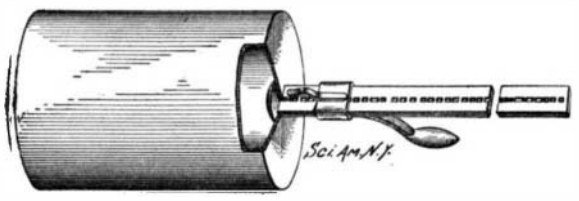
ODDITIES IN INVENTIONS.

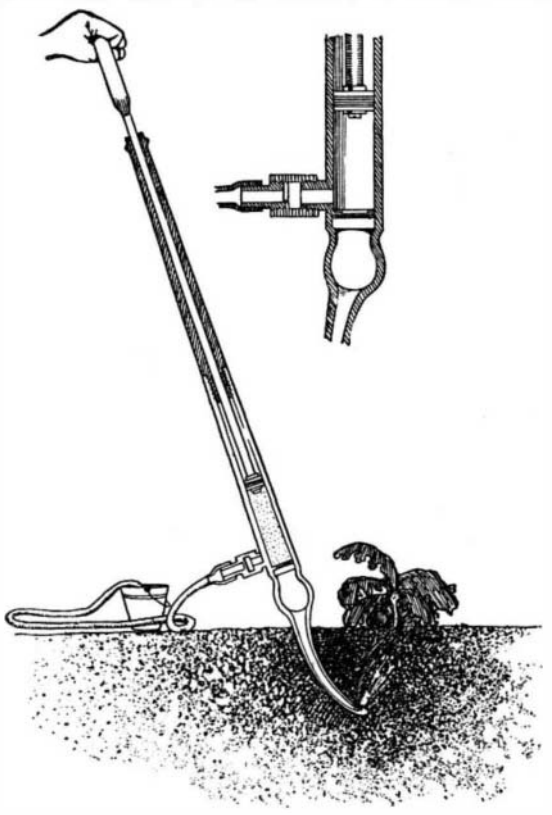
TOY PHONOGRAPH.—It has long been desirable in the manufacture of toy dolls to obtain an economical yet efficient apparatus by which the doll can be made to talk. Such an apparatus seems to have been discovered by the inventor of the device here illustrated. A sounding box of cup-shape is employed, and extending vertically from the top of this box is a strip of celluloid or hard rubber. On this strip the desired sound record is indented. This may be done by softening the strip



TOY PHONOGRAPH.

and engraving by the usual method with the stylus of an ordinary phonograph. A slide block is mounted on the sound-record strip, and is provided with a stylus held by tension of the spring against the sound-record. A handle is provided on the slide block, and by moving this up or down the sound recorded will be reproduced. The construction of the apparatus is so simple that it may be used even in the cheaper toys to reproduce trite sayings and the like in articulate speech.

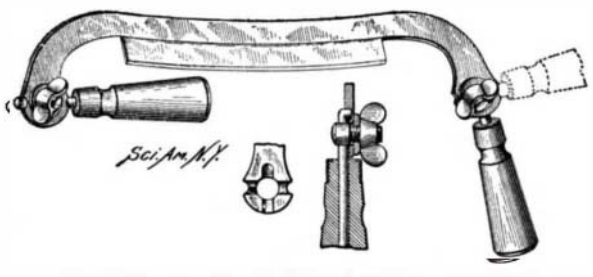
PORTABLE IRRIGATOR.—Among recent inventions in gardeners' implements is one worthy of special notice. The implement is a portable irrigator especially adapted for treating the roots of a plant with fertilizing liquid. The general shape of the irrigator is similar to that



PORTABLE IRRIGATOR.

of a pitchfork, the tines and handle of which are hollow. A piston is adapted to be operated within the hollow handle, serving as a pump to draw the fertilizing liquid from a supply pipe entering at the top of the fork head and to force it out through the openings in the tines. In operation the tines are buried into the ground with their lower ends in proximity to the roots to be treated. The liquid can then be forced out in a fine spray at the point where it will do the most good.

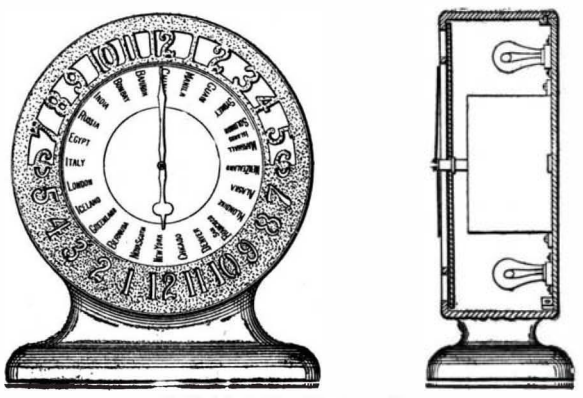
DRAW-KNIFE.—A Yankee inventor has improved on the ordinary draw-knife by providing a knife with handles which may be readily adjusted and locked in various positions. The shanks of the knife blade are



DRAW-KNIFE WITH ADJUSTABLE HANDLES.

provided with ears to which the handles are secured. In each ear is an aperture for receiving the clamping bolt, as shown in the small detail view. Two intersecting grooves are formed on one face of each ear to receive the handle rod. By tightening the thumb screw on the clamping bolt, each handle rod may be firmly locked in any one of the three positions permitted by the intersecting grooves. In order to give greater stability to the joints, each handle rod is provided at the end with a stud or projection. A recess is formed in each end of the horizontal grooves, and a socket at the upper ends of the vertical grooves, which are adapted to receive these projections and insure a firm hold. The advantages of this construction are apparent. It is often impossible to use the draw-knife with its handles projecting at right angles to the blade, because of their interference with other portions of the work. In such cases this improved construction would be a necessity. When the tool is not in use, the handles may be turned inwardly, as shown at the right in the illustration, and the edge of the blade would thus be protected against injury.

GEOGRAPHICAL CLOCK.—The accompanying illustrations show a clock by which the correct relative time of various prominent localities throughout the world may be instantly ascertained. The hour-hand of the clock is provided with a translucent disk secured thereto, which, with the hour-hand, makes one complete rotation every twenty-four hours. On this disk, in their proper locations, are printed the names of different cities or states throughout the world. The twenty-four hours of the day are represented on an outer stationary ring. The characters representing the hours



GEOGRAPHICAL CLOCK.

of day are formed in relief, while those representing the hours of night are cut out of the solid background. The translucent disk extends under the ring and serves to display the characters in such manner that one will at a glance distinguish the hours of the day from those of night. Electric lights may be located within the clock casing, so that the characters may be readily distinguished at night. Our illustrations show the clock as indicating midnight in New York, and it will be readily seen that at that hour it is five A. M. in London, one P. M. in Manila, nine P. M. in San Francisco, etc.

PRINTING FRAME.

One of the greatest difficulties attending the use of films is experienced by the photographer when making prints. The tendency of films to curl and twist causes a great deal of time to be wasted in trying to straighten out the negative and lay the edges back to their normal position. Heretofore it has been the practice to soak the negative in glycerine or bend it backward, but these methods are in the one case disagreeable, and in the other non-effective. All photographers will therefore appreciate any device for overcoming this difficulty.

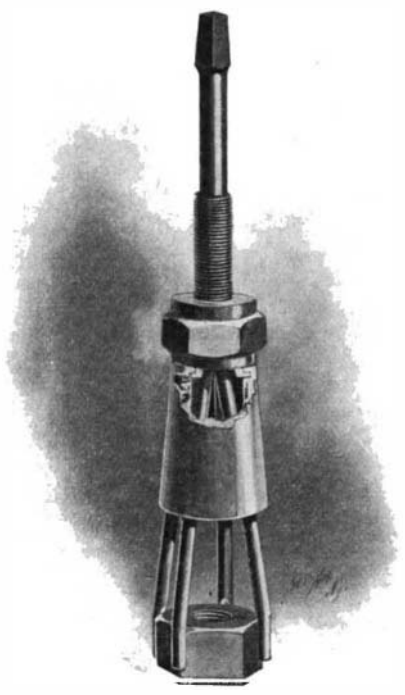
A very simple invention along this line has recently been patented by Dr. F. J. S. Gilbert, of 1921 Canal Street, New Orleans, La. Dr. Gilbert's invention provides a printing frame having two horizontal wires stretched on the glass along two opposite edges. Each wire is secured in the frame at one end, and at the other is coiled about a revoluble pin. Each pin is provided with a milled head, so that it may be turned to increase the tension of the wire.

In operation the wires are first slackened, and the film placed against the glass with its edges under the wires. Now by tightening the wires the film is held smoothly in place. The sensitized paper is next placed, and exposure made in the usual manner. The paper may possibly overlap the wires, but this is not detrimental, for a small margin is always allowed on prints, which is trimmed off before mounting. This printing frame will be found particularly useful for one who desires to make a great many prints from a single negative; for when once fastened in place, the film cannot be disturbed by the ordinary operations of printing.

The fire department officials of the city of Washington, D. C., have been greatly annoyed for a number of years by the frequency of false alarms of fire. It is computed that every false alarm costs the city $25, and as there were several hundred every year, the thing got to be quite serious. With the view of preventing these, as far as possible, a new alarm box has been adopted and is now being placed about the city. The main feature is that in the course of striking an alarm a light, which burns several seconds, spouts from a cup on top of the box, and this is sufficient to attract attention to the person giving the alarm and would enable any one in the vicinity to identify him. This is known as the Campbell system and is the invention of a resident of the Capital City.

WRENCH.

A recent invention provides a peculiar form of wrench adapted to be used in connection with an ordinary car-



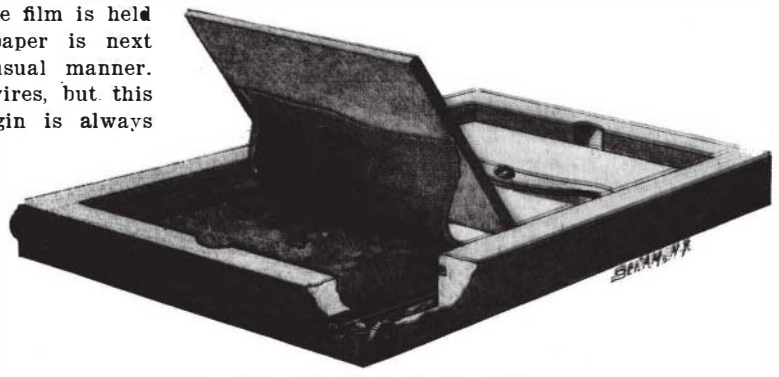
WRENCH FOR USE WITH HAND-BRACE.

penter's hand brace. The novel tool may be employed to engage with angular nuts or bolt heads for insertion into wood or other material. Screw bolts that are cut with coarse threads, and known as "lag screws," may be driven into wood by the use of this tool and a brace much more rapidly than with an open-end wrench.

Briefly stated, the tool comprises a shank having at one end a shank head which may be engaged by a socket of the brace or its gripping chuck and provided at the other end with spreading fingers which may be closed to grip any desired object by adjustment of the sleeve surrounding them. A clearer understanding of the construction may be had by referring to the illustration. It will be noticed that the main shank is provided with four gripping fingers above which is a threaded portion engaged by a nut. Connected to this nut by a swivel joint is the sleeve piece which is slightly flared toward its open end. On the inner surface of this sleeve are a number of longitudinal channels which are spaced apart equally and correspond in number to that of the gripping fingers. These fingers, which are slightly resilient, rest in the grooves in the sleeve and are thus secured against torsional strain when the tool is in use. Downward adjustment of the sleeve obviously presses the fingers together. A square nut or bolt head is gripped by clamping the fingers against the four faces of the butt or screw bolt. With a hexagonal nut it is evident that but two fingers will engage a flat surface while the other two must engage opposite corners. In order that these corners may be securely held, and in order that an even pressure will be exerted by the sleeve on the clamping members, each finger end is provided on its inner surface with a longitudinal V-shaped kerf or channel into which the angle of the nut or bolt head may project.

Mr. James S. Barrett, of 29 South Church Street, Carbondale, Pa., is the inventor of this new wrench.

News comes from Europe that the Norwegian life-



PHOTOGRAPHIC PRINTING FRAME.

saving society has experimented at Horton with Capt. Doenvig's new life-boat. It is said that the device consists of a sphere having a carrying capacity of sixteen persons, 800 pounds of provisions and a half ton of water. An air-pump and a water-pump together with a sail and rudder comprise the propelling machinery. The sphere is intended to stand on the deck, and to float off if the ship carrying it goes down. The trials are said to have been successful.