

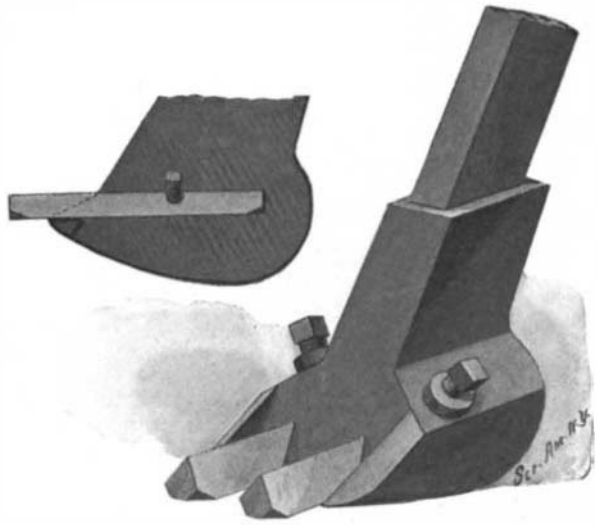
to manufacture in England. This was refused, and he was subsequently obliged to pay £800,000 for the British rights; while in Germany, the right to manufacture was sold on more advantageous terms, which enabled the German to enter and underbid the English manufacturer." These facts may be perfectly true, and may seem at first glance to have worked an injustice, but certainly such a condition of affairs cannot be attributable to this particular feature of the patent practice. We are inclined to believe that the value of a patent is governed principally by the ordinary laws of supply and demand, and we believe that in many cases it would work a great and real hardship to compel the inventor to introduce his invention at, perhaps, an enormous expense and sacrifice, or forfeit the rights for which he has paid. In many cases it is practically impossible for an inventor alone and unaided to introduce a patented invention. A vast amount of capital may be required; it may be necessary to establish an extensive organization in order to introduce the invention; those who wish to control the patent may have a monopoly of such inventions and are unwilling to buy, and it seems a little hard to deprive the poor inventor of his rights simply because he fails to put the invention into actual practice within a limited time. If the invention is one of value and he is unable to introduce it himself, the time will surely come when some one will make him an offer, which it may be possible for him to accept. The inventor will then have received the reward of his invention, and the public will receive the benefit derived from his labors.

We are pleased to learn that before the deputation left Mr. Balfour, it was gravely remarked that the latter's reply proved "most unsympathetic." It is to be hoped, therefore, that nothing more will be heard of the matter.

**ADJUSTABLE CLAW-BAR.**

The claw-bar here illustrated is designed more particularly for drawing rail-spikes, and, as the title indicates, it is so constructed as to permit rapid adjustment or removal of the claws when desired. The claws are straight steel bars of triangular cross-section which enter corresponding openings in the claw-head, and are held in place by set-screws. The handle of the tool fits into an opening in the top of the head and is held therein by a set-screw at the side. Lips are formed on the head outside of the claws and brace them to prevent spreading. The base edges of the claws are beveled at each end to permit slipping them under the spike to be drawn.

As soon as the claws are worn out or become dull along their inner projecting edges it is a simple matter to unloosen the set-screws and make an exchange of



**ADJUSTABLE CLAW-BAR.**

claws, i. e., to place the right claw in the left socket and the left one in the right socket, thus presenting new edges to the spike head. When the projecting ends are completely worn out the claws may be reversed in their seats, and when both ends are dulled they can be readily removed, the worn-out ends cut off, and then re-inserted in the head, or they may be replaced by new claws whenever desired.

By virtue of their shape the claws can be easily passed under the spike-head, and when pressure is brought to bear on the handle the rounded heel of the claw-head forms an excellent fulcrum on which the claws are raised and the spike withdrawn from the tie. Mr. Thomas Woodhouse, of Leadville, Colorado, is the inventor of this adjustable tool.

George W. Gardiner, of Philadelphia, has devised a propeller-gear which consists of a frame arranged in a trunk formed in the vessel, adapted to be lowered below the bottom so as properly to place the propeller in the water. If the vessel be of the centerboard type, the trunk carrying the centerboard may be enlarged so as to also receive the propeller-gear.

**ODDITIES IN INVENTIONS.**

**COMBINATION REVOLVER AND DARK LANTERN.**—The revolver shown in our illustration would be of inestimable value in case of an emergency at night. Its distinguishing feature lies in the small incandescent lamp situated in a reflector tube placed immediately below the revolver barrel. A battery in the



**COMBINATION REVOLVER AND DARK LANTERN.**

handle of the revolver may be electrically connected with the lamp by a slight pressure of the trigger. Thus, should a man suspect a burglar in the house, he can use his revolver as a dark lantern to find his man and insure good aim before firing. As soon as the piece is fired the trigger returns to its normal position and separates the electric wires, thus affording the operator the protection of darkness. Mr. F. D. James, of Seattle, Wash., has obtained the patent for this invention.

**COW-MILKER.**—There remain in these days of invention but few hand operations which cannot be

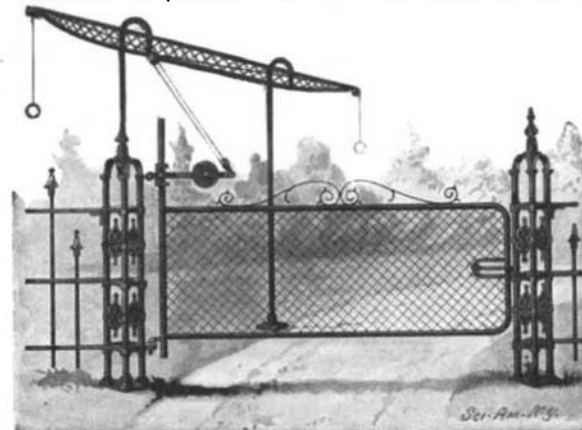


**A COW-MILKING MACHINE.**

far better performed by machine. Even the milking of cows is now done by a vacuum device. The apparatus comprises a can provided with an air-pump by which the air in the can may be exhausted to a certain degree of rarefaction, as indicated by the vacuum-gage at the top of the can. A flexible tube is connected at one end with the can and at the other end with the udder of the cow by means of four teat cups. As soon as a sufficient portion of the air has been exhausted from the can the teats are placed in the cups and the stop cocks opened, which causes the teats to be drawn inward, making an air-tight joint. The suction then draws the milk through the hose into the can. A pneumatic ring in each cup prevents injury to the cow and an outer adjustable cylinder prevents the teat from being drawn in too far. The lower portion of each cup is glass, which permits the operator to watch the proper working of the device. The pump and gage are arranged to be easily applied to any milk-can. W. R. Thatcher and N. W. Hussey, of Oskaloosa, Iowa, are the inventors of this apparatus.

**AUTOMATIC DRIVE-GATE.**

A simple and inexpensive mechanism is shown in the accompanying illustration by which gates for drive-

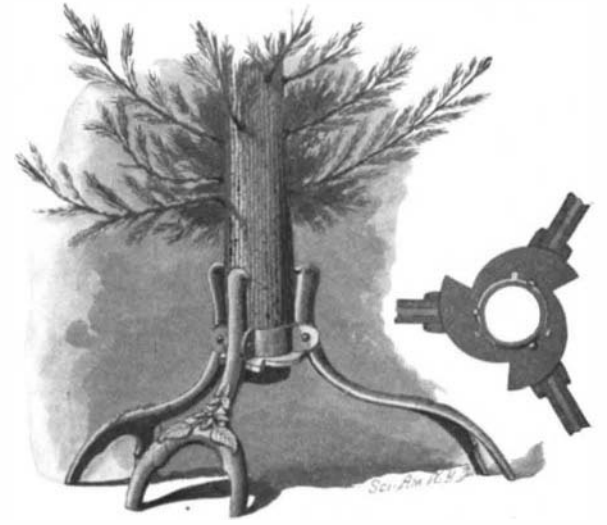


**AUTOMATIC DRIVE-GATE.**

ways may be opened or closed from either side by the driver while he remains seated in his vehicle. The gate is hinged to a post projecting upward a considerable distance above the fence. At the top of this post is a cross bar extending in both directions parallel to the roadway and supported near one end by a standard against which the gate swings when opened. Mounted to swing on the hinged post is a weight-actuated lever to which is pivoted a sleeve sliding freely on the pintle rod of the gate. The lower pintle of the gate fits loosely in an eye-bolt on the hinge post. It will readily be seen that by lifting up the weighted lever the upper pintle rod will be drawn back out of its horizontal position and be given a backward tilt. This, of course, will lift the gate off its latch, and since the center of gravity is changed the gate will swing around on its axis until it strikes the standard at the side of the road. The weighted lever is operated from the vehicle by a cord or draw-line passing through a pulley on the end of the lever and over pulleys on the cross bars. The depending ends of this draw-line are provided with handles, and are knotted just outside of the end pulleys, so as to prevent one end from sliding out of reach when the other is pulled down. To properly operate the gate, the draw-line should be given a smart pull, which will carry the weighted lever over past the vertical position and permit it to drop over toward the rear. As soon as the vehicle has passed, a quick pull on the other end of the draw-line carries the lever back past the vertical and permits it to swing to its original position. This restores the normal center of gravity and causes the gate to swing back against the fence post, to which it is secured by the ordinary gravity-latch. The gate was invented by Mr. P. C. Forrester, of Chicago, Ill., and is now being built, under the name of Forrester's Automatic Gate, at 269 Dearborn Street, Chicago, Ill.

**TREE-STAND.**

The stand illustrated herewith forms a simple yet very firm base for holding Christmas trees and the like. After the tree has been placed in position the device can be firmly locked, thus insuring perfect rigidity of the connection. The body of the device is tubular in form, tapering to a smaller diameter at the bottom, so that the tree may be firmly wedged therein. The legs, which are pivoted to this body portion, have a wide extension so as to present substantial bearing on the floor. On the upper inner portion of each leg a spur is formed. These spurs are adapted to sink into the trunk of the tree. When the tree is forced into the body of the device, the legs are first drawn together, thus spreading the spurs apart to admit the tree trunk. After the tree is seated, however, its weight spreads the legs apart and causes the spurs to sink into and grip the trunk. Mounted to rotate on the bottom of the



**TREE-STAND.**

body portion is a disk having three peripheral cam surfaces, one for each leg. As soon as the tree has been secured in the stand this disk may be turned to bring the cam surfaces into proper contact with the inner faces of the legs and thus lock them in their gripping position. The stand is the invention of W. C. Krick, of 1287 Broadway, Brooklyn, N. Y.

**Acetylene-Black.**

Lamp-black, which for hundreds and hundreds of years has been the chief ingredient in dark pigments, may perhaps be eventually displaced by acetylene-black. The chief merit of the new substance lies in its freedom from grease and, therefore, in its more ready manipulation. It is said that acetylene-black is admirably adapted for the uses of the manufacturer of printing inks. The high cost of acetylene-black is the only obstacle that bars its general introduction. A field is, therefore, opened to inventors in devising a method of producing the substance cheaply in large quantities. At present the black pigment is obtained by decomposing acetylene through the medium of an electric spark.