

road track and the telegraph poles. Imagine the ground covered with an incrustation of alkali, which, when stepped on, breaks and lets one sink ankle-deep into soil as soft and fine as powder. Picture a gale of wind blowing over the waste, the air filled with fine particles of sand, the sun obscured, and no objects visible one hundred feet away, and you will have formed a faint idea of the worst aspect of the desert. It is hard to imagine anything so fearful as the reality; and, unless one can see the ground, and feel the sand, and experience a heat of 120° in the sun, we can have only a poor conception of the desert.

IMPROVED VELOCIPEDE.

We give an engraving of a novel velocipede lately patented by Mr. A. C. Johnson, of Martin, O., which is propelled entirely by the hands and guided by the feet. The rear axle is fixed in the hubs of the rear wheels, and turns in roller bearings on the frame. The driving mechanism consists of a train of three spur wheels, one being fixed to the middle of the rear axle, another turning in bearings on a triangular frame supported by the main frame of the vehicle, the third and uppermost wheel in the series being mounted on a shaft having at opposite ends hand cranks for driving. The bearings of this shaft are in a movable frame, pivoted on arms projecting from the top of the triangular frame. This arrangement is to admit of bringing one or another of three driving wheels on the upper or driving shaft into gear with the intermediate wheel to secure the advantage of more or less leverage over the resistance to be overcome.

The forward end of the frame of the velocipede rests upon a fifth wheel on the front axle, and the latter is connected by levers with a steering foot lever conveniently near the rider's seat. This seat is mounted on springs attached to the rear of the main frame.

All of the parts of this machine are made very light and graceful, yet strong enough to endure every-day use.

The use of four wheels gives a wide base, and the forward or leading wheels run in the regular wheel tracks of a road, giving, in this respect, a great advantage over the three-wheeled velocipede. There is also considerable advantage in running the machine by hand instead of foot, especially if the upper portion of the body of the rider needs development by exercise.

This velocipede is light running, easily propelled, and is not expensive in its construction.

IMPROVED BAND SAWING MACHINE.

The band-sawing machine shown in the annexed engraving is designed principally for cross-cutting logs into measured lengths for heading, shingles, fuel, staves, and for the various other purposes for which timber in this form is used, and by changing the carriage it may readily be converted into a saw for making lumber.

This machine is the invention of Mr. Lewis F. Kettler, of New Bremen, O., who has lately secured a patent for it.

The base of the machine, which rests upon the ground or any suitable foundation, consists of two timbers connected by crosspieces and supporting the framework which contains the upper wheel of the saw, the lower wheel being carried by a shaft journaled in boxes on the base timbers. These two wheels are covered with rubber on their peripheries, and the journals of the upper one are supported by levers, adjustable up or down by wedges entering the mortises above and below the levers.

The head block near the saw is provided with a toothed roller for moving the log forward preparatory to making a new cut, and this head block is movable only across the bed frame of the machine. The tail block is mounted on two sets of rollers and is capable of being moved either lengthwise or crosswise of the bed frame.

A square shaft running the entire length of the bed frame carries two pinions which engage racks on the head and tail blocks. The pinion carrying the rack on the tail block is movable along the shaft, but cannot turn upon it. The shaft is rotated by means of bevel gearing at the side of the head block, a crank wheel being secured to the outer end of an inclined shaft for the purpose of operating the gearing.

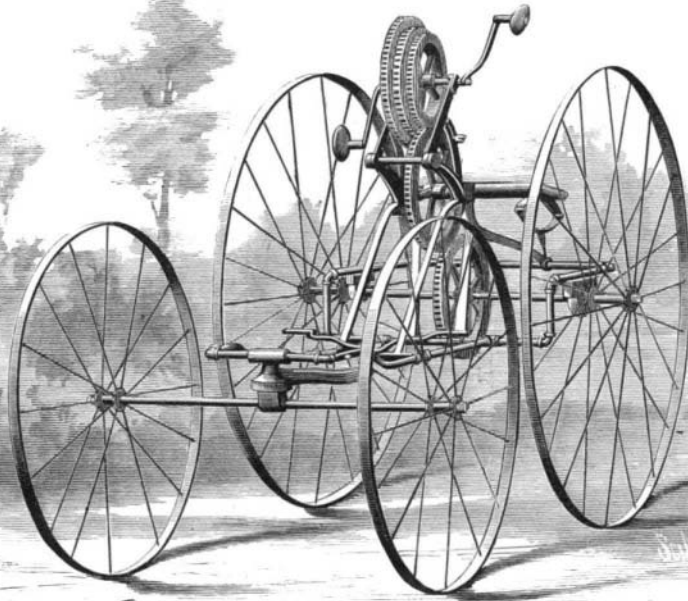
Power is applied to the pul-

ley on the shaft of the lower band-saw wheel. The log is moved forward by means of the lever and pawl mechanism connected with the toothed roller, and the log is carried against the cutting edge of the saw by turning the crank wheel on the inclined shaft. It will be noticed that with this arrangement both ends of the log are moved at once.

This saw, while being very simple in its construction, is adjustable in all essential parts, is easily managed, and does it with the application of a minimum of power.

Education in Iceland.

The correspondent of a Swiss journal thus writes as to this subject: "One would certainly have no trouble in finding among the corps of teachers some men of great merit, even erudite, whose obscure and modest science is devoted to study and to the good of their country, without care for renown or the reward of this world. I once asked a young Icelander, who undertook the instruction of children who, from the distance of their dwellings or the poverty of



JOHNSON'S IMPROVED VELOCIPEDE.

their parents, could not attend school? 'At the age of seven years,' he replied, 'all our children know how to read, write, and cipher; among the poorest fishermen of the coast there is not one who has not received what may be called a good primary education. Our mothers are our teachers, the boer (Iceland house) our schoolroom. The nearest pastor has an oversight of the progress of the children, and that one who does not furnish the proof of a sufficient education would not be admitted to confirmation. An Icelandic mother would not survive the chagrin of seeing her children refused by the pastor, and not a single example is known of it.' Ask the first child you meet who it was that taught him or her the history and geography of his country, the name of the birds and flowers, and the invariable reply will be, *Modremin*, my mother. Touching in its simplicity and grandeur, and revealing truly the character of this sympathetic people! At twenty-five the young man is profoundly religious, chaste, gentle, and honest as on the day when at his mother's knee he was spelling out his first lesson. Can one be astonished after this that in Iceland there are neither soldiers nor cannon; that the art of robbing one's neighbor

of his purse or his land is unknown; that one sees there no police nor prison; and that for centuries one has lost the memory of every kind of crime?"

NEW INVENTIONS.

Mr. Louis Wolf, of San Antonio, Texas, has patented an improved device for pressing and drying garments, which consists in a combination, with a hollow form of the shape of the garment to be dried and pressed, of hollow half-forms, and means for adjusting the half-forms on the form and heating them.

A novel folding seat for counters, patented by Mr. James A. Reeder, of Corinth, Miss., has an arm pivoted to the bottom of an upright, and supported by the ends of one or two downwardly-inclined guide-bars. The upper end of the arm carries a seat, and, when not in use, the seat is raised up against the upright and under the counter by a counterweight.

An improved open link has been patented by Mr. Solomon Shetter, of New Cumberland, W. Va. The link is formed of two parts, which are oppositely bent to form hooks, which are diagonally flattened or faced to fit upon each other. The straight end of one part is flattened at right angles to the plane of the hook, and this flattened portion is perforated and pivoted on the end of the other part.

Mr. Asa G. Golding, of New York city, has patented an improved butterdish, made with an interior plate-supporting flange, by which the plate will be supported out of contact with the bottom of the dish, and in a cap ring, by which the edge of the plate will be covered and concealed.

A novel corner piece for wagon bodies has been patented by Mr. Richard B. Perkins, of Hornellsville, N. Y. The object of this invention is to provide means whereby the boards of wagon or carriage bodies and wagon seats, and other similar boxes, may be securely joined at the ends to form square or rounded corners without dovetailing and without the use of nails, screws, or similar fastenings, and in such manner that the corners will be shielded and protected from every direction, the rounded corners being rounded both upon the inside and outside of the box, or only upon the outside, as desired.

Mr. Edwin M. Fitzgerald, of New York city, has patented an advertising apparatus combining a clockwork, a series of rollers carrying an endless band, and a spring-driven chain of gear wheels, the band being moved automatically through fixed distances at regular intervals.

A combined child's chair, seesaw, wagon, and swing, has been patented by Mr. Thomas C. Keeler, of Mount Holly, N. J. This invention consists of a high or table chair for children, constructed so that it may be readily converted into a seesaw, wagon, or swing.

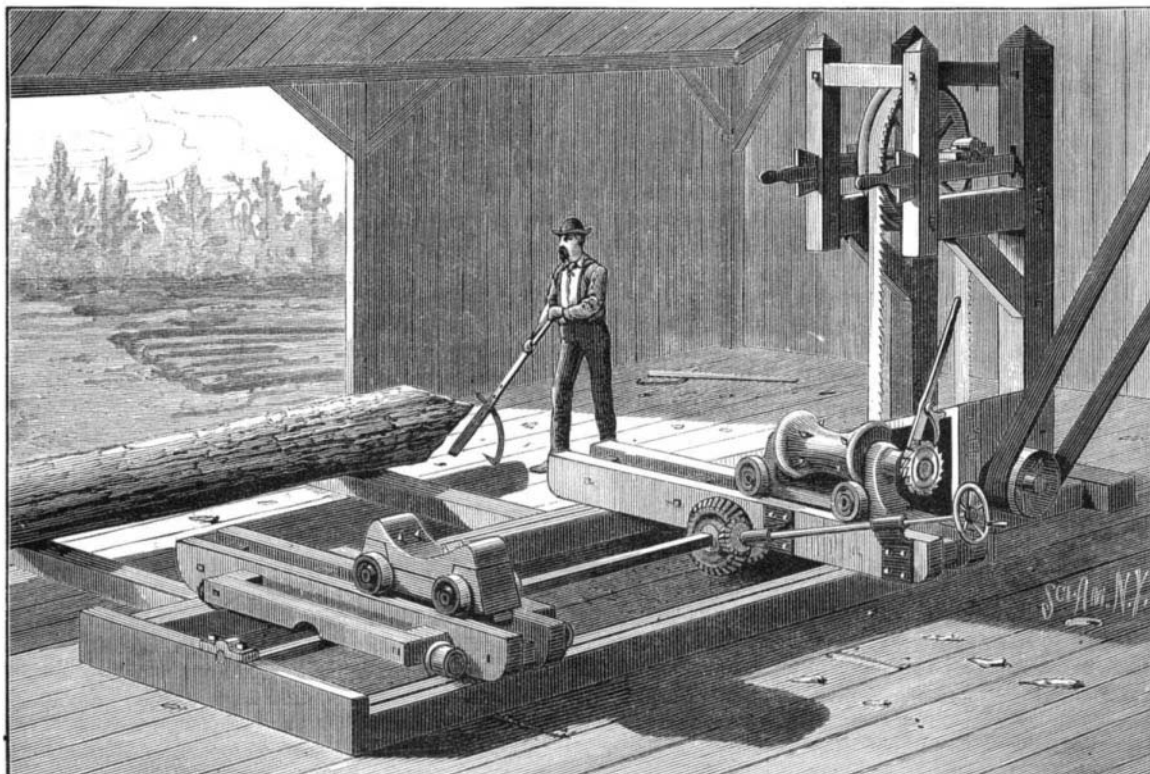
Mr. John C. Klett, of New York city, has lately patented an improved folding invalid chair. This chair is convenient for use in sick rooms, and it can be folded into small compass for transportation or for storage.

A case for clocks which is unaffected by heat, and which is practically dust-proof, has been patented by Mr. John G. Raine, of Grand Island, Neb. This clock case is intended particularly for clocks used on locomotives and in similar places.

Mr. David Thompson, of Leeds, County of York, Eng., has patented an improved kiln for bending, burning, staining, and annealing glass, burning art-tiles and pottery, and for other similar purposes. The object of the invention is to improve the use and application of gas and air so as to produce a uniform, safe, and certain result with less labor, time, cost, and liability to damage, and without the employment of additional or mechanical force or pressure to either the gas or the air.

An improvement in gas cooking stoves and ranges has been patented by Mr. William W. Goodwin, of Philadelphia, Pa. The object of this improvement is to perfect gas cooking stoves so that they will utilize the heat to the greatest possible extent, thereby economizing in the use of gas fuel. This stove is so designed as to give the greatest facility and convenience for cooking operations.

An improvement in hollow table ware, patented by Mr. Henry Korf, Jr., of Cincinnati, O., consists in a peculiar manner of cushioning the bottom or the feet or legs of ice pitchers, butter dishes,



KETTLER'S BAND-SAWING MACHINE.