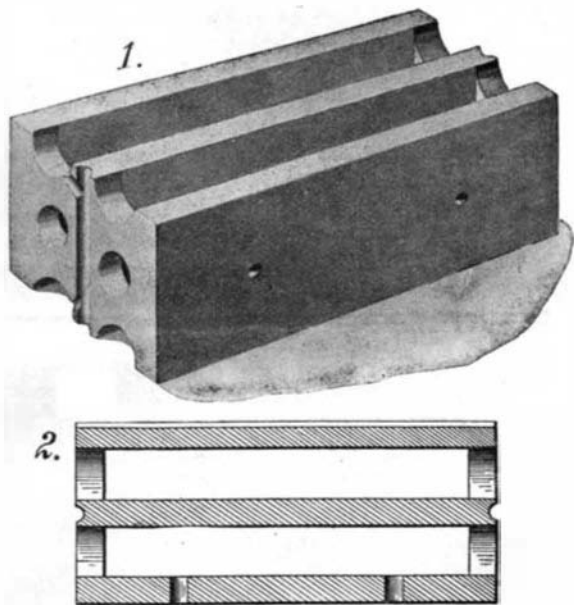




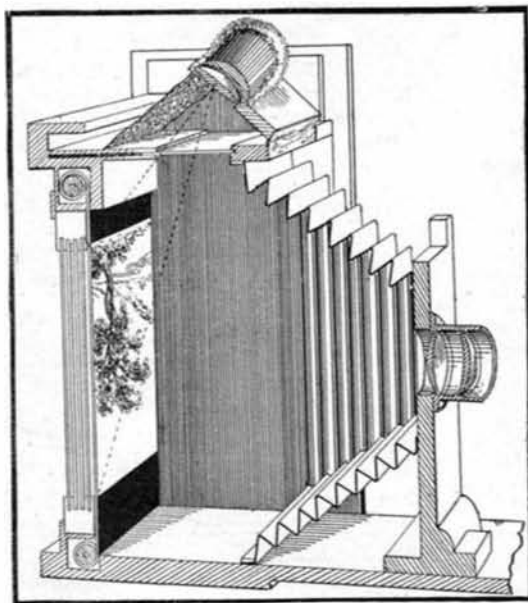
**IMPROVED CONCRETE BUILDING BLOCK.**

With a view to expediting building operations, Dr. J. A. Douglass, of Alliance, Ohio, has invented a new form of residence building block, so designed that it can be made in large sizes to take the place of large stones or several bricks without unduly increasing the weight. The blocks are either molded with a stone face, or they may be scored to imitate courses of brick. Very evidently these blocks can be laid more readily than blocks of stone, and more quickly than an equivalent area of bricks. Another feature of the invention, which is hardly less important, is the peculiar arrangement of the air spaces to provide ventilation both vertically and longitudinally. Furthermore, separate inside and outside air spaces are provided, which are completely insulated from each other, to prevent radiation and thus secure greater warmth. The form of the block is clearly illustrated in the accompanying engraving. It will be seen to be of hollow form, open at the top and bottom. The forward and rear air spaces are separated by a central longitudinal wall. There is no communication between these air spaces, but by means of holes in the end walls of each block communication is had between corresponding air spaces of adjacent blocks. A vertical groove is formed in the end of each block, and a pair of diagonal grooves connect each vertical groove with the posterior air space. In the engraving the face of the block is shown to reveal a pair of openings, which



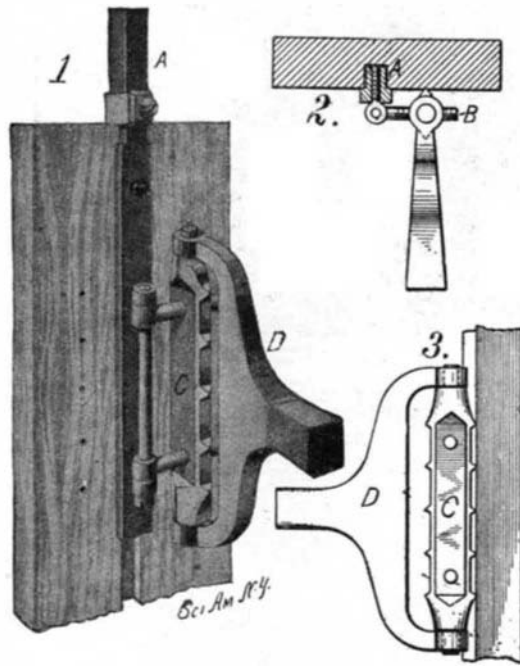
**IMPROVED CONCRETE BUILDING BLOCK.**

are formed in certain of the blocks. Oil-soaked wooden plugs are driven into these holes, and they provide means for attaching doors, windows, or various ornaments. It is the purpose of the inventor to do away with studding and lathing, thus affording a great saving in the cost, and adding to the fireproof nature of the construction. To this end the rear face of the block may be furrowed to allow for a coat of finishing plaster, or it may be left smooth for the application of calcimine.



**The Shutter Focusing Screen.**

**GAGE FOR MARKING WINDOW CASEMENTS.**  
Pictured in the accompanying engraving is a gage of simple construction, which can be used by carpenters for marking window casements so as to indicate the points at which the sash pulleys are to be attached. The gage is shown in use on the stile of a window.

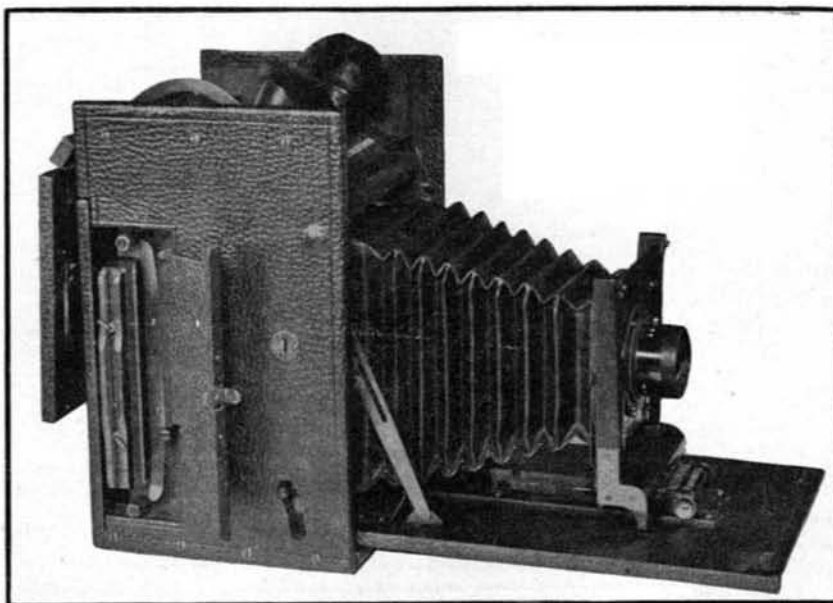


**GAGE FOR MARKING WINDOW CASEMENTS.**

In the stile is a centrally-disposed groove, which is to receive the parting strip. One of the elements of the gage is a T-bar A, the body of which fits into this groove. At the upper end of the bar the flanges are cut away, and on the reduced stem thus formed an adjustable clamp is secured. Mounted on a vertical bolt secured to the bar are a pair of arms B, which are threaded into a gage block C. This block is formed with spurs or teeth on opposite sides. At the extremities the block is provided with gudgeons, which afford means for the attachment of a yoke formed with a handle D. In use the clamp is adjusted to locate the gage block at a suitable distance from the end of the stile, while the block is adjusted to the proper position on the arms B before the latter are mounted on the bolt. The bar A is seated in the groove, and the handle D is then operated to press the spurs into the stile, marking the points where an auger should be applied for drilling the holes. After the seat for the pulley block has been cut out with a chisel, the gage block may be swung over to score the opposite side of the stile. The outer end of the handle D is of such form as to permit of its being struck with a hammer, if desired, for making an impression in the face of the stile. The inventor of this novel gage is Mr. Walton L. Chase, of Banning, Cal.

**A COLLAPSIBLE ASH-PAN.**

The removal of ashes from a stove or furnace is a most annoying detail of household work. The ash-pan is usually overfilled and cannot be removed without spilling. Furthermore, a large quantity of ashes is sure to collect in the ash-box around the pan, and this it is difficult to remove without raising clouds of ash dust. As a remedy for these evils, Mr. E. A. Bagby, of Louisville, Ky. (care of Waverly Hotel), has invented a collapsible pan, so arranged that when lifted out from under the grate it opens up into a deep bucket quite large enough to contain the entire charge of ashes. In addition to this, the pan is provided with a



**THE HALES FOCUSING CURTAIN SHUTTER CAMERA.**

hopper, which catches all the dust falling from the grate and directs it into the pan proper. As may be seen in the engraving, the pan consists of three sections, the bottom one being in the form of an open box or tray, the middle one an open frame embracing the tray, and the upper one an open frame embracing the middle frame. Each of the frames is formed with inwardly-projecting flanges at the top and bottom adapted to engage an outwardly-extending flange on the section it embraces. A bail is pivoted to the upper frame, and when this bail is lifted, the pan sections will assume the positions shown in Fig. 2. In Fig. 1 the sections are shown in their telescoped position with the hopper in place. This hopper is extensible, being formed of sections slidable one upon another. This permits of adjusting the hopper to various sizes of grates. With the hopper in position, the capacity of the pan is doubled. The hopper may be folded small enough to be nested into the collapsed pan, thus making a very small and compact package for storage or shipment.

**AN IMPROVED HAND CAMERA.**

In many hand cameras using a focal plane curtain shutter it is customary to employ a pivoted mirror for reflecting the lens picture image upward to the underside of a horizontal focusing ground glass. Over the ground glass is a collapsible hood through which the operator observes the image and obtains the correct focus in the usual way; then on the movement of a release lever, the mirror flies upward out of the line of the picture image from the lens and at once releases the curtain shutter when an instantaneous exposure is made. The advantage of this form of construction is that the operator sees the size and position of the image to be photographed up to the time of exposure.

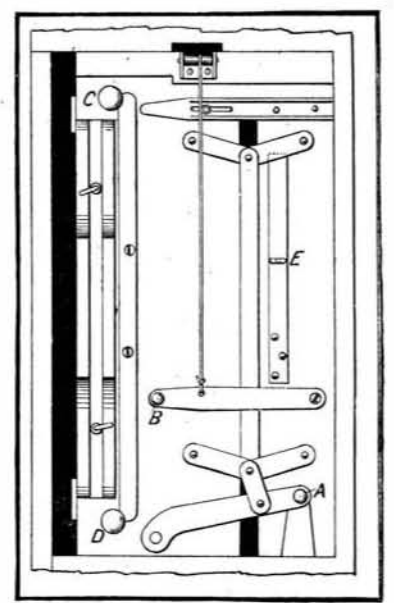
The modern anastigmat lenses now made are of



**A COLLAPSIBLE ASH-PAN AND HOPPER.**

such fine optical quality that ordinary cameras fail to show the extreme or microscopic sharpness of the image and do not bring out the fine results that such lenses are capable of producing.

In such cameras the so-called "grain" of the ground glass interferes with the fineness of the image, and the refraction of the glass also affects its sharpness. In cameras where a mirror reflects the image the picture is subject to distortion by any slight inequality of the mirror, and because of the distance the rays



**The Shutter Release Mechanism.**