

IMPROVED TIRE.

Harry Thompson, Decatur, Ind., assignor to himself and George W. McConnell, of same place.—The invention consists of an outer and an inner rim or band forming the tire. The inner rim, having an inwardly projecting flange at each edge, protects the sides of the felly, and keeps the tire on the wheel. The outer one serves to bind the inner over fast to the wheel, and is kept on by a convex inner face, which shrinks into the concave outer face of the inner rim.

IMPROVED OPEN THILL.

Conrad H. Matthiessen, Odell, Ill.—The object of this invention is to enable the horse drawing a single or one-horse wagon or sleigh to travel in the regular track in roads where double or two-horse teams are principally used, and at the same time allow the vehicle to follow the regular track. The rear end of the thill is forked and connected with the axle. This brings the body of the thill about in line with the center of the vehicle, so as to be over the ridge between the two tracks in the road. The forward part of the thill is curved into U shape, so as to pass around the horse's breast and to the body of the thill. The free end of the thill has a joint formed in it, at such a distance from the end, and in such a way, that the said free end may be turned down to rest upon the ground to support the thill in proper position while bringing the horse into position, and harnessing and unharnessing him.

IMPROVED WINDOW SHUTTER.

Sofie Victor, New York city.—This is an improved window shutter that may be readily adjusted to combine the free circulation of air and shade of an awning with the protecting features of the common shutter. It consists of an outer shutter frame without slats, to the top part of which is hinged a separate shutter, that may be retained in outwardly inclined position by folding brace rods, and folded down to the open frame to be secured.

IMPROVED FOLDING CHAIR.

Frank A. Patch, New York city.—The side bars of the chair frame are curved, so that their lower parts may serve as the forward legs of the chair, and their upper parts as the posts of the back. The brace bars of the arms are curved and pivoted to the side bars; the rear bars are attached in similar manner. The seat is flexible, so that the whole forms a chair of strong and simple construction which may be folded into a small space.

IMPROVED SAW-SHARPENING MACHINE.

Wm. L. Covel, Beloit, Wis.—The object of this invention is to provide a machine for sharpening mill saws. It consists in an adjustable frame pivoted in the center and having parallel guide ways, in which moves a sliding block, to which the saw is detachably fastened. Through said sliding block passes a screw-threaded rod whereby the block and saw may be adjusted in the frame, and to the lower end of this rod is attached a lever, connected through of than with the crank of a slowly revolving shaft, by means of which the saw and block are together elevated and made to approach a revolving emery wheel each time a tooth is sharpened. At the top of the main frame is a pivoted latch feed controlled by a guide, which latch feed moves the saw by engaging with the face of the saw teeth for the purpose of bringing the teeth successively in position for the emery wheel.

IMPROVED MORTISING MACHINE.

Simeon Duck, Victoria, British Columbia, assignor to himself and Joshua Davies, of same place.—This embodies a novel construction of a machine for cutting square and angular mortises at any desired inclination. The device consists of a tilting bed, by which the material may be carried into any desired inclination to be mortised by a vertically operating tool. A cog segment and worm shaft tilt the bed frame on the rock shaft in longitudinal direction, while a lateral screw shaft admits its position in lateral direction. A longitudinally sliding frame is guided in the bed frame, and adjusted by rack and pinion, the adjustable heads of the same holding the material to the tool. One of the heads is arranged with a rotary chuck, with holes in its periphery for a pivoted spring clutch, that holds the materials for exposing it rotatively to the action of the tool.

IMPROVED IRONING TABLE

Lewis P. Lawrence, Port Morris, N. J.—This is an ingeniously constructed table, adapted to be attached to a ledge or window frame by a spring catch, and having an outside adjustable leg by which the outer end of the table may be placed at any desired hight.

NEW CHEMICAL AND MISCELLANEOUS INVENTIONS.

IMPROVED GAS BURNER.

Owen J. McGann, Chicago, Ill.—This invention has for its object to provide an improved mode of attaching the ring holder of a water lens or reflector to its burner, which latter is also provided with a socket, adapted to be detachably applied to the burner of an ordinary gas bracket.

IMPROVED SPRING SCALES.

Abram Harper and Laroy W. Cross, Edgerton, Ohio.—This invention consists of a contrivance of levers and springs for the support of the measure, so arranged that the weight of the contents of the measure will be indicated on a scale, the levers and spring being concealed in an inclosed base, which protects the apparatus from injury.

IMPROVED CARBON PHOTOGRAPH.

Claude Léon Lambert, Paris, France.—This is a new process for producing carbon photographs or sun pictures, produced in salts of chromium or other pigments, combined with gelatin or its equivalent, and rendered permanently insoluble by the action of light. The especial features of novelty consist, first, in a compound consisting of water, sugar, liquid ammonia, and permanganate of potassa, to form a bath in which a negative obtained from a transparent positive may be immersed, and thus intensified; and second, a process of obtaining double tinted prints in salts of chromium and on ordinary albumenized paper, by placing the sensitized paper in a press, the blank for the picture being covered with a black or yellow mask, and the whole being then precipitated by hyposulphite.

IMPROVED CONDENSER FOR ILLUMINATING GAS.

George W. Edge, Jersey City, N. J.—The invention relates to wheels having spiral vanes, and arranged in the pipe leading from the retort to the purifier, so as to be revolved by the current of gas. The impact and rubbing action of the latter on the vanes of the wheels effect the desired condensation of the tar and other heavy matters, which are thrown off by centrifugal force—the rotations being ordinarily near two hundred per minute—and are thus collected in the pipe, and thereby conducted to a suitable place for removal.

IMPROVED HORSE COLLAR.

Jacques Meyer, New York city.—This collar has metallic stiffening plates or hames, which are hinged at the top and locked at the side by means of a hinged piece of the hame entering a socket and spring lock of the other collar section. The terrets and trace fasteners are connected in rigid but detachable manner to the stiffening hames. The collar may thus be applied without straps, buckles, or other parts visible from the outside, while the ready opening and closing at the side of the neck allows its putting on without the animal stooping or bending down.

IMPROVED SIGHT PROTECTOR.

Marmaduke H. Mendenhall, Wabash, Ind.—This inventor now improves the sight protector for which letters patent were granted to him January 12 and April 20, 1875, so as to bring the light under perfect control as to quantity, direction, and distance, and at the same time protect the eyes from the glare, intensity, and heat. This is mainly done by the use of suitably adjustable plates of colored glass.

IMPROVED CIGARETTE MOUTH PIECE.

Diedrich Marquis, New York city.—This invention consists of a cigarette with tapering mouth piece, that is wound with an inner and outer spiral, decreasing in width, to which a wrapper of tobacco paper is connected in spiral shape, to be filled and closed at the end.

IMPROVED REMEDY FOR RHEUMATISM.

Aug. Severin, New York city, assignor to himself and Frederick Zarnfaller, of same place.—The proposed remedy is a composition of iodide of potassium, solid extract of aconite, wine of colchicum, morphine, and compound sirup of sarsaparilla.

NEW AGRICULTURAL INVENTIONS.

IMPROVED SHEARS FOR CUTTING HOGS' NOSES.

William H. Grow and Crawford M. Sloan, Rock, Kan.—One handle carries an inclined plate which rests against the hog's nose and supports the cartilage while the same is being cut by a blade on the other handle. The blade has an offset at its middle part, so as to leave a portion of the cartilage connected with the nose of the hog by a narrow neck. The end parts of the blade are curved about upon the arc of the upper side of the hog's nose, so as to cut off the rest of the cartilage close to its base.

IMPROVED POTATO BUG DESTROYER.

Isaac W. Griscom, Woodbury, N. J.—This is an apparatus mounted on wheels, and so designed as to be drawn over the plants. The poisonous powder is placed in a hopper, in which is a stirrer and other devices, which reduce the powder to a very fine state before it passes to a distributing device, which finally sprinkles it upon the plants beneath.

IMPROVED CLEVIS.

John G. Miller, Fredericksburgh, Va.—By this device the plowman, when he turns the team and reverses the plow, can, by means of a rod, shift the doubletree clevis from one to another of the notches of a notched clevis on the beam, to cause the plow to take more or less land, as may be desired.

IMPROVED SELF-RAKE FOR REAPERS.

Samuel B. Gilliland, Salisbury, Mo.—This rake is operated by a pitman, which connects with a lever operated by a grooved wheel on the axle. When the rake is pushed outward by the outward movement of the pitman, the teeth will be turned down beneath the platform, so as to pass beneath the cut grain lying upon said platform without disturbing it, and that, when the rake is drawn inward by the inward movement of the pitman, the teeth are turned up, so as to sweep the cut grain from the platform. The whole is a simple and doubtless efficient device.

IMPROVED HARROW ATTACHMENT FOR CULTIVATOR PLOWS.

Frederick D. Ladenberger, Glenbeulah, Wis.—This is a combined implement, comprising a shovel or breaking plow, two side plows, and two harrows, the two latter being connected to the former by eyebolts and brace rods, and made adjustable in width by means of a curved bar. The farmer is then provided with several useful implements in one.

IMPROVED PLOW.

Joseph Phillips, Smithton, Ill.—This is an improved cast iron upright for plows, having a flange formed upon its upper end. The lower end is forked, and a horizontal prong is formed upon it, having a longitudinal rabbet upon the rear part of its landside, and two longitudinal flanges upon its mold board side, to adapt it to receive the beam, the landside, the mold board, the share, and the handles.

IMPROVED BUTTER WORKER.

William H. Lilly, Bethlehem, Pa.—The chief parts or elements of this improved machine are a horizontal, continuously revolving bowl having a concave bottom, a revolving worker of peculiar construction, a stationary segmental block for pushing or transferring the worked butter from the side of the bowl towards the center of the same, and a central discharge tube for the buttermilk expressed from the butter. These parts, and the gearing necessary to operate such as rotate, are arranged in a frame having no peculiarity of construction.

NEW MECHANICAL AND ENGINEERING INVENTIONS.

IMPROVED MANUFACTURE OF HEXAGONAL NUTS.

George Johnson, Haverstraw, N. Y.—The inventor claims that, by this improved system of manufacture, a stronger nut is obtained, any waste of iron in cutting avoided, and a convenient feeding of the bar to the nut-cutting machine is propuced. In the accompanying engraving, Fig. 1 represents a top view of the

Fig. 1.

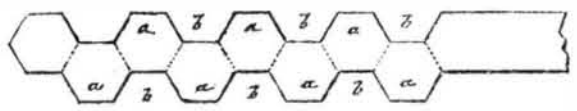

Fig. 2.

improved bar for making hexagon nuts, and Fig 2 shows the straight bar hitherto employed for making these nuts. The straight blank bar is passed through rolls or dies, and forced into such shape that alternating semi-hexagonal projections and recesses at both sides are produced. The recesses at one side are parallel, and correspond to the projections at the other side. The bar is fed in this shape (on its edge) to the nut machine, being turned after each cutting of the same to bring the nuts always into the same position for the tool. Cutting such nuts from straight bars, as shown in Fig. 2, produces a great waste of iron at the sides in the form of small triangular pieces, and disturbs the fiber of the iron, requiring also the frequent sharpening of the cutting tools, as there are for each nut four cutting planes.

IMPROVED LEATHER-DRESSING MACHINE.

Bart M. J. Blank, Jersey City Hights, N. J., assignor to Morris Rubens, New York city.—This inventor proposes an improved machine, by which the creasing and polishing of leather may be rapidly and uniformly accomplished. The invention consists of a revolving feed roller, in connection with a series of creasing or polishing dies, that are secured by gage and set screws to socket grooves of a hollow spring-cushioned tube. The latter is heated from the inside, and capable of being swung back to admit the ready insertion of the dies.

IMPROVED NAIL PLATE FEEDER.

William H. Field, Taunton, Mass.—In this invention, feeding jaws, in which the gripper rod rests, are made to close on the rod, and then move forward the breadth of one nail by a rod moved forward by the machine and backward by a spring. In its backward movement, the jaws open and travel along the rod for a new hold to feed again.

IMPROVED KEY FOR LOCK.

Warren H. Guthrie, Hudson City, N. J.—A common device of burglars for entering locked doors is to seize the key from the outside by a fine pair of nippers, turn it, and so draw back the latch. The present invention prevents this by means of a swinging staple-shaped guard hung to the key and surrounding the wards, so that, when the key is in the lock, each of the key holes will be filled by a wedge-shaped plate, which prevents the introduction of nippers or the planting of a drill.

IMPROVED WATER WHEEL.

Cloud Chalfant, Penningtonville, Pa.—This invention is an improvement in the class of horizontal outward-flow water wheels. The improvement consists chiefly in providing the wheel with vertical rising and falling buckets, and in adapting the wheel to be raised and lowered within the stationary case.

NEW HOUSEHOLD ARTICLES.

IMPROVED BED BOTTOM.

Elias Stillwell, Rockville, Mo.—The object of this invention is to provide a cheap, comfortable, and elastic bed bottom, without the use of slats or springs as ordinarily employed; and it consists in two inside detachable rails, over which a stretcher of canvas is placed. The said rails are kept apart by notched bars, and have arms which rest upon a subjacent support, and, when pressed down from the weight of the occupant, tighten the canvas. In combination with said rails are employed one or more bolts on each side, which pass through the bedstead rails, and also the detachable rails, to prevent the accidental displacement of the latter.