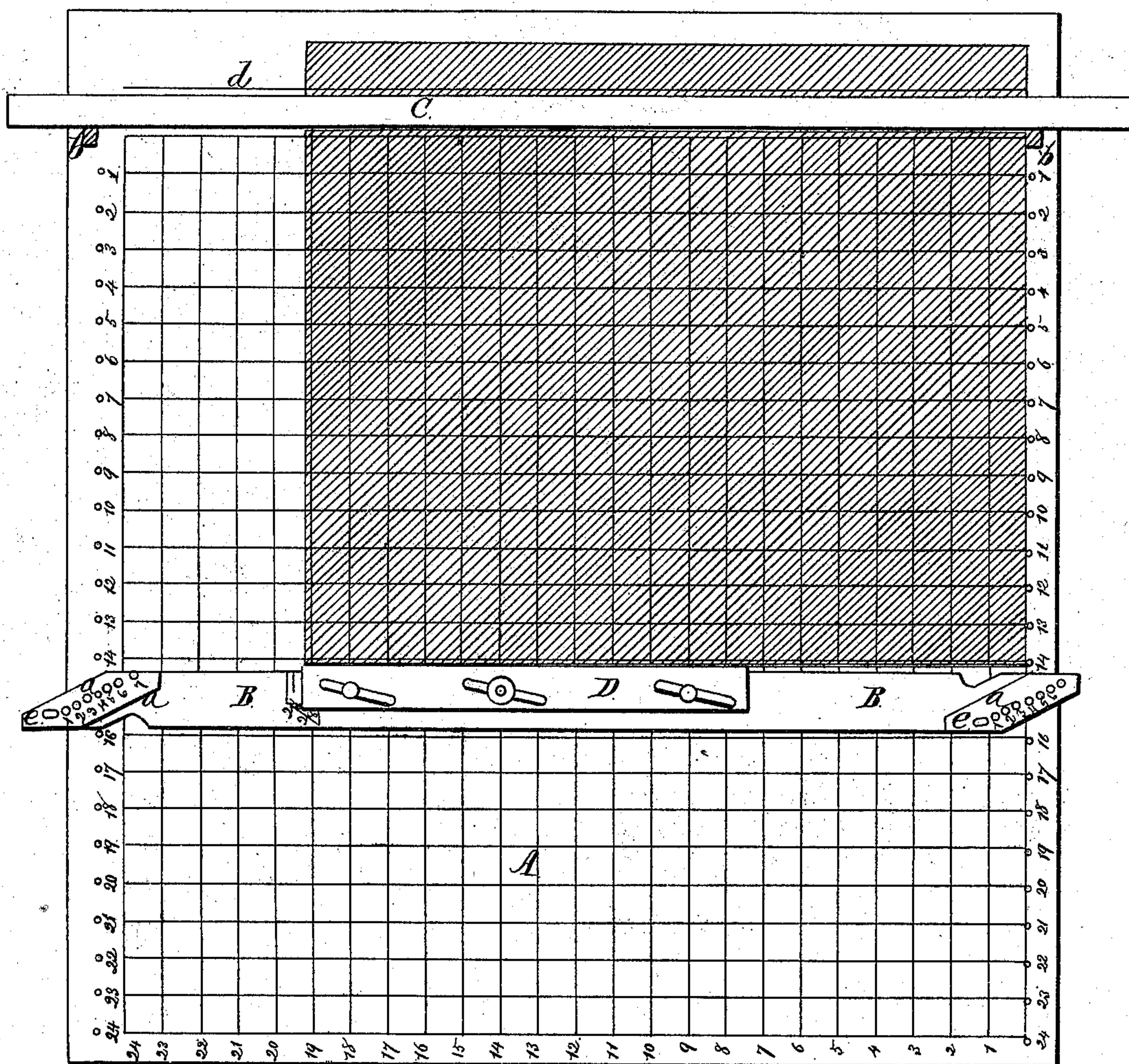


F. Bowly.

Glass Board.

Nº 87,626.

Patented Mar. 9, 1869.



Witnesses:

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FRANKLIN BOWLY, OF WINCHESTER, VIRGINIA.

Letters Patent No. 87,626, dated March 9, 1869.

IMPROVED GLASS-BOARD AND APPARATUS FOR CUTTING GLASS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, FRANKLIN BOWLY, of Winchester, in the county of Frederick, and State of Virginia, have invented a new and improved Glass-Board, or Apparatus for Cutting Glass; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same; reference being had to the accompanying drawings, forming part of this specification, which drawings represent a plan view of my invention.

The object of this invention is to provide a simple and convenient apparatus for cutting panes of glass to the exact size required.

It is designed more particularly for glaziers' use, and for drug-stores in the country, and other places where glass is retailed, and cut to the proper size to suit the requirements of the buyer.

It consists, in general terms, of a ruled board, having a row of pins arranged along each lateral margin, any two of which are employed to hold a movable rest-gauge, against the edges of which latter, one edge of the pane of glass is placed, while the opposite edge is being trimmed or cut.

The pins are separated by inch spaces, and a stationary rule or straight-edge is used to guide the diamond.

Other devices perfect the whole apparatus, and render it exceedingly convenient, as will be hereinafter more fully set forth after a detail description of the invention and its operation.

In the drawings—

A is a flat, or plane body, preferably of wood or metal, having two lateral rows of pins, arranged one inch apart, and numbered, respectively, from 1 to 24, as shown, or other desired number.

B is the rest, and is provided with a plate, *a*, at each end, and in each of which plates is formed a series of small holes, arranged obliquely across the width of the rest.

These rows of holes are parallel, and the holes of one series or row correspond to the holes of the other row, each to each, in such a manner or co-relation, that when any two opposite pins of the board are inserted in any two holes in the rest, immediately opposite each other, the rest will be held at a certain prearranged distance from the diamond-line, or line over which the diamond is carried, by the permanent straight-edge, before mentioned.

The holes in the rest may be of any convenient number, as from one to eight, thus enabling the rest to be advanced or receded from the diamond-line by eighths of an inch, or other fraction of an inch.

It will be seen that the arrangement of the holes in the rest, will enable the latter to be moved to or from the diamond-line by regular intervals, by simply setting the first two elongated holes of the rest on any corresponding two of the marginal pins.

This adjustment is for inches only, and if fractions of an inch are to be included in the adjustment, then the oblique rows of holes in the ends of the rest are used, by simply setting any two of the holes in the oblique rows, corresponding to the number of eighths (or other fraction) required, over the same marginal pins, which indicate the number required of whole inches.

This will be perhaps better understood by a specific illustration with reference to the drawings.

Suppose, for example, that it is required to cut a pane of glass fifteen and four-eighths inches in length or width. The rest B is moved to the marginal pins marked 15, and set on them, with the said pins inserted in the fourth holes of the rest, as shown. The pane of glass is now laid on the board, with one edge in contact with the upper edge of the rest B, as shown. A straight-edge, C, exactly one inch wide, is laid across the glass, (which latter is represented by red color,) the lower edge of said straight-edge being rested against two studs, or pegs, *b b*, located in a line parallel with the line of the pins 1-1, of the board, and exactly one inch from the said line 1-1. The front edge of the straight-edge C, now serves as a guide for the diamond, in the ordinary manner, and the pane, when so cut, will be found to be just fifteen and four-eighths inches in length, for the straight-edge C, being one inch wide, adds one inch to the measurement from the pins marked 14. From the lines of these pins to the front edge of the rest B, is one-eighth of an inch, then the holes 7, 6, 5, add three-eighths more, making in all fifteen and four-eighths inches, as aforesaid.

It will be observed that the diamond-line *d* is a short distance from the front edge of the straight-edge C.

This line indicates the exact location of the trace or mark cut by the diamond, for the matrix or holder of the diamond will not permit the line on the glass to be cut exactly coincident with the front edge of the straight-edge C, and therefore, in locating the holes *e*, 1, 2, 3, 4, &c., in the rest B, allowance must be made for this unavoidable distance.

To illustrate this more clearly, I will note that when glass is to be cut to any whole number of inches, as ten inches, the elongated holes *e e*, of the rest B, are placed on the pins 10-10, and the front edge of the rest will then be found to lie over the line 10-10, by a distance equal to the distance of the diamond-line *d* from the front edge of the straight-edge C.

This same relation is true for each of the holes 1-1, 2-2, 3-3, &c., of the rest, so that the proper allowance obtains in each and every case, and the exact distance is thereby insured.

This condition will be perhaps more obvious when the holes *e e* are placed over the pins 1-1 of the board.

The front edge of the rest B will then lie beyond the line *b b* of the board, and prevent the straight-edge C from touching the pegs *b b*.

The lower edge of the said straight-edge will then rest on the front edge of the rest, and the front edge of the straight-edge will now be found to coincide exactly with the diamond-line *d*.

The rest is provided with a sliding gauge-plate, *D*, having parallel oblique slots *ff*, which enclose studs on the rest, and enable the plate to be moved parallel to itself.

It is also provided with a clamp-screw, *g*, passing through a similar oblique slot, *h*, in the plate: the said screw screwing into the rest.

This device is intended to be set to any irregular or intermediate size, and is particularly useful in setting, to a sample, glass of any odd size, such as is frequently used by photographers.

It is used thus: The upper edge of the sample glass is placed on the diamond-line *d*, and the rest *B* set to within an eighth or two of the lower edge of the said sample. The sliding plate is then moved up to contact with the lower edge of the sample, and clamped. The succeeding glasses are then set with their lower edges on the plate *D*, and the upper edges cut over the diamond-line, as first described.

The board is crossed in both directions by lines at right angles, and one inch apart, which are numbered consecutively, as shown.

This feature is useful in determining easily and accurately what rectangular dimensions can be obtained from any piece of glass if irregularly shaped, (though having one straight edge,) in order to utilize such fragments, by squaring them or cutting to useful sizes.

The straight edge of such fragments is placed on the rest. The operator can then ascertain, by inspection, what rectangular dimensions can be obtained from the fragment, and cut it accordingly.

From the foregoing it will be observed that a very advantageous feature of my invention obtains, in the fact that the diamond is always used at the same place, while the rest is movable.

This permits the employment of firm resting-pegs *b b*, for the straight-edge *C*, thus dispensing with the close attention usually required to place the straight-edge properly, every time a pane is being cut, and to hold it in the proper position while making the cut.

The facility with which the number of inches, and fractions thereof, is set off on the board, is another important advantage which my invention possesses,

and I desire to be understood as not limiting my invention to the particular employment of holes, arranged in two oblique rows, for the ends of the rest may be formed with oblique edges, or bevels, and notches substituted for the holes, or oblique slots graduated to eighths, (or other fractional parts of an inch,) and having sliding blocks fitted therein, and perforated to slip on the pins, may be employed, instead of rows of holes; but in all these modifications, the principle of adjusting the rest *B*, by moving it to the right or left on the pins, and thereby changing its distance from the diamond-line *d*, is employed.

The front part of the sliding plate *D* is bent down against the front edge of the rest *B*, a shallow recess being cut out of the said front edge, to allow the bent part of the plate to be flush with the edge of the rest, where the said plate is not used.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. A glass-board, *A*, having marginal pins on each side, and pegs *b b*, or rather equivalent rests, for the straight-edge or diamond-rule *C*, in combination with a movable rest, *B*, fitting on or between the pins in the board, to enable the panes of glass to be cut in a rapid and convenient manner, substantially as described.

2. The two parallel and oblique rows of the holes 1, 2, 3, 4, &c., in the ends of the movable rest *B*, substantially as described, for the purpose of adjusting the said rest *B*, of the glass-board *A*, to fractions of one inch, all as set forth.

3. The sliding plate *D*, substantially as described, in combination with the rest *B* and glass-board *A*, all as and for the purpose set forth.

4. The glass-board *A*, having movable rest *B* and straight-edge *C*, and its pegs, or stops *b b*, when the plane of the said board is crossed by two systems of numbered lines, at right angles to each other, and an inch apart, substantially as and for the purpose shown and described.

The above specification of my invention signed by me, this 2d day of October, 1868.

FRANKLIN BOWLY.

Witnesses:

L. P. HARTMAN,
W. RICHARDSON.