

THE MERE SUBSTITUTION OF ONE WELL KNOWN MATERIAL FOR ANOTHER IS NOT PATENTABLE.

In *Hochkies vs. Greenwood* (11 How., 238), a patent had been granted for a "new and useful improvement in making door and other knobs, of all kinds of clay used in pottery and of porcelain," by having the cavity in which the screw or shank is inserted, by which they are fastened, largest at the bottom of its depth in form of a dovetail, and a screw formed therein by pouring in metal in a fused state. The precise question argued in this case and decided by the patent office, in an invention, and it was held not to be patentable. The only thing claimed as new was the substitution of a knob made of clay or porcelain for one made of wood. This, it was said, might be cheaper or better, but it was not the subject of a patent. The counsel for the defendants, in their points, there say: "The court now is called upon to decide whether this patent can be sustained for applying a well known material to a use to which it had not before been applied, without any new mode of using the material or any new mode of manufacturing the article sought to be covered by the patent." Mr. Justice Nelson delivered the opinion of the court to the effect already stated. Mr. Justice Woodbury dissented, not upon the question of the power of the court to pass upon the validity of the patent, but rather in regard to the manner in which the facts were admitted to the jury.

In *Stinson vs. Hardin* (10 Wall., 47), it was decided that the engraving or stamping of the figure upon the surface of a roller for pebbling leather by pressure, where the use previously had been of a smooth roller, required no invention, that it was a change involving mechanical skill merely, and not patentable. Mr. Justice Clifford dissented from the majority of the court, but expressly says that the question of patentability is for the decision of the jury and not of the court upon a bill of exceptions. The majority of the court held that the question could be considered upon a bill of exceptions, and no one claimed that the decision of the commissioner concluded the question.

In *Hallie vs. Van Wormer* (20 Wall., 333), the question of the patentability of certain improvements in stoves was largely discussed in this court upon appeal from the circuit court for the Northern District of New York. It was held that, if a new combination produces new and useful results, it is patentable, though all the constituents of the combination were known and in use previous to the combination. But the results must be the product of the combination, not a mere aggregate of several results, each the complete product of one of the combined elements. It was held that the facts there presented did not come within this principle, and the judgment, that the plaintiff's bill be dismissed, was affirmed.

In *Rubber Tip Pencil Co. vs. Howard* (20 Wall., 498), the same principle was affirmed. In delivering the opinion, the Chief Justice says: "The question which naturally presents itself for consideration at the outset of this inquiry is whether the new article of manufacture, claimed as an invention, was patentable as such, if not, there is a simple end of the case, and need not go farther." He makes a careful examination of the claim, and concludes that there is nothing patentable in the character of the invention.

In *Smith vs. Nichols* (21 Wallace, 115), an elaborate opinion to this same effect was delivered by Mr. Justice Swayne, and concurred in unanimously by the court. The only question discussed is the patentability of the invention.

*Hicks vs. Kelsey*, 18 Wall., 670, is a similar case. To this rule the case of *Lyman vs. Osborne* (11 Wall., 516), cited by the defendant, is no exception. The remarks there made are chiefly upon the subject of reissues, and are in accordance with the principles above set forth. Even as to reissues, their conclusiveness is limited to questions of fact, and is accompanied by the statement that, in the absence of such facts, it is not the province of the court to question the validity of the Commissioner's action, or to question the face of the patent that the Commissioner has exceeded his authority, or there is such a repugnance between the old and the new patent that it must be held as a matter of legal construction that the new patent is not for the same invention as that embraced and secured in the original patent.—(p. 513-4.)

We do not attach much significance to the fact that the 15th section of the act of 1836 allows the defendant to plead the general issue, and to give in evidence upon thirty days' notice special matter tending to prove the various matters therein referred to. The statute in that respect was intended to create an easy system of pleading, and to relieve from any doubt the admissibility in that form of the defenses specified. The argument that, because permitted to plead in general, the defendant is bound to state the facts does not contain the whole truth, or that it intentionally and deceitfully contains too much, or that the patentee was not the first discoverer, or that it had been in prior use, it follows that proof that there is no invention or discovery at all, or that the invention has no importance, cannot be made, is quite unsound. Proof that there is no invention or discovery strikes at the root of the whole claim. The patent is based on an affirmative fact, of which this is the direct negative. It needed no statute to aid or justify this defence. It is provable when it exists under any general denial, like the fact of no guilty or non-assumpit in cases where guilt or a promise is first to be established.

THE COMBINATION OF A PIECE OF RUBBER WITH A LEAD PENCIL NOT A PATENTABLE INVENTION.

2. We come, then, to the question: Does the article patented by Lipman and improved by Beckendorfer involve an invention, or is it a product of mechanical skill or a construction of convenience only? The article presented is for the performance of mechanical operations, to produce mechanical results, and is a mechanical instrument as much as a brush, a pen, a stamp, a knife, a file, or a screw. Whether it is styled a manufacture, a machine, or a machine, it is an instrument intended to produce a useful mechanical result, and the question presents itself: Does it embody any new device, or any combination of devices producing a new result?

In the first place, what is not claimed by the specification of Lipman is to be observed. "I do not claim (he says) the use of a lead pencil with a piece of rubber attached to one end. Of course he does not claim a lead pencil as his invention, or the use of an eraser, or the use of india rubber, or the use of these articles had been in long and general use. But he claims as his invention 'the combination of the lead and india rubber in the holder of a drawing pencil,' in the manner set forth. The claim is simply of the combination of the lead and india rubber in the holder of a drawing pencil; in other words, the use of an ordinary lead pencil, in one end of which, and for about one inch of its length, is inserted a strip of india rubber, glued on one side of the pencil. The pencil is to be made in the usual manner, so that it, he takes an ordinary lead pencil, and in this he makes a groove of suitable size," giving no idea of what he deems a suitable size, and in this groove he inserts a piece of prepared india rubber, which is glued to one edge of the pencil. The pencil is then finished in the usual manner, so that in cutting one end thereof you have the lead B, and on cutting the other end you expose a small piece of india rubber C, ready for use. It is evident that this manner of making or applying the instrument gives no aid to the patent. It must rest where the patentee claims to place it, that is, on the combination.

This combination consists only of the application of a piece of rubber to one end of the same piece of wood which makes a lead pencil. It is said that a patent should be granted for an article or manufacture, as the patentee prefers to term it, consisting of a stick twelve inches long, on one end of which is an ordinary hammer, and on the other end is a screwdriver or a tack drawer, or what you will see in use in every retail shop, a lead pencil, on one end of which is a steel pen. It is the case of a garden rake, on the handle end of which should be placed a hoe, or on the other side of the same end of which should be placed a shovel. In all these cases there might be the advantage of carrying about one instrument instead of two, or of avoiding the liability to loss or misplacing of separate tools. The instruments placed upon the same rod might be more convenient for use than when used separately. Each, however, continues to perform its own duty and nothing else. No effect is produced. No result follows from the joint use of the two.

A handle in common, a joint handle, does not create a new or combined operation. The handle for the pencil does not create or aid the handle for the eraser. The handle for the eraser does not create or aid the handle for the pencil. Each has and each requires a handle the same as it had and required, without reference to what is at the other end of the instrument, and the operation of the handle of an eraser is precisely the same whether the new article is or is not at the other end of it. In this and the cases supposed, you have but a rake, a hoe, a hammer, a pencil, or an eraser, when you are done. The law requires more than a change of form, or juxtaposition of parts, or of the external arrangement of things, or of the order in which they are used, to give patentability.—Curtis on Patents, § 50; *Hallie vs. Van Wormer*, 20 Wall., 333. A double use is not patentable, and does its cheapness make it so.—Curtis, § 56, 73. An instrument or manufacture which is the result of mechanical skill merely is not patentable. Mechanical skill is one thing. Invention is a different thing. Perfection of workmanship, however much it may increase the convenience, extend the use, or diminish expense, is not patentable. The distinction between mechanical skill and invention is convenience and advantage, and inventive genius is recognized in all the cases.—*Rubber Tip P. Co. vs. Howard*, and other cases, sup.; Curtis, § 72, b.

WHAT CONSTITUTES A PATENTABLE COMBINATION.

The combination to be patentable must produce a different force or effect, or result in the combined forces or processes, from that given by their separate parts. There must be a new result produced by their union. If not so, it is only an aggregation of separate elements. An instance and illustration is found in the discovery that by the use of sulphur mixed with india rubber the rubber could be vulcanized, and that without this agent the rubber could not be vulcanized. The combination of the two produced a result or an article entirely different from that before in use. Another illustration may be found in the saw in a sawmill which advances the log regularly to meet the saw, and in the frame which supports the log; the two cooperate and are simultaneous in their joint action of sawing through the whole log; or in the sewing machine, where one part advances the cloth and another part forms the stitches, the action being simultaneous in carrying on a continuous sewing. A stem-winding watch key is another instance. The office of the stem is to hold the watch or hang the chain to the watch. The office of the key is to wind it. When the stem is made the key, the joint duty of holding the chain and winding the watch is performed by the same instrument. A double effect is produced or a double duty performed by the combined result. In these and numerous like cases the parts cooperate in producing the final effect, sometimes simultaneously, sometimes successively. The result comes from the combined effect of the several parts, not simply from the separate action of each, and is, therefore, patentable.

In the case we are considering the parts claimed to make a combination are distinct and disconnected. There is no new result not only, but there is no joint operation. When the lead is used, it performs the same operation and in the same manner as it would do if there were no rubber at the other end of the pencil. When the rubber is used it is in the same manner and performs the same duty as if the lead were not in the same pencil. A pencil slipped down and a rubber is taken up, the one to write, the other to erase; the pencil is turned over to erase with, or an eraser is turned over to write with. The principle is the same in both instances. It may be more convenient to have the two instruments on one rod than on two. There may be a security against the absence of the tools of an artist or mechanic from the fact that, the greater the number, the greater the danger of loss. It may be more convenient to have the same effect performed by the same stick than to have one stick and take up another. This, however, is not invention within the patent law, as the authorities cited fully show. There is no relation between the instruments in the performance of their several functions, and no reciprocal action, no parts used in common.

We are of the opinion, that for the reasons given, neither the patent of Lip-

man nor the improvement of Beckendorfer can be sustained, and that the judgment of the circuit court dismissing the bill must be affirmed. STRONG, J.—I dissent from so much of the opinion of the majority of the court as holds that the instrument or manufacture described in the patents exhibits no sufficient invention to warrant the grant of a patent for it.

Recent American and Foreign Patents.

NEW MECHANICAL AND ENGINEERING INVENTIONS.

IMPROVED CAR COUPLING.

Wilfort H. Farris, Troy Station, Tenn.—When the cars are run together, the projecting end of a bar strikes against the end of the opposite drawhead, which causes bars to throw the link forward, so as to drop over the pin of the advancing drawhead. As the link drops into place, it strikes a pin and throws a pivoted block down, and the coupling is completed.

IMPROVED WATCH KEY.

John S. Birch, New York city.—The essential feature of this watch key is a contrivance by which adjustable cone-shaped jaws, for fitting parts of different sizes, are made to open by being thrust out of the end of a tubular case by a spirally grooved revolving tube. They are closed on the post to hold it for turning by a gentle endwise pressure on the case. Another feature of the invention is a friction contrivance to prevent the torsional action of the case on the cone-shaped jaws from working them loose on the post.

IMPROVED LEATHER-ROLLING MACHINE.

John Bright, Stoneham, Pa.—This is an improved machine for rolling sole leather, which includes several novel features in mechanical construction, mainly intended to render it simple, powerful, easily operated, and to enable it to pass over thick places in the leather without any jar to the foot lever.

IMPROVED CIGARETTE MACHINE.

Joseph Marengo and Alexandro Marengo, Montreal, Canada.—This invention consists in combining, with an adjustable roll, endless belt, and operative mechanism, a pair of rolls arranged on arms, one rigid and the other hinged, the former provided with a stop, and the latter with a regulating screw. By this means, the approximation of the rolls is definitely gaged, according to the size of cigar that is being made.

IMPROVED EXPANDING WELL CURB.

Alexander A. Peck, Hammond, Wis.—This consists of an expanding curb, to be used for cement-lining wells, constructed with a sectional shell of vertical planks and sheet metal plates for lapping the joints, and with adjustable arms and expanding rims. The latter are coupled to a center shaft by which the shell is expanded and contracted, and also shifted along as the work progresses.

IMPROVED ELEVATOR.

Jacob Meyer, Hollowayville, Ill.—To each arm of a braced cross-piece, at the top of a post, are attached pulleys, over which pass ropes which lead to shafts provided with ratchet wheels and cranks, and secured to the side of the post. To the other ends of the ropes are attached hooks, to receive the eyes of the bails, two of which are connected with the ends of each rope. For raising a hay rack, the four ends of the two bails are connected, and the rack is raised by turning the crank. For raising a wagon body, a rectangular frame is attached with the four ends of the two bails. To the frame are pivoted four rods, the lower ends of which connect with the ends of the crossbars of the wagon body. By operating the crank shaft, the wagon body may all be raised together, and without disarranging any of its parts.

IMPROVED CAR FOR ONE-RAIL RAILWAY.

David B. James, Visalia, Cal.—This invention consists of one line of broad-faced wheels in the center to carry the load, and small guide wheels to run each side of the rail on vertical axles projecting down from the car. These wheels serve to keep the carrying wheels on the track and to prevent the cars from overturning, and are made to grip the rail. The wheels are connected with a platform which just clears the rail, and the car is mounted on pivots arranged in the line of the wheels and supported on the platform, so that the load is balanced on the wheels, and the center of gravity is lowered. The guide wheels running against the sides of the rails move from and toward the rails, and are provided with springs to keep them in contact. The essential advantage claimed for this contrivance is the economy in the cost of the track that it affords, one rail only being required and that being of wood.

IMPROVED RATCHET STOP FOR WATCHES, ETC.

James D. McAnlis, Beaver Falls, Pa.—This is mainly designed as a substitute for the spring pawls for ratchet wheels in machinery in which strong springs have to be retained at one tooth of the wheel, so that the tooth click is liable to break and get worn. It consists of a ratchet wheel, in combination with one or more small pinions that slide in a recessed and toothed encircling frame, and allow the turning of the ratchets in one direction, while stopping them positively in the opposite direction.

IMPROVED RAILROAD JOINT.

Richard O. Keefe, Omaha, Neb.—This inventor proposes to use a short section of a rail between the rail ends when they separate by contraction, in order to tighten the joint. Duplicate bolt holes are made in the fishplate for shifting the fastening bolts, as may be required by the shifting of the holes in the rails.

NEW HOUSEHOLD INVENTIONS.

IMPROVED WINDOW-SHUTTER OPENER.

John R. Day, New York city.—This is a contrivance for opening fireproof shutters from the outside of the building in case of fire and the like. It consists of a spring slide bolt and hasp for fastening the shutters, contrived so that the hasp will hook on the bolt to fasten. The bolt may be drawn back by hand to unfasten the shutters from the inside. Also it can be drawn back from the outside of the building by a hand lever, with which it connects by rods and levers. Any desired number of fasteners are all connected to one lever, so that they can be opened. The lever is arranged in a lock-up case.

IMPROVED ELASTIC BLOCK FOR SPLITTING KINDLING WOOD.

John C. Hubbs, New York city.—The object of this invention is to furnish a block for splitting kindling wood, so constructed that wood may be split upon it while standing upon the floor without injuring the floor or jarring the room, and which, when not in use as a splitting block, may be used as a seat. The invention consists in a splitting block formed of two blocks, with interposed springs, guide pins, and flexible strips, and in the combination of a cover with the splitting block to form a seat. The splitting is done upon the top of the block, and the jar of the blow is received by the springs, so that the floor will not be jarred or injured.

IMPROVED CULINARY VESSEL.

Daniel J. Esser, Mauch Chunk, Pa.—The inventor states that this vessel is adapted to cook in a perfectly odorless and inoffensive manner. It consists of a sectional vessel with central bottom opening, closed top, and bottom supports, adapted to place different sizes of cooking vessels and broilers within the same.

IMPROVED ROCKING CHAIR.

Martin Schrenkelsen, New York city.—The object of this invention is to improve the construction of the rocking chair for which letters patent were issued to Charles Brada, October 20, 1874, to counteract the tendency of said chair to lean forward. This is done by rear springs arranged to counterbalance the front springs, the two sets of springs being coiled in opposite directions.

IMPROVED BIRD CAGE.

John D. Heins, New York city.—This improved cage is intended for mating two or more female birds with one male, and consists of close partitions, dividing it into two or more compartments. These partitions are provided with a passage and a sliding door, to be opened at will for allowing the male bird to pass out of one compartment into another when one female has gone on her nest. The partitions are made to rise and be supported a little above the tray in the bottom, for drawing it out for cleaning.

IMPROVED COMBINED IRONING BOARD AND TABLE.

James A. Geraghty, Newark, N. J.—This device is so constructed that, when the ironing board is required for use, it may be securely connected with and supported from the table, and, when not required for use, can be placed beneath the top of said table, so as to be entirely out of the way.

IMPROVED SASH HOLDER.

Henry Powelson, New Brunswick, N. J.—This is a combination of two rods and a cone-pointed screw with the sash and casing of a window. The screw is inserted between the inner ends of the bars, so that, by turning the said screw inward, it forces the latter outward, pressing their outer ends against the casing, and thus locking the sash in place.

IMPROVED HOT AIR FURNACE.

David Boyd, New York city.—By this invention, the heat is divided into two longitudinal compartments, one of which contains the pipes and flues that carry off the smoke and heated products of combustion, and the other compartment contains the fire pot and heating parts of the furnace, thus making two separate radiators. Each chamber is properly supplied with air to be heated, so that the whole capacity of both is utilized.

IMPROVED WASH BOILER.

Emmor M. Mallett, Westville, Mich.—In using the washer, when the steam begins to form, it forces the water up through the tubes to be discharged upon the clothes. The water passes down through the clothes, through the holes in the false bottom, through channels formed by plates to the bottom of the boiler, to be again forced up through the pipes, and be discharged upon the clothes.

IMPROVED WASHING MACHINE.

William Bymaster, Jamestown, Ind.—In using the machine, the clothes to be washed are placed upon a stationary rubber, and a sufficient quantity of soap and water are put in. The movable rubber is lowered upon the clothes, and the cover is secured in place. The operator then grasps a cross bar in his hands, and turns the rubber back and forth, which washes the clothes thoroughly.

IMPROVED BACK SUPPORT FOR BATH TUBS.

Emil F. W. Eisenmann, New York city.—This consists of a back support, attached to lateral webbing suspended by straps from side rods of the tub, the support being adjustable along the supporting rods by stop pins.

NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

IMPROVED GUIDE FOR SAWING MACHINES.

Harrison P. Taylor, Franklin A. Perdue, and Jeremiah M. Perdue, Minerva, Ohio.—This is a guide for sawing machines, planers, etc., which may be adjusted to vary the width, the bevel, or the taper of the work, without the use of a rule, square, line, or gage.

IMPROVED LADIES' WORK TABLE.

L. Frances Woodward, Woodstock, Vt.—This table has separate places for the various articles used for ladies' work, so that they may be at all times conveniently accessible. It is made of such a height as to be convenient for the seamstress while sitting upon a low sewing chair, and light, so that it can be readily carried from place to place.

IMPROVED SCHOOL DESK.

David I. Stagg, New York city.—This is an improved folding desk which shall be so constructed that the desk board may be turned into a vertical position, or turned over to lie against the front of the desk.

IMPROVED VELOCIPEDE.

Earl A. Wheeler, Sharon, Pa.—This invention consists in driving the large wheels of a three-wheeled velocipede by means of treadle mechanism that turns the axle, while end ratchets of the latter carry pawls on the wheels, and rotate the same in a forward direction.

NEW CHEMICAL AND MISCELLANEOUS INVENTIONS.

IMPROVED BAG HOLDER.

John T. Brown, Morrisville, Va., and Joseph Colbert, Fredericksburg, Va.—This invention consists of a hopper provided with hooks for the attachment of the bag and sliding upon the front surfaces of two ratchet-toothed uprights, against which it is held by two clips provided with flanges that rest against the rear surfaces of the uprights. To the upper clip are pivoted two detents which are pressed between the teeth of the uprights by springs attached to the lower clip. The upper portions of the detents form handles, by means of which their points are released from the teeth and the hopper raised or lowered. The uprights are fixed to a base piece, upon which the bag rests while being filled.

IMPROVED TERRET PAD.

John R. Basiger, Harrisonville, Mo.—This is made of a screw socket for a terret ring, with a recess for retaining the layer of the back band. There is also a base plate, with extension lugs, for being riveted or screwed to the back band. The device is adapted for animals used for heavy work.

IMPROVED MUSICAL TOP.

Ella N. Gaillard, New York city.—In this pretty and ingenious toy is placed a musical box, to the running gear of which stop mechanism is connected, which is released when the top begins to spin, allowing the musical box to play. When the power imparted by the act of spinning the top is exhausted, and the top stops, the stop mechanism resumes its duty, and the music ceases. The inventor states that bells or chimes may be used in place of the tongued plate of steel commonly used in musical boxes.

IMPROVED TOBACCO-CURING APPARATUS.

John B. Smith, Milton, N. C.—The tobacco leaves are strung on wires which are passed through the stems as the leaves are gathered. When full the wires are attached to frames. These, when loaded, are placed with their ends between guide studs of the curing house, and hoisted up to the position where they are to rest for drying by suitable tackle, and are secured by cross pieces. When sufficiently dried, the frames are let down and the leaves stripped off from the wires.