

PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Brilliant Cut Precious Stone

We, HARRY HUISMAN and JAMES HUISMAN, of Rockefeller Center, 1270 Avenue of the Americas, New York, New York 10020, Both citizens of the United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to a brilliant cut jewel, such as a diamond, having a girdle lying between the table side and the pavilion or culet side.

Such a precious stone or jewel construction is known from the U.S. specification 2,340,659, according to which the stone has thirty-two facets: at the table side, or inclusive of the table itself thirty-free facets, and at the culet side twenty-four, or inclusive of the culet itself twenty five facets, therefore altogether fifty-six or fifty-eight facets respectively. Such stones have a high culet side and therefore require a high mount. Furthermore, as a consequence of the small number of facets the angles formed between neighbouring facets are acute, so that high ridges are formed between the facets, which on one hand may cut and on the other hand are prone to chipping.

The invention aims at providing an improved stone construction with which the above mentioned drawbacks are met, at least to a great extent.

According to the invention this is obtained by that the culet side is faceted with seventy-two facets excluding the culet facet. With the same number of table side facets of thirty-two or thirty-three inclusive of the table facet itself, as is known from the said U.S. specification, the stone hereby possesses altogether a hundred and four or a hundred and six facets respectively. Further the stone hereby becomes shorter at the culet side, whereby the mount can be made less high,

while the angles formed between the neighbouring facets are more obtuse and therefore the ridges between the facets are less high and as a consequence thereof also the occurrence of chipping is less frequent.

An important advantage, however, is that the brilliancy of the stone is considerably enhanced by that, as a consequence of the very large number of facets, the culet side will reflect incident light to a considerably stronger extent, as the culet side forms a faceted reflector. In addition the shape of the culet side becomes such that in certain circumstances the stone might also be mounted upside down, that is to say with the culet side at the top, in which case the culet itself may be slightly enlarged and may serve as a small table facet.

In practice the culet side is preferably cut or faceted in such a manner, that starting from the girdle, the seventy-two facets are formed by a group of thirty-two triangular facets, adjoining the girdle, then a ring-shaped group of sixteen diamond-shaped facets adjoining the said thirty-two triangular facets, then a first ring-shaped group of sixteen kite-shaped facets adjoining the diamond-shaped facets and thereafter a second ring-shaped group of eight kite-shaped facets adjoining the first group of kite-shaped facets.

It is remarked that it is known in itself from the cited U.S. Specification to use at the culet side of the stone kite-shaped facets—to the number of eight—and a row of small triangular facets—to the number of sixteen. However, only a single row of kite-shaped facets is used, whereas it is proposed to use two different forms of kite-shaped facets and in addition a group of diamond-shaped facets are used.

Preferably the triangular facets are cut at an angle of 58—60° to the plane of the girdle, the diamond-shaped facets at an angle

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of 53—54°, the facets of the first group of kite-shaped facets at an angle of 45—47° and of the second group of kite-shaped facets at an angle of 41° with respect to the plane of the girdle, while the longitudinal axis of the stone lies perpendicular to this plane.

The stone, further, is preferably faceted in such a manner that the second group of kite-shaped facets adjoins the culet, which lies symmetrically with respect of the longitudinal axis of the stone and parallel to the plane of the girdle.

The invention will now be further described with reference to an embodiment shown in the accompanying drawing, in which:

Fig. 1 shows a bottom elevation of a diamond according to the invention,

Fig. 2 shows a side elevation of the diamond according to fig. 1,

Fig. 3 shows a top elevation of fig. 2 at a somewhat reduced scale, and

Fig. 5 shows diagrammatically the angles at which the ring-shaped groups of facets in the culet side of the diamond of the figures 1—3 are cut.

In the drawing a diamond 10 is shown which is cut with a culet and culet side and is provided with a usual table side 12 and a usual table 14. Along the under edge of the table side lies the usual girdle 16. In the drawing the girdle is shown as a smooth surface, but it can also be made angular, as described in the above mentioned U.S. specification. The particular design of the table side and the table itself, as illustrated in figures 2 and 3, is intended to be purely conventional and also other conventional designs for these portions of the stone may be employed.

The culet side 18 of the stone 10, which is shown particularly in the figures 1, 2 and

4, comprises, starting from the culet 22, the following cut and polished facets: eight kite-shaped facets 20, meeting at the culet 22, sixteen kite-shaped facets 24, sixteen diamond-shaped facets 26 and thirty-two triangular facets 28. The kite-shaped facets 20 differ as well in shape as in orientation from the kite-shaped facets 24. In the kite-shaped facets 20 the wider end, terminating at a relatively more obtuse angle points downwardly while in the kite-shaped facets 24 the narrower, more acute end, points downwardly. The orientation of the kite-shaped facets 24 is therefore reversed a full 180° from the orientation of the kite-shaped facets 20. It further appears from the drawing that there are twice as many kite-shaped facets 24 as there are kite-shaped facets 20, there being two facets 24 between each pair of facets 20.

Fig. 1 further shows that the shorter sides of the kite-shaped facets 20, which define the more obtuse angle at the lower end of these facets, adjoin each other. The long sides of said kite-shaped facets 20, which meet at a more acute angle and form the upper ends of said kite-shaped facets 20, adjoin the long sides of the kite-shaped facets 24 which meet at a more acute angle and form the lower ends of said facets 24. Adjoining the short sides of the kite-shaped facets 24, which sides meet at a more obtuse angle and form the upper end of said kite-shaped facets, are the diamond-shaped facets 26. Adjoining the opposite sides of said diamond-shaped facets 26 are the triangular facets 28. The opposite sides, actually the bases of said triangular facets 28, adjoin the under edge of the girdle 16. The angles at which the groups of facets 20, 24, 26 and 28 are cut with respect to the plane of the girdle are as follows:

of the reversed kite-shaped facets	20—41°
of the upright kite-shaped facets	24—45—47°
of the diamond-shaped facets	26—53—54°
of the triangular facets	28—58—60°

The longitudinal axis of the stone is situated at 90° to the plane of the girdle. The culet 22 is in a plane parallel to the plane of the girdle.

WHAT WE CLAIM IS:—

1. A brilliant cut precious stone, having a girdle lying between the table side and the culet side, the culet side being cut with seventy two facets excluding the culet facet.

2. A precious stone according to claim 1, wherein the seventy-two facets are formed by a group of thirty-two triangular facets adjoining the girdle, a ring-shaped group of sixteen diamond-shaped facets adjoining the said thirty-two triangular facets, a first ring-shaped group of sixteen kite-shaped facets adjoining the diamond-shaped facets and fin-

ally a second ring-shaped group of eight further kite-shaped facets adjoining the first group of kite-shaped facets.

3. A precious stone according to claim 2, wherein the triangular facets are cut at an angle of 58—60° to the plane of the girdle, the longitudinal axis of the stone being perpendicular to the plane of the girdle.

4. A precious stone according to either preceding claim 2 or 3, wherein the diamond facets are situated at an angle of 53—54° to the plane of the girdle, the longitudinal axis of the stone being perpendicular to that plane.

5. A precious stone according to any one of the preceding claims 2 to 4, wherein the facets of the first group of kite-shaped facets are situated at an angle of 45—47° with res-



of 53—54°, the facets of the first group of kite-shaped facets at an angle of 45—47° and of the second group of kite-shaped facets at an angle of 41° with respect to the plane of the girdle, while the longitudinal axis of the stone lies perpendicular to this plane.

The stone, further, is preferably faceted in such a manner that the second group of kite-shaped facets adjoins the culet, which lies symmetrically with respect of the longitudinal axis of the stone and parallel to the plane of the girdle.

The invention will now be further described with reference to an embodiment shown in the accompanying drawing, in which:

Fig. 1 shows a bottom elevation of a diamond according to the invention,

Fig. 2 shows a side elevation of the diamond according to fig. 1,

Fig. 3 shows a top elevation of fig. 2 at a somewhat reduced scale, and

Fig. 5 shows diagrammatically the angles at which the ring-shaped groups of facets in the culet side of the diamond of the figures 1—3 are cut.

In the drawing a diamond 10 is shown which is cut with a culet and culet side and is provided with a usual table side 12 and a usual table 14. Along the under edge of the table side lies the usual girdle 16. In the drawing the girdle is shown as a smooth surface, but it can also be made angular, as described in the above mentioned U.S. specification. The particular design of the table side and the table itself, as illustrated in figures 2 and 3, is intended to be purely conventional and also other conventional designs for these portions of the stone may be employed.

The culet side 18 of the stone 10, which is shown particularly in the figures 1, 2 and

4, comprises, starting from the culet 22, the following cut and polished facets: eight kite-shaped facets 20, meeting at the culet 22, sixteen kite-shaped facets 24, sixteen diamond-shaped facets 26 and thirty-two triangular facets 28. The kite-shaped facets 20 differ as well in shape as in orientation from the kite-shaped facets 24. In the kite-shaped facets 20 the wider end, terminating at a relatively more obtuse angle points downwardly while in the kite-shaped facets 24 the narrower, more acute end, points downwardly. The orientation of the kite-shaped facets 24 is therefore reversed a full 180° from the orientation of the kite-shaped facets 20. It further appears from the drawing that there are twice as many kite-shaped facets 24 as there are kite-shaped facets 20, there being two facets 24 between each pair of facets 20.

Fig. 1 further shows that the shorter sides of the kite-shaped facets 20, which define the more obtuse angle at the lower end of these facets, adjoin each other. The long sides of said kite-shaped facets 20, which meet at a more acute angle and form the upper ends of said kite-shaped facets 20, adjoin the long sides of the kite-shaped facets 24 which meet at a more acute angle and form the lower ends of said facets 24. Adjoining the short sides of the kite-shaped facets 24, which sides meet at a more obtuse angle and form the upper end of said kite-shaped facets, are the diamond-shaped facets 26. Adjoining the opposite sides of said diamond-shaped facets 26 are the triangular facets 28. The opposite sides, actually the bases of said triangular facets 28, adjoin the under edge of the girdle 16. The angles at which the groups of facets 20, 24, 26 and 28 are cut with respect to the plane of the girdle are as follows:

of the reversed kite-shaped facets	20—41°
of the upright kite-shaped facets	24—45—47°
of the diamond-shaped facets	26—53—54°
of the triangular facets	28—58—60°

The longitudinal axis of the stone is situated at 90° to the plane of the girdle. The culet 22 is in a plane parallel to the plane of the girdle.

WHAT WE CLAIM IS:—

1. A brilliant cut precious stone, having a girdle lying between the table side and the culet side, the culet side being cut with seventy two facets excluding the culet facet.

2. A precious stone according to claim 1, wherein the seventy-two facets are formed by a group of thirty-two triangular facets adjoining the girdle, a ring-shaped group of sixteen diamond-shaped facets adjoining the said thirty-two triangular facets, a first ring-shaped group of sixteen kite-shaped facets adjoining the diamond-shaped facets and fin-

ally a second ring-shaped group of eight further kite-shaped facets adjoining the first group of kite-shaped facets.

3. A precious stone according to claim 2, wherein the triangular facets are cut at an angle of 58—60° to the plane of the girdle, the longitudinal axis of the stone being perpendicular to the plane of the girdle.

4. A precious stone according to either preceding claim 2 or 3, wherein the diamond facets are situated at an angle of 53—54° to the plane of the girdle, the longitudinal axis of the stone being perpendicular to that plane.

5. A precious stone according to any one of the preceding claims 2 to 4, wherein the facets of the first group of kite-shaped facets are situated at an angle of 45—47° with res-



pect to the plane of the girdle, the longitudinal axis of the stone being perpendicular to that plane.

- 5 6. A precious stone according to any one of the preceding claims 2 to 5, wherein the facets of the second group of kite-shaped facets are situated at an angle of approximately 41° with respect to the plane of the girdle, the longitudinal axis of the stone
- 10 being perpendicular to that plane.

7. A precious stone according to any one

of the preceding claims 2 to 6 wherein the second group of kite-shaped facets adjoins the culet, which lies symmetrically with respect of the longitudinal axis of the stone 15 parallel to the plane of the girdle.

8. A brilliant cut precious stone substantially as herein described and as illustrated in the accompanying drawing.

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Chartered Patent Agents,
Agents for the Applicant(s).

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