

serial, the "Textile Colorist" is handsomely printed in book form, and will, when bound in volumes, form an encyclopædia of the very interesting art-manufacture of which it treats.

THE FATIGUE OF METALS UNDER REPEATED STRAINS. From the German of Professor Ludwig Spangenberg. Price 50 cents. New York city; D. Van Nostrand, 23 Murray and 27 Warren street.

This is an excellent treatise on a subject which has been much experimented on and discussed in this country. It forms No. 23 of Mr. Van Nostrand's "Science Series."

THE FRENCH METRIC SYSTEM OF WEIGHTS AND MEASURES, ETC. By John W. Nystrom, C. E. Price, free by mail, 50 cents. Philadelphia, Pa.: Pennington & Son, 127 South Seventh street.

This little work is a complete summary of all the arguments, *pro* and *con*, on the subject of the introduction of the metric system into English-speaking nations. Many of the objections seem trivial at first; but when considered in relation to the tens of millions of people who are asked to adopt the system, their importance is readily seen.

TABLE OF MECHANICAL MOTIONS. By W. Clark, C. E. London, England: 53 Chancery Lane.

Some useful diagrams, arranged to fill a sheet folded in a pocket case.

DECISIONS OF THE COURTS.

United States Circuit Court—Southern District of New York.

CORSET LOOM.—HUGO CARSTADT vs. THE UNITED STATES CORSET COMPANY. Shipman, J.

This court passed a decree on September 10, 1875, enjoining the United States Corset Company from further infringement of the second claim of re-issued letters patent granted to the plaintiff on November 19, 1872, for "an improvement in the take-up mechanism for looms for weaving irregular fabrics."

The plaintiff has now brought a motion for an attachment against James Lyall, one of the officers of said company, for violating the injunction which was issued upon said decree.

The portion of the patent improvement which is referred to in the second claim, consisted, as stated in the specification—

In a series of needles or points arranged upon a stationary bar in such relation to the take-up rollers that the fabric is continually carried across said needles, to be received by their points, and to be arrested when a reverse motion of any part of the fabric is commenced.

The mechanism is thus described:—
K is a cross bar immediately behind the roller, C, and provided with a series of needles, k k. In its lower edge, which catch in the goods and prevent its being drawn backward, under any circumstances, when the take-up mechanism releases it.

The second claim is for—
The needles k k, fixed in a stationary bar, and arranged as specified, so that the fabric being drawn by the take-up proper is continually carried across the needles to be received by their points, and to be arrested when a reverse movement of any part of said fabric is commenced, substantially as herein set forth.

The result of this improvement, which, it is said, in the opinion of the court upon the final hearing, was "that the tension of the fabric when it is released from the tension of the take-up, and so holding the cloth that it is prevented from doubling up in the center," was previously unattainable in corset weaving.

The defendants have modified their needle bar since the injunction was issued, so that it now consists of a number of small independent needle rollers mounted upon a fixed bar, the width of the fabric being the width of the cloth in the same position to the take-up which the shaft had before.

Each of these rollers rotates forward toward the take-up, or in the direction of the cloth when the cloth is being moved forward and taken up by the take-up mechanism, but the rollers are prevented from moving backward when the reel recedes and the tension of the take-up is relaxed by a ratchet and pawl applied to each roller. Each roller then becomes stationary, arrests the fabric as movement has commenced, and prevents the cloth from being drawn back when the take-up mechanism has released it.

When the reel moves forward and delivers its blow, the cloth is easily pulled over the rotating roller by the take-up; when the reel goes backward, the rollers are fastened by the ratchet and pawl, become stationary, catch the cloth upon the needle points, and hold it so that it will not double up.

It is contended that such a needle bar is not a stationary bar, and therefore it is not embraced within the second claim of the patent. It is a rotary bar when a stationary bar is not needed; but when one is needed, it is the same stationary bar which was previously upon both plaintiff's and defendant's machines, and accomplished the same practical result.

The needle points of the former needle bar were inclined toward the take-up, so that when the cloth was moving forward it was carried across the needles, and when it was released from the take-up the cloth was arrested upon the needle points. The new roller of the defendants, when it is rotating in one direction, permits the cloth to go forward without detention; but when a reverse action commences, the roller immediately becomes stationary, and the needle points catch and hold the cloth precisely as the old stationary bar accomplished the result.

Neither bar assists the take-up mechanism in pulling forward or taking up the cloth in any material degree, and the roller of the defendant becomes a stationary bar whenever stability is required.

The rotating character of the new needle bar is said to be an improvement upon the plaintiff's fixed bar. I think that this is true, and that the revolution of the roller with the forward movement of the cloth avoids any danger of the cloth being caught upon the needle points as it is drawn forward. But the fact that the new bar is a better one than the plaintiff's, or even performs a service which the plaintiff's bar does not perform, does not prevent the new device from being an infringement; it performs the same office which the old device performed by the same mechanical means. An infringing device is not protected by the fact that, although the device is an equivalent of the patented device in all its functions, and in its construction and mode of operation, yet by other or additional features it possessed other and further useful functions. Such a device would, perhaps, be an improvement upon the patented device, but must be, nevertheless, deemed an appropriation of the former. *Servey vs. Hill*, (9 Blatchford, C. C. R., 524).

My conclusion is that the needle bar is an ingenious attempt to escape from the second claim of the patent, and that the motion of the plaintiff must be granted. As the defendant acted under competent advice, and had no intention of disobeying the order of the court, no fine is imposed, but he is ordered to pay the cost of the application and of the affidavits.

[J. Van Santvoord, for plaintiff.
George Gifford, for defendant.]

United States Circuit Court—District of Massachusetts.

BOOT HEEL POLISHING MACHINE.—DAVID H. SWEETSER, TRUSTEE, vs. CHARLES H. HELMS et al.

Shepley, J.
The bill in this case charges infringements of three patents—one to Elias S. Ingalls, dated May 3, 1866, for "improvements in machines for burnishing the edge of the soles and heels of boots and shoes," one to Benjamin Q. Budding, dated August 8, 1863, for "improved heel-polishing machine," and one to Benjamin Q. Budding, dated May 3, 1864, for "improved machine for polishing the heels of boots and shoes."

These patents all relate to a class of machines for polishing the edges of the heels and soles of boots and shoes, in which there is a combination of the sole and heel of the shoe with the sole or heel (or both) to be polished with the mechanism of the polishing tool, under such conditions of mechanical combination that either the holding mechanism, with the material held, can be so moved as to bring the surface to be polished in proper relation to the polishing tool, or the polishing tool can be so operated as to bring it into proper relations with the surface to be polished of the material held by the holding mechanism.

The Helms machine alleged to be an infringement, differs from these machines in this essential feature. There is no attempt in the Helms machine to so combine the shoe-holding mechanism with the polishing tool and its mechanism that the two will operate properly together. On the contrary, in the Helms machine the shoe-holding mechanism is dispensed with, and the operator puts the shoe in proper relations with the polishing tool, and holds, and keeps and guides it there, by and with his own muscular strength and will. There is no shoe-holding mechanism which is made to travel in a fixed path in relation to the polishing tool, nor any polishing tool made to travel in any fixed path in combination with or in any relation to a shoe-holding mechanism.

This radical difference between the two classes of machines is fatal to the claim of infringement, and renders unnecessary a consideration of the other questions presented at the argument of the case.

Bill dismissed.
[Thomas L. Livermore, for complainant.
James E. Magnatier, for defendant.]

Inventions Patented in England by Americans.

[Compiled from the Commissioners of Patents' Journal.]

From June 13 to June 26, 1876, inclusive.

ADJUSTING WRENCH.—E. H. Knight, Philadelphia, Pa.
CARRIAGE WHEEL.—R. W. Davis et al., New York city.
COMPASS CARDS, ETC.—E. S. Ritchie, Brookline, Mass.
ENAMELING IRON.—F. G. Nearinghaus et al., St. Louis, Mo.
FASTENING BAG MOUTHS.—J. E. Walsh et al., New York city.
FOLDING PAPER, ETC.—L. C. Crowell, Boston, Mass.
FOLDING SEAT, ETC.—C. A. Hardy, Philadelphia, Pa.
FRICTION CLUTCH, ETC.—C. H. Adayman, New York city.
GAS FURNACE, ETC.—F. Carroll, New Orleans, La.
GEAR WHEEL.—J. Conly, Lincoln Park, N. S.
HAT BODY.—A. Freshfield, New York city.
HEATING BUILDINGS, ETC.—E. S. Jenison, Chicago, Ill.
HYDROSTATIC PRESS, ETC.—J. W. Hyatt et al., Newark, N. J.
LIQUID METER.—D. W. Huntington et al., South Coventry, Conn.
MARINE GOVERNOR.—G. Steele, New York city.
MOLDING IN WAX, ETC.—C. Grasser, Somerville, Mass.

PARQUET FLOORING.—S. P. Grocock, New York city.

PIPE COUPLING, ETC.—E. A. Leland, New York city.

PREPARING BONE BLACK, ETC.—O. Lugo, New York city, et al.

REFRIGERATOR.—D. W. C. Smiley, Brooklyn, N. Y.

SEWING BOOKS WITH WIRE, ETC.—H. R. Heyl, Philadelphia, Pa.

SHAPING METAL, ETC.—W. Sellers et al., Philadelphia, Pa.

SMELLING BOTTLE.—H. Warner, Boston, Mass.

SPEED INDICATOR, ETC.—C. Neer, Brooklyn, N. Y.

STATION INDICATOR.—C. A. Evans, Upland, Pa.

STOVE.—H. L. McAvoy, Baltimore, Md.

TOY FIGURES.—L. Schmetzer (of Chicago, Ill.), Rothenburg, Bavaria.

WEFT KNITTING LOOM.—C. L. Spencer, Providence, R. I.

WOOD PAVEMENT.—B. F. Pond, Brooklyn, N. Y.

Recent American and Foreign Patents.

NEW AGRICULTURAL INVENTIONS.

IMPROVED BUCKWHEAT CLEANER.

Harker R. Ward, Loveton, Pa.—This consists of a horizontal concave and cylinder, respectively armed with spirally arranged strips of clothing thereon. The essential function of the machine is to act upon the grain after it has been treated by the hulling stones, to detach the matters not removed from the grains by the stones.

IMPROVED COMBINED PLOW AND CULTIVATOR.

Charles Frank, Freeburg, Ill.—This embodies several new mechanical devices whereby the machine may be readily adjusted for use as a plow or as a cultivator, and which can be conveniently manipulated. These devices enable the frame to be raised or lowered so that the plows may work at any depth, allow of the plows and cultivators to be easily attached or detached, and permit of the tongue being adjustably secured to the frame.

IMPROVED STRAW CUTTER.

Alexander Anderson, London, Canada.—This relates to a straw cutter in which the cutting box is arranged obliquely to the plane in which the cutter works; and it consists in the combination of a gage with a vertically sliding cutter and diagonal feed box, for regulating the feeding of the hay and straw to the cutter. The said gage is so mounted and connected with the cutter that it moves out of the way of the cut material to allow it freedom for escape when the cutter acts, and moves back in time to perform its function when the cutter rises. It is also fixed adjustably to gage the material longer or shorter, as desired.

IMPROVED REVOLVING HARROW AND PULVERIZER.

Thomas A. Kershner, Seymour, assignor to himself and Alexander Carr, Medora, Ind.—The new feature consists in the teeth made with curved forward edges, concave rear edges, and broad heads pointed to the rearward, in combination with a rotating cylinder.

IMPROVED MILK COOLER.

William Eaton and John A. Randall, Norwich, N. Y.—This is a double milk pan, consisting of two milk compartments, separated by an intermediate cooling chamber, extended longitudinally between them.

IMPROVED CURCULIO CATCHERS.

Evlyn T. Hull and Edward Hollister, Alton, Ill., administrators of Edwin S. Hull, deceased.—This is a frame made with jointed and adjustable arms and covered with muslin. It encircles the trunk of the tree and catches the insects which are shaken down upon it, the insects afterwards being swept into suitable pockets.

IMPROVED GATE.

Edward A. Shugart, Athens, Tenn.—This is so constructed that it may be easily opened and closed, may be secured in place when opened to any desired extent, cannot be raised or pushed open by stock, and will shut itself when released.

IMPROVED GATE.

John A. H. Wilson, Deer Creek, Ill.—The operation is as follows: Any one approaching the gateway from either direction, and desiring to pass through it, will seize a cord, and by pulling it will move levers to raise the outer end of the gate over the shoulder of a tilting rail. The inner end of the rail itself is simultaneously raised. The gate is then caused to run along the rail by the operation of gravity until it is arrested by a post.

IMPROVED HARROW.

James Elliott, Jefferson, Wis.—This consists of a number of toothed harrow sections that are connected by pivoted side pieces, and made to slant by slotted angular braces and clamp bolts. The harrow sections are coupled latterly by interlocking hook devices.

IMPROVED CULTIVATOR.

Daniel F. Vickery, Oxford, Ala.—This invention is an improvement in that class of walking cultivators whose shares or teeth are made adjustable toward and from each other laterally. The improvement relates particularly to the construction and arrangement of parts whereby the shares or teeth are made laterally adjustable, separately or together, without changing their relation to the line of draft. The teeth are attached to a horizontal bar pivoted to the beam and provided with curved braces for regulating its adjustment.

NEW CHEMICAL AND MISCELLANEOUS INVENTIONS.

IMPROVED STENCIL PLATE.

David P. Lake, Helena, Montana Ter.—This is an improved stencil frame, that is adjustable to letters of different sizes and to any number of lines. It is made of lateral clamping plates, slotted and pivoted side guide pieces, and clamp screws.

IMPROVED HORSE-DETACHING DEVICE.

John V. Ericson, Escanawba, Mich., assignor to himself and George English, same place.—This is an improved device for detaching horses from the wagon or carriage in case of danger, which device causes also the carriage to run in straight direction after the horses are detached to prevent upsetting. The invention consists of the shaft bar, that is locked to the axle by swinging fingers and clips, and a central yoke part, which is retained by a stop pin until released by a connecting rod. The pin-carrying arm is fulcrumed to the reach, and extended below the same to lock into the notched or toothed fifth wheel of the carriage. The pin arm acts thereby as a pawl or stop to the fifth wheel, and produces the locking of the same, and consequently the forward motion of the carriage in straight direction.

IMPROVED FEED BAG FOR ANIMALS.

Thomas Miller, Jersey City, N. J.—This consists of a secondary bag inside of the ordinary bag, with a spring between its bottom and the bottom of the outside bag, so contrived that the spring, which is contracted by the weight of the food placed on it, will rise as the food is consumed, and thus the level of the food will be maintained in convenient proximity to the mouth of the animal.

IMPROVED DINNER PAIL.

Otto Caesar, New York city.—This consists of a dinner pail with a recessed bottom and a heating attachment that may be lowered to form a support for the pail, and replaced and stored at the inside of the pail after use.

IMPROVED CARPET RAG LOOPER.

Charles F. Gronquist, Genoa, Ill.—This is a contrivance of a knife for slitting the rags to be looped together, with a hole in it, through which a looping hook is caused to project over the rags when pressed down on it, for making the slits, to pull the free end of the rag through the hole previous to the escape of the slitted ends from the knife, so that when the slits pass off they draw over the end of the rag passing through the cutter, forming a loop, which is tightened up by catching hold of the rag by the thumb and finger, and drawing it up taut in the slits.

IMPROVED DOLL SUPPORTER.

Mrs. E. C. McCutchins, Washington, D. C.—This invention consists of a metallic ring or girdle, to surround the waist of the doll, attached to legs made of stout wire, with their lower ends bent outward and flattened to form feet. The girdle is closed by a string or pin passing through holes in its end, and is provided with an upright back piece or support on its rear portion, through holes in which strings run and tie over the breast of the doll.

IMPROVED BOOT AND SHOE.

David J. Rogers, Bardstown, Ky.—This invention is an improvement in the class of boots and shoes provided with wooden soles, and relates particularly to the mode of securing the wooden heel, and also the rear edge of the wooden sole, to the leather sole, by screws, in such a manner that the screws are concealed and prevented from tearing out of or wearing the sole.

IMPROVED FOUNTAIN PEN.

Henry N. Hamilton, White Plains, N. Y.—The lower end of a tube, which serves as a socket to receive the handle, is halved and closed with a plate, which is extended into a tongue. The lower part of the tongue fits into the hollow of an ordinary pen, and forms a chamber to receive and hold the ink. The tongue is perforated with numerous holes, into which the ink enters, so that the ink may be partly supported by capillary attraction, and thus rendered less liable to run out too rapidly. The pen may be readily removed from and inserted in the holder by sliding down a ring.

IMPROVED FAUCET.

Minrad Obermiller, Toledo, Ohio.—This relates to a pump attached to a faucet, contrived in such a manner that when the faucet is opened it forces air into the barrel, either through the faucet or a tap fitted in the barrel.

IMPROVED ARTIFICIAL TEETH.

Merrick Bemis, New London, Conn.—The object of this invention is to furnish sets of teeth for eating purposes for those whose front teeth remain good, which will enable them to thoroughly masticate their food, and, at the same time, will avoid the necessity of having the remaining teeth drawn. It consists in artificial teeth in which the plates are formed to fit over the natural teeth, and in which the teeth are all molars, and are arranged with the longer side inward.

NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

IMPROVED CAR SPITTOON.

James H. Quackenbush, Kalkaska, Mich.—This consists of an outer tube with rim of inverted conical shape, an intermediate layer of suitable paper, closed at the bottom, and an interior tube with corresponding and overlapping top rim, the whole to be seated into a perforation or seat of the car floor. The device keeps the car clean, and may be easily cleaned and kept in order.

IMPROVED MACHINE FOR SAWING SHINGLES.

Erastus P. Kidder, New Alstead, N. H.—This consists of a carriage working vertically, and presenting the block to the under side of the saw, together with a tilting gage to regulate the thickness and taper, and a discharging chute, which the shingle being cut off pushes out of the way to pass by it, and which falls back to catch and discharge the shingle. By feeding the block upward to the saw, it can be held on the carriage without dogs, and is more convenient to manipulate on the carriage.

IMPROVED WHIFFLETREE HOOK.

Peter P. Kunz, Florence, Iowa.—The ferrule is cast with a solid outer end, and upon its forward side is a hook arm, in the cavity of which rests the end of a bar. The bar is bent at right angles, and its other arm passes through a hole in the ferrule at the end of the whiffletree. Upon the bar, within the cavity of the ferrule, is placed a spiral spring, by which it is pressed forward against the hook, so that the tug or cock eye placed upon the said bar cannot become accidentally detached. The tug is attached and detached by pressing the bar to the rearward and turning its free end upward.

IMPROVED VENTILATING CAR.

Cornelius G. Van Pappelendam, Charleston, Iowa.—This consists of a contrivance of a system of pipes in the upper portion of the car to take out the vitiated air by the draft caused by the motion of the car. There is also an arrangement of pipes with a hood on the top, for catching the air and conducting it down along a heater, in cold weather, to a conductor along the floor and below it, the floor being perforated to allow the air to rise into the car.

IMPROVED LOG TRACK.

Jewit N. Russell, Augusta, Wis.—This is a track for hauling logs, by which, it is claimed, they may be transported in cheaper and quicker manner than by the use of sleds, wagons, or tramways. It consists of a track made of longitudinally jointed sleepers, with lateral braces, revolving rollers, and side guards. The logs are coupled and drawn or pushed uphill and over the levels by horses walking at both sides of the track, being allowed to move downhill by merely letting them go.

IMPROVED SHINGLING BRACKET.

Stephen N. Chapman, Moodus, Conn.—This is a bracket clamp or stay for the purpose of putting up stagings on shingled roofs. It consists of a clasp piece that is slipped on the butt of the shingle, and fastened by a supporting arm with an eccentric spur locking thereto. The bent-up end of the supporting arm rests on the roof and supports the staging.

IMPROVED SAW GUMMER.

Jason W. Mixter, Templeton, Mass.—This consists in improvements in saw gumming machines so that they may be readily set to any angle of cutting in connection with a feed that may be controlled either automatically or by hand, as desired.

IMPROVED WOODEN HOOP FASTENING.

Wilbur J. Squire, East Haddam, Conn.—This consists in a wooden hoop having its ends locked by a band drawn into a notch at each end. It seems to be a very simple and useful device.

IMPROVED MACHINE FOR BORING FENCE POSTS.

John Dickens, Kingston, N. J., assignor to himself and George R. Kelly, same place.—The novel feature in this is found in the carriage, which is secured in place by a clamp bar, through the center of which a screw passes, and is swiveled to the table, and has a hand wheel attached to its lower end, below the said table. The clamp bar moves up and down upon guide pins, and upon its under side are formed points, which enter holes in the bars of the carriage to center said carriage when adjusting it.