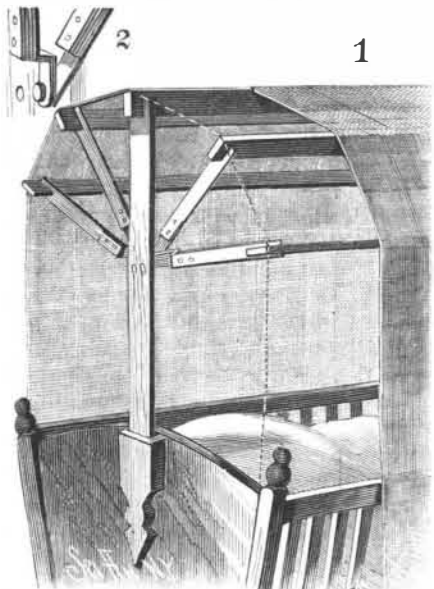


AN IMPROVED CANOPY-SUPPORTING FRAME.

A cheap and durable frame for supporting canopies, mosquito netting, etc., and which may also be used for shelter tents and awnings, is shown in the accompanying illustration, and has been patented by Messrs. Andrew F. Tracy and James Winchell, of 405 Grand Avenue, New Haven, Conn. To the end standards



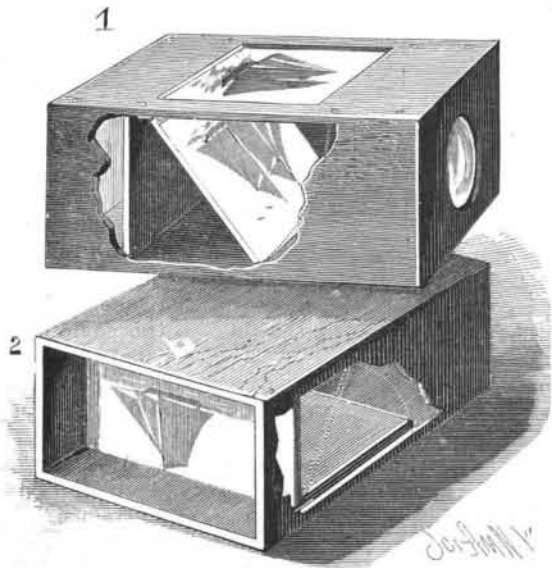
TRACY AND WINCHELL'S CANOPY FRAME.

are pivotally connected folding arms, these arms having end straps to adapt them to fold together, as shown in Fig. 2, and the upper ends of the standards and of the folding arms are recessed to receive a ridge pole and longitudinal strips, connected together by tapes or straps, and this frame, extended as shown in the illustration, is in position to support the netting. The frame may be readily taken apart for snug stowage, or the arms upon one side may be folded up when it is desired to make or dress the bed. For use as a shelter tent or field awning the lower ends of the posts or end standards should be sharpened, that they may be easily driven into the ground.

AN IMPROVED FINDER FOR PHOTOGRAPHIC CAMERAS.

The wonderful advance in the sensitiveness of the photographic film, now so generally furnished in what is known as the gelatine dry plate, has caused the art and practice of instantaneous exposure to be largely followed. For its more successful practice a new auxiliary, termed a finder, is found to be very convenient. The camera having been directed so that the passing object shall traverse its field, the finder is placed upon or affixed to the instrument so that its field is in register with that of the camera. The ground glass of the camera is then removed and the plate holder with plate inserted and the slide of holder withdrawn. Of course there can be no further vision through camera. In this finder, however, all is seen, and that, too, exactly as present in camera on the uncovering of lens; and as the position of the moving body becomes that which is wanted, exposure is made with a certainty of like position on camera plate.

Among the qualities desirable in a finder, aside from its correctness, are, first, that it be of such dimensions that the size of field is sufficiently large for easy observation; second, that for convenience of carriage it is no larger than necessary. The form used, when the



HIGGINS' FINDER FOR PHOTOGRAPHIC CAMERAS.

camera is stationary or tripod, is that in which the screen of the finder is in the same plane with that of the camera, viz., perpendicular or upright.

Where the camera is held in the hand, or on the lap, or under the arm, as for the so-called detective, and other rapid exposures, it is needful that the screen of the finder should be in a horizontal plane at a right angle to that of the camera, and that the view be

thrown upward upon it, by a mirror or other reflecting surface or prism. Such arrangement enables the operator to look down conveniently upon it, and the delineation, moreover, is now seen non-reversed. In the finder we illustrate we have one that is practical and serviceable. It has been patented by Dr. J. J. Higgins, of New York City. Its size, while fully sufficient, is such that it can be placed inside the camera when closed, or carried in the pocket.

AN IMPROVED ADJUSTABLE BOOK HOLDER.

A book holder, designed to accommodate books of varying dimensions, and to hold them to suit various positions of the reader, and which, when not in use, can be folded up into small compass, is shown in the accompanying illustration, and has been patented by Mr. Peter A. Drake, of Shell Lake, Wis. The U-shaped base clamp is provided with tubular sockets whereby the main holding rod is held upright from either a vertical or horizontal support, each of the sockets having catches, allowing the rod to be turned when desired. This rod is mainly tubular, and in it is mounted a square ratchet bar, forming an extensible post, which can be adjusted and held at any length by means of a pawl. On the upper end of this ratchet bar is an elbow adapted to receive a tubular rod, within which is a square sliding rod, connected with the outer end of which is the folding skeleton frame of a book rack. Connected with the frame are attachments to hold the leaves open in place, or which may be simultaneously operated to permit the turning of a leaf, the attachments being easily adjustable independently of each other to suit the opposite parts of the book



DrAKE'S ADJUSTABLE BOOK HOLDER.

when open. In our illustration, Fig. 2 is a sectional view of the book rack with a book held open, and Fig. 3 shows the adjusting device for preventing the arm supported by the main holding rod from turning. With this holder a book can be securely held to suit the convenience of the reader in almost any situation, even when lying in a recumbent position.

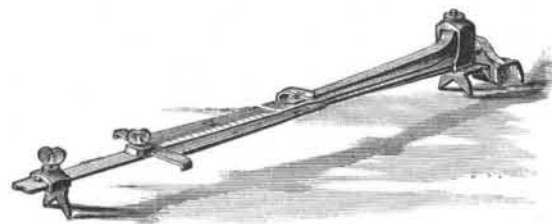
The Panama Canal.

The project of damming up the Chagres with 26,000,000 cubic meters of earthwork, accompanied by a culvert large enough to admit the issue of a stream gauging 400 cubic meters per second, and needing for its course a cutting nearly as wide and deep as that required for navigation, depends, among other things, for its accomplishment on the forbearance of earthquakes. One tremor of the ground would bring down the whole mighty structure. Altogether, M. De Lesseps and his shareholders are in a terribly awkward plight. They cannot very well abandon works which have cost over fifty millions of money, and yet they cannot with prudence go forward. They have two alternatives, and only two, before them. One of them is to sell the whole thing for, say, twenty millions to the Americans—who are quite willing to buy the concern—and the other is to suspend M. De Lesseps, and to put in somebody who will personally superintend the works. Who that somebody ought to be we have, we confess, no idea.—*British Trade Journal.*

To restore faded ink on parchment, etc., the Bodleian Library, at Oxford, has long employed hydrosulphide of ammonia, a solution of which is spread in a thin layer over the writing, by means of a camel's hair pencil.

AN IMPROVED AXLE GAUGE.

A gauge which will answer the requirements of a great variety of work in axle setting, and in which the number of adjustments is reduced to a minimum, is shown in the accompanying illustration. A "dish" rule, graduated in parallel lines an eighth of an inch apart, is attached to the main bar, and the "spoke" rule is graduated in inches and fractions thereof. On the spoke rule is a notch, or mark, to which, when adjusted, the pointer must point. Near by is an oversprung plate, on which is a center or normal line, also a left and right gather mark, to one of which a brass pin on pointer must point when setting for "gather." The automatic head throws out the ques-



McQUARRY'S AXLE GAUGE.

tions of size and taper altogether, and actuates the pointer merely by the weight of the gauge. Only two measurements are required to set for "plumb spoke," namely, length of spoke and amount of "dish." All axes whose central portions are arched up or jogged down, forward or backward, can be readily set with this gauge, with a saving of time and avoidance of error, if the workman follows the very simple directions.

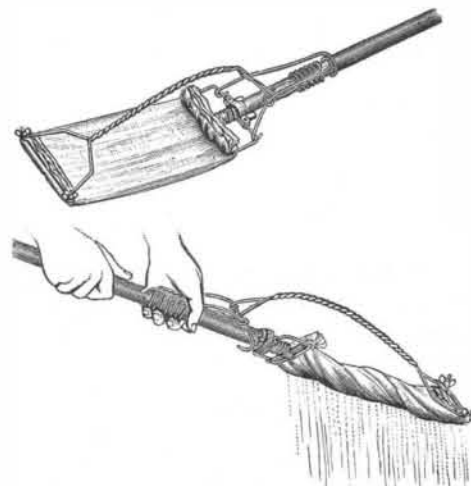
This invention has been patented in the United States and Canada by Mr. H. McQuarry, Allandale, Ontario, Canada.

Orson S. Fowler.

On Thursday, August 18, after a short illness, the well-known advocate of and lecturer and writer on phrenology died at his home near Sharon Springs, N. Y. He was born in Cohocton, Steuben County, N. Y., on October 11, 1809. He worked his way through Amherst College. There he was a classmate with Henry Ward Beecher, and it is said that a book given him by the great preacher turned his attention to phrenology, in which he was destined to do his life-work. In 1838 he started the *Phrenological Journal*. In 1843 the deceased, who had been associated in business with his brother and Dr. Nathan Allen, of Lowell, Mass., added to the firm Mr. Samuel R. Wells. The firm name now became Fowler & Wells, which still flourishes. It has acquired great fame for the publication of phrenological literature. In 1865 Mr. Fowler left the firm and entered the lecture field, and traveled all over the country descanting on his theme. He was one of the notabilities of the city, and the author of a number of books on phrenology and allied subjects.

AN IMPROVED MOP ATTACHMENT.

A simple and readily applied mop attachment has been invented by Mr. Calef Mansbarger, of Albany, N. Y., and is shown in the accompanying illustration, a patent for the device having recently been allowed. The body of the attachment is preferably constructed of a single piece of wire, bent at the upper end to form a coil adapted to be slid over the mop handle. The attachment, thus encircling the mop handle, detachably engages its head and clamps the free end of a



MANSBARGER'S MOP ATTACHMENT.

cloth held in the mop head, whereby the cloth may be wrung while held in a flexible horizontal position, or drawn up over the mop head parallel with the handle. The cloth may also be drawn tightly over the mop head to facilitate cleaning in corners, one of the figures showing the mop with the attachment ready for ordinary use, and the other while the water is being wrung out without applying the hands to the cloth.