

No. 839,356.

PATENTED DEC. 25, 1906.

ST. JOHN WOOD.
PROCESS FOR DIVIDING DIAMONDS.
— APPLICATION FILED MAY 3, 1906.

Fig: 1,

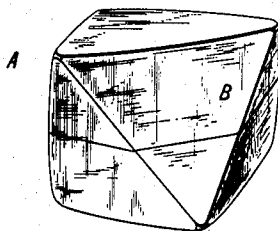


Fig: 2,

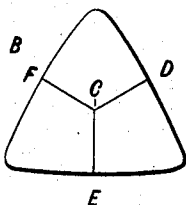


Fig: 3,

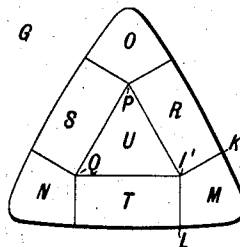


Fig: 4,

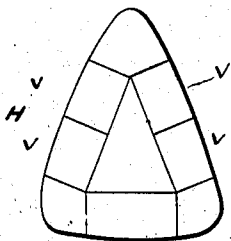
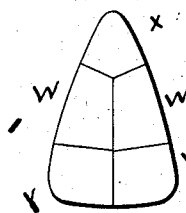


Fig: 5,



WITNESSES

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PROCESS FOR DIVIDING DIAMONDS.

No. 839,356.

Specification of Letters Patent.

Patented Dec. 25, 1906.

Application filed May 3, 1906. Serial No. 315,109.

To all whom it may concern:

Be it known that I, ST. JOHN WOOD, of New York, in the county of New York, and in the State of New York, have invented a certain new and useful Improvement in Processes for Dividing Diamonds; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a rough diamond or crystal divided into slices or "wases." Fig. 2 is a view of the inner face of a slice or was; and Figs. 3, 4, and 5 are views of the inner faces of slices or wases of different proportions.

In the preparation of diamonds for sale to jewelers and consumers it is not always feasible to finish up each rough diamond into the largest gem that is possible to make therefrom, but because the demand for the larger gems is comparatively small it is necessary to divide a large proportion of the rough diamonds to form a number of smaller diamonds from each rough diamond.

I have discovered that I can saw from different sides of a rough diamond and can make the saw cuts meet at any desired angle and that by disposing the saw cuts according to certain methods which I have invented, which this discovery makes possible, I can divide the diamond to such advantage that there results a most important increase in the weight of the finished diamonds from a given rough diamond or crystal, and that my process does not in the least impair the purity or affect the value of the diamond.

In practicing my invention I prefer first to divide the crystal into slices or wases, there being two or more, according to the size of the crystal. In Fig. 1 I have illustrated a crystal divided into two slices or wases. These slices may be made by cleaving or sawing. It is in dividing the slices into the blocks from which the finished gems are to be formed that my process applies to its greatest advantage.

I will first apply my process to the division of a slice B from a smaller crystal A, such as is divided into only two slices, as illustrated in Fig. 1. A view of the inner face of the slice B is illustrated in Fig. 2. In this case I choose a center point C and make three saw-cuts D C, E C, and F C, all meeting in the point C. I thus get three blocks from the said slice, which are of such advantageous

shape as to permit of finished gems of the maximum possible size being made therefrom. The waste is reduced to a minimum.

Where the crystal is larger, I divide it into three slices G, H, and I, (or more, if desired,) and I will now state how the upper slice G is divided, supposing, as illustrated in Fig. 3, the three principal edges of its inner face to be of substantially equal length. I lay off in the middle portion a triangular block and then make saw cuts I' K and I' L substantially perpendicular to the edges of the slice and meeting at an angle of the triangular block. The block M is thus removed. In like manner the other two, N and O, of the three corner-blocks are removed. Then the saw cuts I' P, P Q, and Q I' are made, separating the blocks R, S, and T from the central block U, and the division of the slice is complete.

Where, as illustrated in Fig. 4, the slice has two long sides and a short one, owing to the distortion of the crystal, I proceed as in the case illustrated in Fig. 3, except that on each of the long sides I form two rectangular blocks instead of one on each side, as in Fig. 3, the was in other respects being sawed as in Fig. 3.

Where, as illustrated in Fig. 5, the slice is very much elongated, I omit the central triangular block, as appears in Fig. 3, and form two rectangular blocks *w* and *w* on each side and a block *z* at the apex, two blocks *y* being formed at the base of the triangle.

It is obvious that various changes can be made in the above-illustrated process, which will be within the spirit of my invention, and I desire not to be limited to the details I have illustrated.

I claim—

1. The process of dividing a larger diamond to form a plurality of smaller diamonds, which process consists in sawing partially into the body of such larger diamond from opposite sides, said saw cuts meeting at an angle, to form blocks from which smaller diamonds can be formed.

2. The process of dividing a slice, or "was," of a diamond to form smaller diamonds, which consists in sawing partially into the body of the slice from opposite sides, said saw cuts meeting at an angle to form blocks from which said smaller diamonds can be formed.

3. The process of dividing a slice, or "was,"

of a diamond to form smaller diamonds, which process consists in sawing a plurality of cuts to a central point.

4. The process of dividing a slice, or "was,"
5 of a larger diamond to form smaller diamonds, which process consists in sawing from the edges of the slice to the apexes of a triangular block to be formed from the center, thus cutting three blocks from the corners of the slice, and separating blocks along
10 the sides of the triangular block.

5. The process of dividing a slice, or "was,"
of a larger diamond to form smaller diamonds, which process consists in sawing out
15 a four-sided block at a corner of the slice, and dividing the remainder of the slice into blocks.

6. The process of dividing a slice or "was" of a larger diamond to form smaller diamonds, which process consists in sawing the
20 peripheral portions of the slice into blocks for forming smaller diamonds, the peripheral portions being divided from the central portion of the slice by saw cuts substantially
25 parallel to the outer edges of the slice, which saw cuts are at an angle to each other so as to form of said central portion a triangular block.

7. The process of dividing a triangular slice or "was" of a larger diamond to form
30 smaller diamonds, which process consists in making cuts substantially perpendicular to the edges of the slice, and making cuts substantially parallel to the edges of the slice, whereby a triangular block is formed from
35 the central portion of the slice or "was."

8. The process of dividing a slice, or "was," of a larger diamond to form smaller diamonds, which consists in forming a block for
40 a smaller diamond by divisions starting on opposite sides of a corner and meeting at an angle to each other, and dividing the remainder of the slice.

9. The process of dividing a slice, or "was," of a larger diamond to form smaller diamonds, which consists in forming a block for
45 a smaller diamond by sawing cuts starting on opposite sides of a corner and meeting at an angle to each other, and dividing the remainder of the slice.

In testimony that I claim the foregoing I
50 have hereunto set my hand.

ST. JOHN WOOD.

Witnesses:

HENRY H. WOOD,
EDWIN J. PRINDLE.