

and the young lions were offered to her tender care. The gentle mastiff immediately fondled them and assumed the charge, and has since, for a number of weeks, nursed them with affectionate attention.

There are frequently unpleasant deformities in the lions born and bred here. Their legs are too short and are sometimes bowed very noticeably.

Beside the common spotted hyena there is a striped species in the collection, which is regarded as new to Science. This creature has a stiff mane, which is erected at every movement.

THE "HAY CRITTERS."

The young camel was one of the most interesting of the creatures born in the Park. Then there are Cape buffalo calves, and the beautiful Zebu calf, and the bison calf, and several others.

Since the completion of the large new house for ruminants, or "hay critters," as they are familiarly called, the exhibition has been very fine. The equine antelope is exceedingly curious, and is rarely seen alive.

THE SEA LIONS.

A recent improvement in the treatment of the sea lions is worthy of notice. The pond in the rear of the carnivorium, which has heretofore been used for the great wading birds, has been surrendered to the seals and such creatures.

Poetical Soap.

Messrs. Water and Oil
One day had a broil,
As down in the glass they were dropping.

DECISIONS OF THE COURTS.

United States Circuit Court--Fifth District of Louisiana.

PATENT STEAMBOAT STAGING AND DERRICK.—C. K. CONVERSE AND OTHERS vs. JOHN W. CANNON AND OTHERS.

The complainants allege that they are the assignees of a patent issued to one A. John Bell, dated January 22, 1861, for an "improvement in steamboat staging."

The defendants, John W. Cannon and William Campbell, the first largely interested in the steamer "Robert E. Lee" as owner, and the latter being her master, are using upon said boat two several machines, which are substantially in their mode of construction the same as the machine described in said three letters patent.

The bill prays for a perpetual injunction against the defendants to restrain them from infringing upon the patents owned by the complainants by the use of said machines now employed by them upon the steamer "Robert E. Lee."

The answer of defendants denies any infringement of the patents held by complainants, and claims that they use an apparatus invented by one John Perkins, and patented to him by letters patent dated May 7, 1872, which differs substantially and materially from the apparatus covered by the patents owned by complainants, and is not an infringement thereon.

In passing upon the issue of infringement, the question to be determined is whether, under a variation of form or by the use of a thing which bears a different name, the defendant accomplishes, by his machine, the same purpose or effect as that accomplished by the patentee, or whether there is a real change of structure or purpose.

If the drawing introduced by the defendant constitutes a mechanical equivalent, in reference to the means used by the patentee, and if, besides being an equivalent, it accomplishes something useful beyond the effect or purpose accomplished by the patentee, it will still be an infringement as respects what is covered by the patent, although the further advantage may be a patentable subject as an improvement on the former invention.

The material question is not whether the same elements of motion or the same component parts are used, but whether the given effect is produced substantially by the same mode of operation and the same combination of powers in both machines.

In determining the question of infringement, we are not to determine about similarities or differences merely by the name of things, but are to look to the machines or the several devices or elements in the light of what they do, or what office or function they perform, or how they perform it, and to find that a thing is substantially the same as another if it performs substantially the same function in substantially the same way to obtain the same result.

The rule is, and so it has been settled, that if two machines be substantially the same and operate in the same manner, and if they may differ in form, proportions, and utility, they are the same in principle.

As between a device conceded to be new and a device claimed to infringe, because an equivalent, the alleged infringer could not protect himself by showing that, although his device was the equivalent of the patentee's device in all its functions and in its construction and mode of operation, yet by other additional features it possessed other and further useful functions.

Such a device, though an improvement upon the patented one, would be an appropriation of it.

To constitute an infringement, the contrivances for the purposes in view must be substantially identical, and that is substantial identity which comprehends the application of the principle of the invention.

It makes no matter what additions to or modifications of a patentee's invention a defendant may have made: if he has taken what belonged to the patentee he has infringed, although with his improvement the original machine or device may be much more useful.

Applying these principles to this case in hand, there can be no doubt that the defendants have appropriated the invention covered by the patent of A. John Bell.

The variations which have been made in the method of attaching the rope in the form of the derrick in the position in which the stage is placed on the deck are immaterial variations, which do not affect the question of infringement.

As the patent to Bell bears date prior to the use of stages by the Marine Brigade, or to the publication in Appleton's "Dictionary of Mechanics," the defense of want of novelty cannot be maintained.

All the law requires as to utility is that the invention should not be frivolous or dangerous. It does not require any given degree of utility.

The result of this view is that there must be a decree for complainants directing a perpetual injunction to go against defendants as prayed in the bill, and a reference to a master for an account of profits.

Supreme Court of the United States.

OCTOBER TERM, 1875.—PATENT SAWMILL.—CALEB IVES AND GEORGE B. CHASE, PLAINTIFFS, vs. PALMER HAMILTON, DEFENDANT.—IN ERROR TO THE CIRCUIT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF MICHIGAN.

Mr. Justice BRADLEY delivered the opinion of the Court.

This was an action brought to recover damages for the infringement of certain letters patent granted to Hamilton, the plaintiff below, for an improvement in sawmills. The defendants pleaded the general issue, with notice of special matter, setting up several prior inventions, amongst others that of one Isaac Straub.

The defendants insist that Hamilton's patent is defective for not clearly describing the position, perpendicular or otherwise, in which the curved guides should be placed; and that if any required position can be inferred from the patent it is a peculiar one, whilst the guides of the defendants' saw are inclined at a slight angle to the perpendicular.

The essence of the improvement has nothing to do with the precise position of the guides. It is a combination of mechanical means to produce a rocking motion of the saw. And this combination is just as applicable to guides that have a slight inclination as to guides that are perpendicular.

The conclusion, which has come to be decisive of the case, is that the several instructions asked. We have examined them all, and find nothing on which to base a judgment of reversal.

The judgment is affirmed.

Recent American and Foreign Patents.

NEW MECHANICAL AND ENGINEERING INVENTIONS.

IMPROVED ISTLE MACHINE.

Guillermo Roberto Welke, Parras de la Fuente, Mexico.—The object of this invention is to produce an improved machine for making istle, or the fiber of the lechugilla, which is applied in Mexico to the manufacture of a large number of articles, as hammocks, sacks, ropes, nets, cotton bagging, wagon sheets, carpets, and similar objects.

IMPROVED WIRE STRETCHER.

Seman Taber, Russel Taber, and Charles M. Morgan, Hesper, Iowa, assignors to Seman Taber, Darius F. Morgan, and Charles M. Morgan, same place.—This device is for tightening wires that have been strung up, and especially fence wires.

IMPROVED ROTARY PUMP.

William O. Crocker, Turner's Falls, Mass.—There are two toothed pistons engaging the one with the other. The peculiar construction of the teeth of the pistons enables the said teeth to be made so small that at least one tooth may always be in contact with each abutment, while at the same time having sufficient water space.

IMPROVED TACK MACHINE.

Charles P. Weaver, Norristown, Pa.—This invention relates to machines with two cutting jaws for making tacks or small nails, and consists in so combining the header lever with the crank pitman by a lever, pin, and link, that the power can be applied directly in the line of the work, thereby avoiding all lateral strain and dispensing with the usual long arms and crooked ends of the heading lever, and allowing the size and weight of tack machines to be reduced fifty per cent.

IMPROVED CAR COUPLING.

Peter C. Murray, Sloatsburg, N. Y.—This invention consists of a centrally recessed drawhead, with a stationary link attached thereto, that is coupled by the laterally sliding cross pin of the connecting drawhead, the pin being guided and locked in open or closed position by a side standard and pin rod.

IMPROVED GAS GOVERNOR.

David B. Peebles, Edinburgh, Scotland.—Between two half cases, made of cast iron, a flexible diaphragm is fixed, and a passage for the gas is made between the upper and lower chamber through the projecting part of the case.

IMPROVED AUTOMATIC TELEGRAPH KEY AND REGISTER.

Lucien S. Crandall, New York city.—This is an improved automatic telegraph key and register, by which, it is claimed, the manual and mental labor in transmitting telegraphic signals are facilitated and simplified to a considerable degree.

ference by insulated and non-insulated portions and separating recesses, to correspond to the characters of the Morse alphabet. A number of spring keys are arranged around the letter ring, and lettered alphabetically, to correspond with the Morse letters of the ring.

IMPROVED MILLSTONE DRESSING MACHINE.

William B. Chase, Faribault, Minn.—This is an improvement in the class of millstone-dressing machines in which a pick or cutting tool is operated by a vibrating lever, and caused to travel over the face of the stone by means of pawl and ratchet mechanism.

IMPROVED LEVELING AND TRAMMING APPARATUS FOR MILLSTONES.

James T. Beckwith, Cameron Mills, N. Y.—This consists of a frame suspended from another frame, on which the stone rests, and is leveled by screws from below.

IMPROVED MACHINE FOR BORING AND WALLING WELLS.

Charles B. Stough, Monticello, Ill.—A wheeled frame supports a circular way, beside which is a toothed rim, which gives rotary motion to a horizontal shaft, which is mounted in a frame, the said frame being rotated by suitable power.

NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

IMPROVED SLED PROPELLER.

William H. Shelton, Jr., New York city.—The sleigh is provided at both sides with slotted guides, and fulcrum lever handles slide loosely therein.

NEW CHEMICAL AND MISCELLANEOUS INVENTIONS.

IMPROVED OILER.

George W. Parsons, Salisbury, Md.—The construction of this oiler is such that it may be overturned without spilling any of the oil, and the amount of oil discharged can be readily controlled.

IMPROVED STEAM RADIATOR.

George P. Jacobs, Brooklyn, N. Y.—This is a one-piece radiator tube, having four steam ducts surrounding the central air tube, said ducts being in pairs, the two of a pair being connected, but each pair being independent of the other.

IMPROVED LEACH.

Marion P. Wolfe and Edwin M. Henke, Crawfordsville, Ind.—This consists essentially of an ash receptacle and leach having an inclined and channeled bottom, and a top reservoir with perforated bottom to distribute the water and draw off the lye.

IMPROVED STREET SPRINKLER.

William Westerfield, New York city.—This is a piston shaped valve located in the main pipe connected with the sprinkling tube.

NEW AGRICULTURAL INVENTIONS.

IMPROVED CHURN.

James L. Sprague, Hermon, N. Y.—This invention includes propeller shaped paddles which draw the cream to the center of the churn, and through suitable apertures in which air is forced through the cream.

IMPROVED GRAIN HEADER.

Charles K. Myers and John W. Irwin, Pekin, Ill., assignors to Peter Weyrich and C. K. Myers, of same place.—In this apparatus the cutter bar can be adjusted for cutting the grain higher or lower, and can be regulated to suit varying heights of grain.

COMBINED SCRAPER, CHOPPER, AND DIRTER.

Arthur L. Spence, Alma, Ark.—This machine scrapes the cotton plants, chops them, and then, by means of plows, dirt them as it advances.