M. Kleeman,

Glass Cutter.

No. 47,645. Patented May 9, 1865.

Fig. 1.

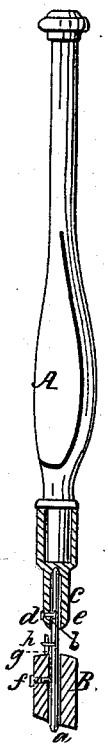

Fig. 2

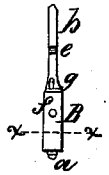

Fig. 3.

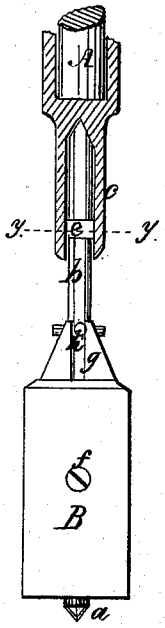

Fig. 4

Fig. 5

Witnesses:

Henry Morris,

C. L. Topliff.

Inventor:

M. Kleeman

per Munn & Co

attys

UNITED STATES PATENT OFFICE.

M. KLEEMAN, OF COLUMBUS, OHIO.

IMPROVEMENT IN SETTING AND ADJUSTING GLAZIERS' DIAMONDS.

Specification forming part of Letters Patent No. **47,645**, dated May 9, 1865.

To all whom it may concern:

Be it known that I, M. KLEEMAN, of Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Improvement in Setting and Adjusting Glaziers' Diamonds; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a sectional side elevation of this invention. Fig. 2 is a front elevation of the diamond and shoe. Fig. 3 is a sectional front elevation of the handle with diamond and shoe in a larger scale than the previous figures. Fig. 4 is a transverse section of the shoe and diamond, the line *x x*, Fig. 2, indicating the plane of section. Fig. 5 is a similar section taken in the plane indicated by the line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts.

This invention consists of a glazier's diamond which is set in the end of a bar, one end of which passes into the ferrule at the end of the handle and is held by a screw, the point of which catches into a notch or seat in such a manner that the bar can turn a quarter-revolution independent of the handle, and the block or shoe, together with the diamond, can adjust themselves to a straight or curved edge. The shoe is adjustable on the diamond-holder by means of a set-screw, so that it can be turned on the same or raised and lowered, as may be desirable. One side of the shoe is furrowed, so that the diamond will serve for cutting circular or straight lines, and said shoe is furnished with a gage or fork, which catches over a pin or pins projecting from the diamond-holder in such a manner that the shoe can be readily adjusted according to the cutting-edge or cutting-edges of the diamond.

The diamond *a* is set in one end of a bar, *b*, the other end of which extends up into a ferrule, *c*, which is firmly secured to the handle A. The bar *b* is round, and it rotates in the ferrule. It is held in place by a set-screw, *d*, the point of which catches in a nick or seat, *e*, (see Fig. 5,) so that the bar is prevented from dropping out of the ferrule, and at the same time its rotary motion is limited to a quarter-revolution, more or less.

B is the shoe, which is adjustable on the bar *b* by a set-screw, *f*. This shoe is provided with a furrow, *k*, on one side, as shown in Fig. 4, so that it serves for cutting circles and straight lines, and by the swivel motion of the bar *b* said shoe, together with the diamond, will readily adapt themselves to the line to be cut, whether curved or straight.

The position of the shoe in relation to the cutting-edge or cutting-edges of the diamond is determined by a gage, *g*, which projects from the inner end of the shoe, and by a pin or pins, *h*, which are inserted into the bar *b*. If the diamond has more than one cutting-edge, a corresponding number of pins are inserted into the bar, and the shoe is adjusted by bringing the gage to straddle one or the other of said pins. The position of the gage in relation to the pin is best shown in Fig. 3 of the drawings.

By this arrangement a glazier's diamond is produced which will cut circular or straight lines with equal facility, its cutting-edge being always turned in the direction of the line to be cut. The shoe can be readily adjusted to the various cutting-edges of the diamond, and the whole device is very convenient.

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

1. Making the shoe adjustable on the diamond-holding bar, substantially as and for the purpose described.

2. The furrow *k* on the shoe, substantially as and for the purpose set forth.

3. The gage *g*, in combination with the pin or pins *h*, projecting from the bar *b*, substantially as and for the purpose described.

M. KLEEMAN.

Witnesses:
WM. L. HEYL,
C. BARTLING.