ASSCHER'S DIAMOND WORKS

AMSTERDAM — PARIS — VERSAILLES

—

MCMXXVIII

ASSCHER'S
DIAMOND WORKS

The Founder — I. J. ASSCHER

13th August 1843 — 20th September 1902.

"My thoughts today fill me with emotion as I remember my father, the founder of our firm.

"He has bequeathed us traditions of diligence and perseverance. We have never felt so conscious as today of having remained faithful to his teachings, and the thought that, if he were among us, he would commend the efforts of his sons, united in the most brotherly cooperation, is the sweetest and dearest that could make my heart beat . . ."

Speech of Mr J. ASSCHER at the Inauguration of the Diamond Works at Versailles on the 14th Oct. 1921.

ASSCHER'S DIAMOND WORKS

AMSTERDAM — PARIS — VERSAILLES

—

MCMXXVIII

THE CUTTING AND POLISHING OF DIAMONDS

When diamonds are taken from the mine, they are dull and glassy, and can only be recognised as diamonds by trained eyes. They have the aspect of regular and irregular crystals, in many cases showing flaws and cracks.

It is a delicate and arduous task to cut and polish that material, essence of purity, born in the depths of the earth, and which man, in spite of all its inventive genius, has not been able to imitate. But man has certainly succeeded in kindling the fire, dormant in the rough diamond, so that it sparkles in incomparable splendour.

In order to attain this, the cutter has to execute,

The Diamond Works at Amsterdam.
(Limited Company)
G. van Arkel, Architect.

The corner stone was laid on the 14th June 1906 by Mrs. I. J. Asscher. The inauguration took place on the 14th June 1907. „Thank you, Gentlemen, we wished for a workshop, you give us a palace," Mr. Henri Polak, President of the International Federation of Diamond Workers, declared in his speech.

The Golden Book of visitors of the diamond works is honoured by well known signatures. The following are met with:—

THEODORE ROOSEVELT, 29th April 1910.

King ALBERT and Queen ELISABETH of Belgium; Queen WILHELMINA and Prince HENRY of the Netherlands, 16th September 1910.

A. FALLIÈRES, President of the French Republic, Queen WILHELMINA and Prince HENRY of the Netherlands, 6th July 1911.

ARTHUR, Duke of Connaught; PATRICIA, Princess of Great Britain and Ireland; VICTORIA, Princess of Schleswig-Holstein, 15th August 1913.

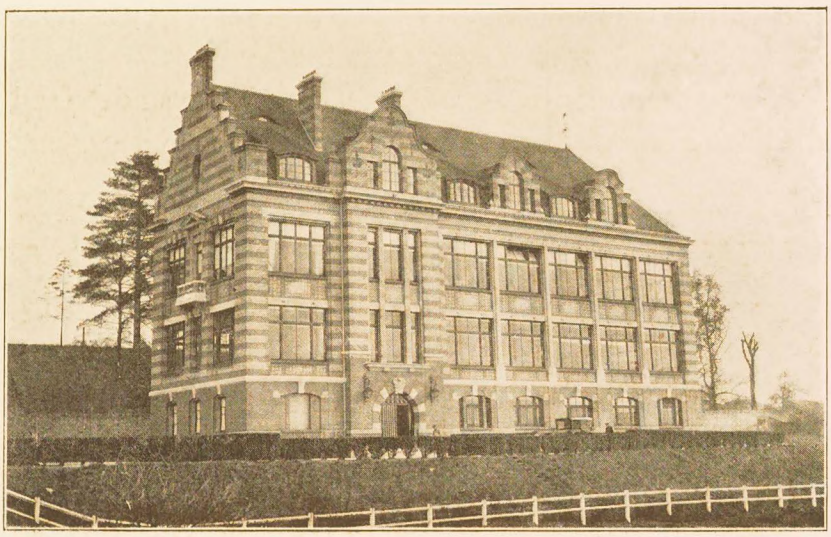
HIRO-HITO, Crown Prince of Japan, and Prince HENRY of the Netherlands, 16th June 1921.

UMBERTO, Prince of Italy, 15th September 1922.

JULIANA, Princess of the Netherl. and Prince HENRY of the Netherl., 31st March 1924.

JUSTIN GODART, Minister of Labour of the French Republic, 8th January 1925.

Prince and Princess ASOKA, 26th October 1925.



The Amsterdam

Diamonds Works of the Société Anonyme des Etablissements Diamantaires ASSCHER, at Versailles. (Georges Wybo, Architect)

Inaugurated on the 14th October 1921 by Mr. DANIEL VINCENT, Minister of Labour, accompanied by Messrs. Jonkheer Dr. J. LOUDON, Minister of the Netherlands in Paris; ROBINEAU, Governor of the Banque de France; General DUBAIL, Grand-Chancellor of the Legion of Honour etc.

"The work which here brings together such a numerous attendance, and which has brought you marks of sympathy of your colleagues in your branch, and of your workers, has the threefold character of being an industrial work constructed on the most modern lines, a social work in which those who direct and those who execute are united, a work in which two free and friendly nations live in the same thought and the same activity."

Speech of Mr. DANIEL VINCENT, *Minister of Labour.*

"Here we have the very model of hygiene, so necessary for those who produce. In these circumstances, labour is no longer a drudgery but becomes a pleasure. Joyously the work is done, for the producer strains every effort in healthy surroundings."

Speech of M. LE GUERY,
Secretary of the Union of Diamond Workers.

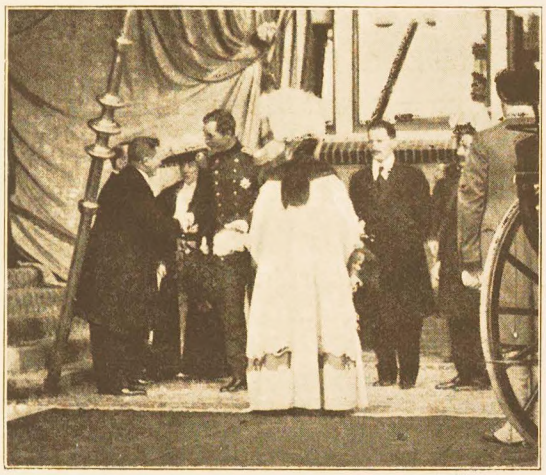
with as much intelligence as skill, a series of operations which we shall now briefly describe.

This description will enable everybody to understand what is essential in this most important industry, and

Apprentices leaving the works.
The apprentices of the works at Versailles are, for the greater part, war orphans,

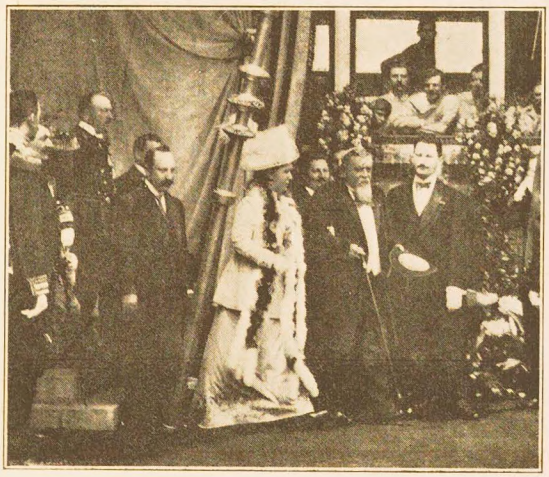
also to form an idea of how the ability and good taste of the workman give value to that marvel of nature, which is the diamond.

The rough stone often contains various impurities, such as stains, coloured spots or flaws. All this has to be removed so that the brilliancy of the stone shall be perfect.



Visit of King ALBERT and Queen ELISABETH of Belgium, accompanied by Queen WILHELMINA and Prince HENRY of the Netherlands, to the Diamond Works of I. J. ASSCHER. Amsterdam, 16th September 1910.

To attain this, the stone is divided into two parts, it being split exactly at the spot where the imperfections, which are to be removed, are situated. In this manner diamonds are obtained, which, although smaller, are certainly pure.



Visit of Mr. A. FALLIERES, President of the French Republic, accompanied by Queen WILHELMINA and Prince HENRY of the Netherlands, to the Diamond Works of I. J. ASSCHER. Amsterdam, 6th July 1911.

The stone is also to be split if thereby a more advantageous shape can be obtained.

An expert, after a thorough study, traces on the stone, with Chinese ink, the line or lines, along which the stone has to be split or sawn. The expression ,,cleavage" is current in crystallography.

All crystal formations, and accordingly the diamond too, can be divided according to plans parallel to their surface, which is called ,,cleaving" or ,,splitting." Just like wood, crystals have a grain, in the direction of which they can easily be divided.

The cleaving of a diamond fixed in shellac.

For this purpose the diamond is split by placing a blunt knife in a precisely made incision, and dealing it a sharp blow; this divides the stone in the

direction required. Diamond splitting is done by hand and requires much command and great skill.

The splitter starts by graving in the stone he has to split, with the sharp edge of another rough diamond, fixed in a holder, and such with the utmost care, an incision in the cleaving direction. To this incision a blunt blade is applied, on the back of which the splitter gives a blow with a wooden or steel gavel. Under this well directed blow the stone falls in two pieces.

But it happens that it is necessary to divide a diamond in a contrary sense, just as one may have to cut wood in the direction opposite to the grain. In this case the stone has to be sawn.

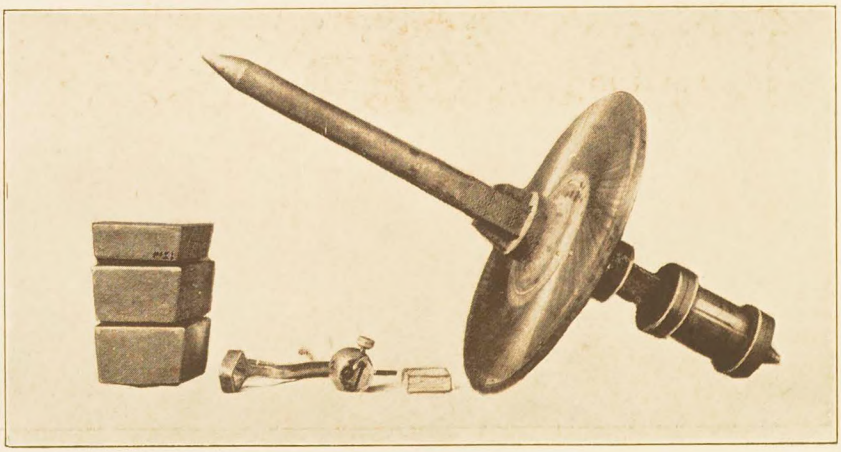
For sawing diamonds a material is needed at least

A set of diamond saws.

Rough Diamonds.

as hard as the diamond itself. This is attained by using a disk of phosphorised bronze, very thin (5/100 to 15/100 Mm.), revolving vertically. This disk really only serves to support and carry with it a paste of oil and diamond powder. This, together with the speed of the revolving tool, constitutes the working material.

The diamond is then fastened in steel catches and placed against the saw, a counterweight constantly keeping it there.



Disk fox polishing diamonds.

The saw makes 3600 to 4000 revolutions a minute, gradually cutting the diamond through. The sawing takes either a few hours or several days, depending on the dimensions and the hardness of the stone.

Cutting lathe.

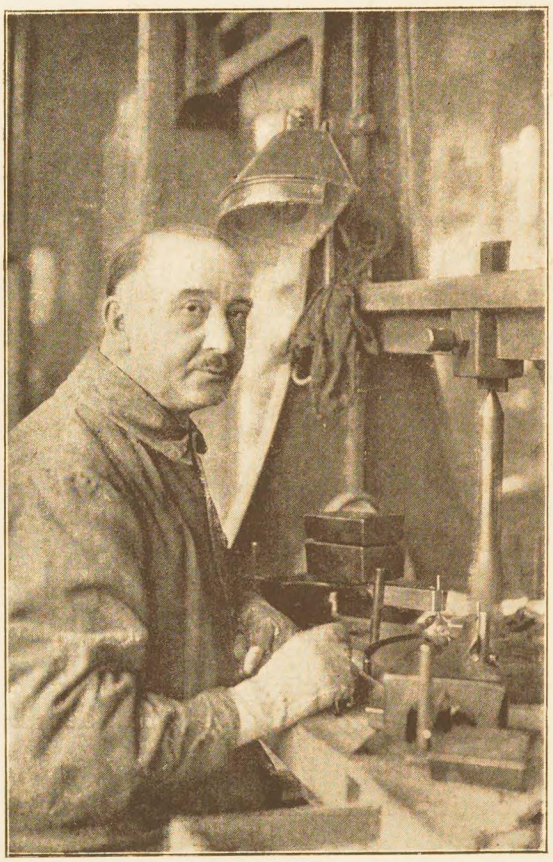
So instead of the rough diamond, we now have several fragments, into which it has been divided by cleaving or sawing. These have to be given their definite shape before they can be polished.

It is by means of cutting, in the more limited technical meaning, that the required shape, either round, oval, or

square etc. is obtained, whereupon the stone is ready for polishing.

Cutting was done in former times by fixing the diamond in shellac, adhering to a stick, and rubbing it vigorously by hand against another diamond, thus removing the sharp edges, curves, irregularities etc. by means of friction.

Today, thanks to a kind of precision-lathe, also called cutting machine, the workman simply has to manipulate and guide the holder in which one diamond is fixed, holding it against another one placed in a revolving wheel, which latter stone has to acquire the desired shape.

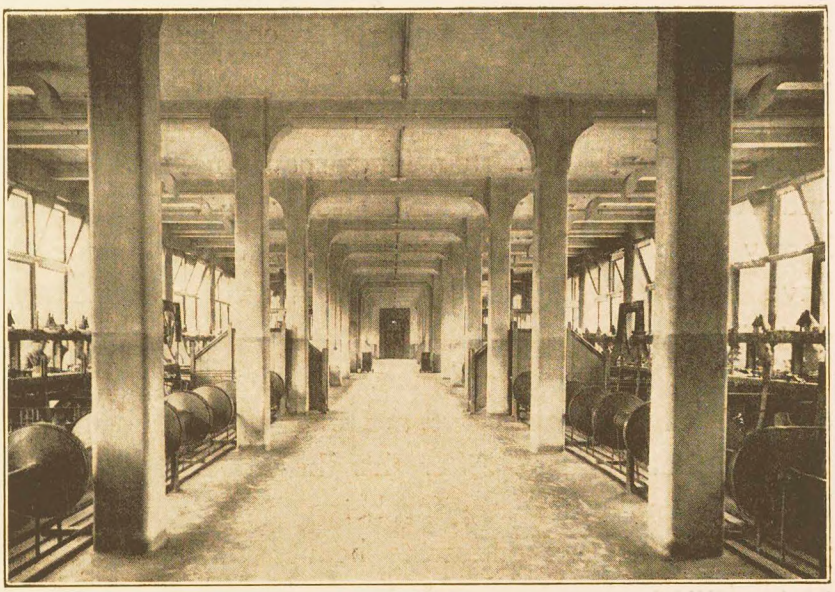


A set of polishing benches

By these various manipulations the diamond loses its superfluous parts, and is cut in the best manner with regard to its value in weight and brilliancy. But it

is still grey and opaque. The polishing it now undergoes, enables it to fully use its power of refraction, which magnifies the entering rays, multiplied by its various facets, so that the stone shines and scintillates.

The polishing, like the sawing, can only be effected



One of the polishing rooms of the works of I. J. ASSCHER, Amsterdam.

by the use of diamond. For this purpose a paste of diamond powder and oil is placed on a horizontal cast-iron disk, which makes about 2200 revolutions a minute.

The diamond which has to be polished is adjusted in a metal cup, called "dop," and is brought into contact with the surface of the disk, being held down by a more or less heavy weight. The polisher who carefully

follows the process, and who has simultaneously from one to four ,,dops'' on his disk, inspects them from time to time by means of a magnifying glass; as soon as the facet in question has acquired the dimension and position required, he turns the stone round in the ,,dop'' in such a manner that another part of the stone may be exposed to the disk. This operation continues until the stone has been completely polished. It requires numerous manipulations, as may be gleaned from the fact that brilliants as well as certain fancy shapes have 58 facets, and very small brilliants 34 or 18 facets; whilst roses, hardly visible, weighing about 1/5 of a milligram, still have 3 or 9 facets, and to the naked eye are like glittering dust.

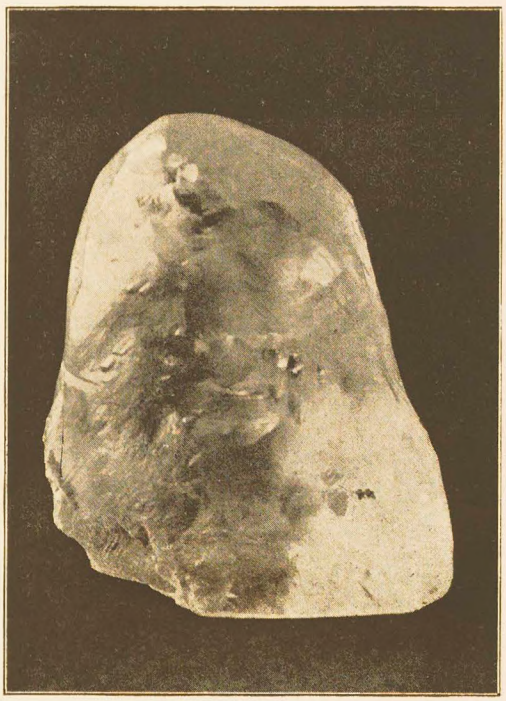
After having been polished, the diamonds which are covered with oil and dirt are cleaned by submerging them in boiling acid. After this they display their full brilliancy and are ready for being set in mountings of precious metal, thus endowing beauty with the noblest of all jewels.

The diamond, whilst being the most cherished of family jewels and heirlooms, is likewise the highest prized portion of the treasures of princely dynasties.

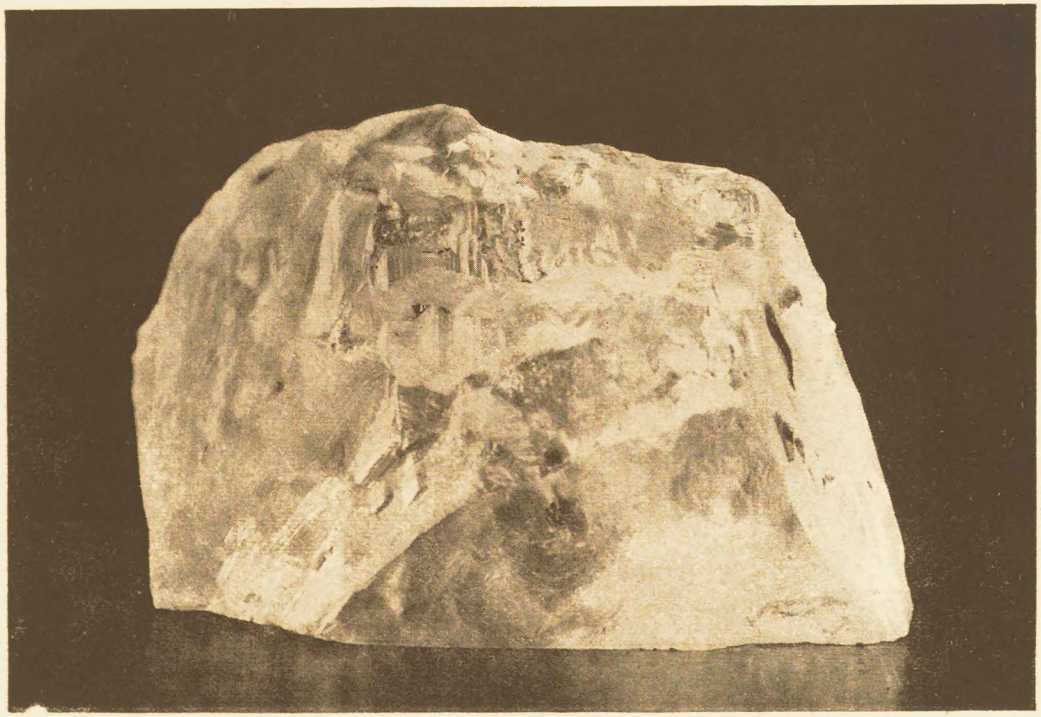
Stones of exceptional size or colour were always destined to adorn royal and imperial crowns.

This has also been the destination of the Cullinan, of which we shall presently give the story.

THE EXCELSIOR DIAMOND.



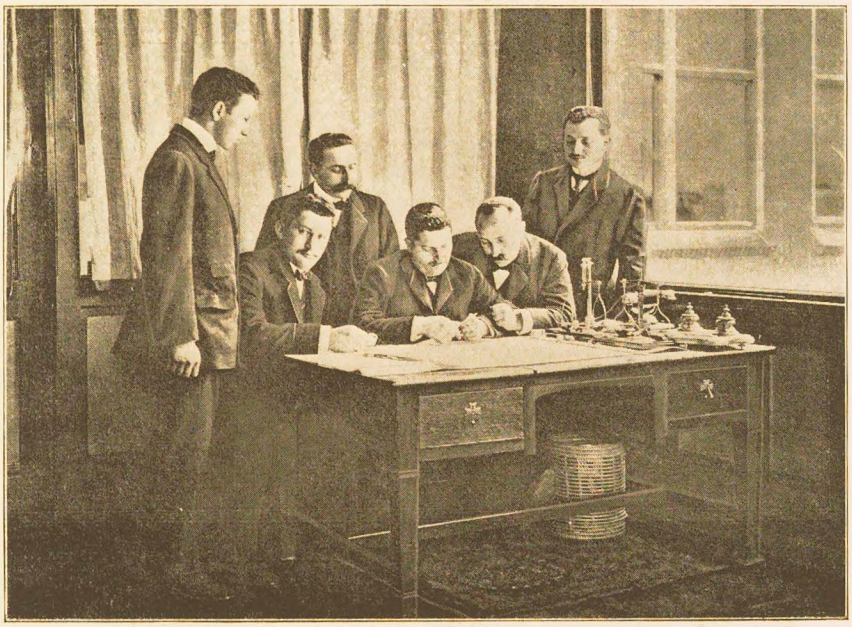
This diamond of exceptional colour was found in 1893, and weighed 971 3/4 carats. It was cleaved by Mr. A. Asscher and cut in the Diamond Works at Amsterdam in 1903. Its colour is a marvellous blue.



The CULLINAN in its rough state (3.024$^{3}/_{4}$ carats).

THE CULLINAN DIAMOND.

To the diamonds which adorn crowns and coronets was recently added the Cullinan. Its discovery and the manner in which it was cut and polished deserve a



Messrs. ASSCHER Bros. studying the cleaving and polishing of the Cullinan.

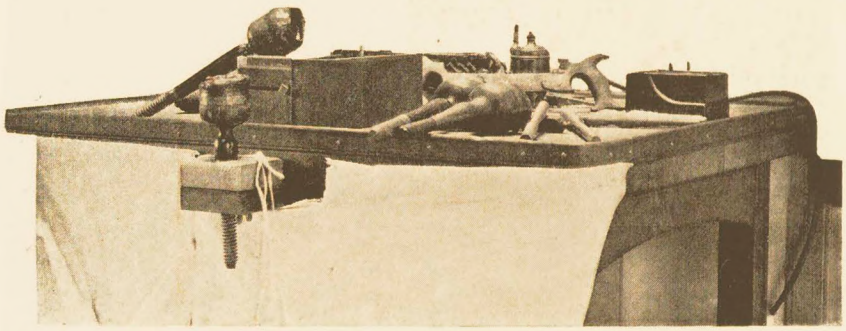
description similar to those devoted to the famous stones of fastidious Monarchs.

On the 26th January 1905 captain M. F. Wells, whilst inspecting the Premier mine, situated at 20 miles to the North West of Pretoria, saw a glistening spot in a rock, reflecting the manifold colours of a beautiful

sunset. It appeared that the last sunbeams of that day had revealed to him an enormous diamond.

It was given the name of the President of the Company, owning the mine, Mr. T. Cullinan. The South African Government subsequently offered it in loyal homage to H. M. the King of Great Britain and Ireland.

H. M. Edward VII, after judicious deliberation, decided



Tools for cleaving.
On the left boxes and tools specially made for cleaving the CULLINAN.
On the right, tools of the usual size.

to entrust the cutting of the stone to Messrs. I. J. Asscher at Amsterdam.

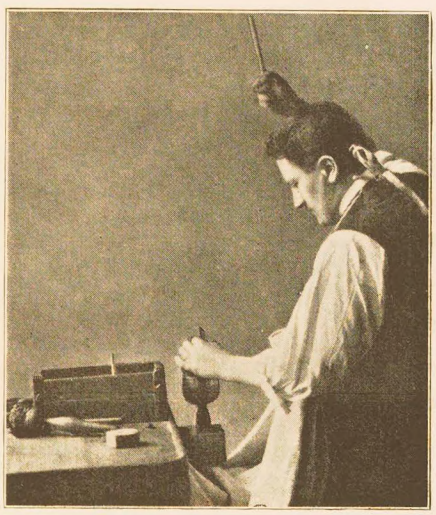
On the 15th September 1907 the King received Messrs. J. and L. Asscher in private audience and had a long conversation with them about the best manner of handling this precious lump to the greatest advantage.

On the 23th January 1908, the stone was handed over to them and their partners, Messrs. A. and E. Asscher, in the presence of the Minister of the Colonies and Solli-citors of the Crown.

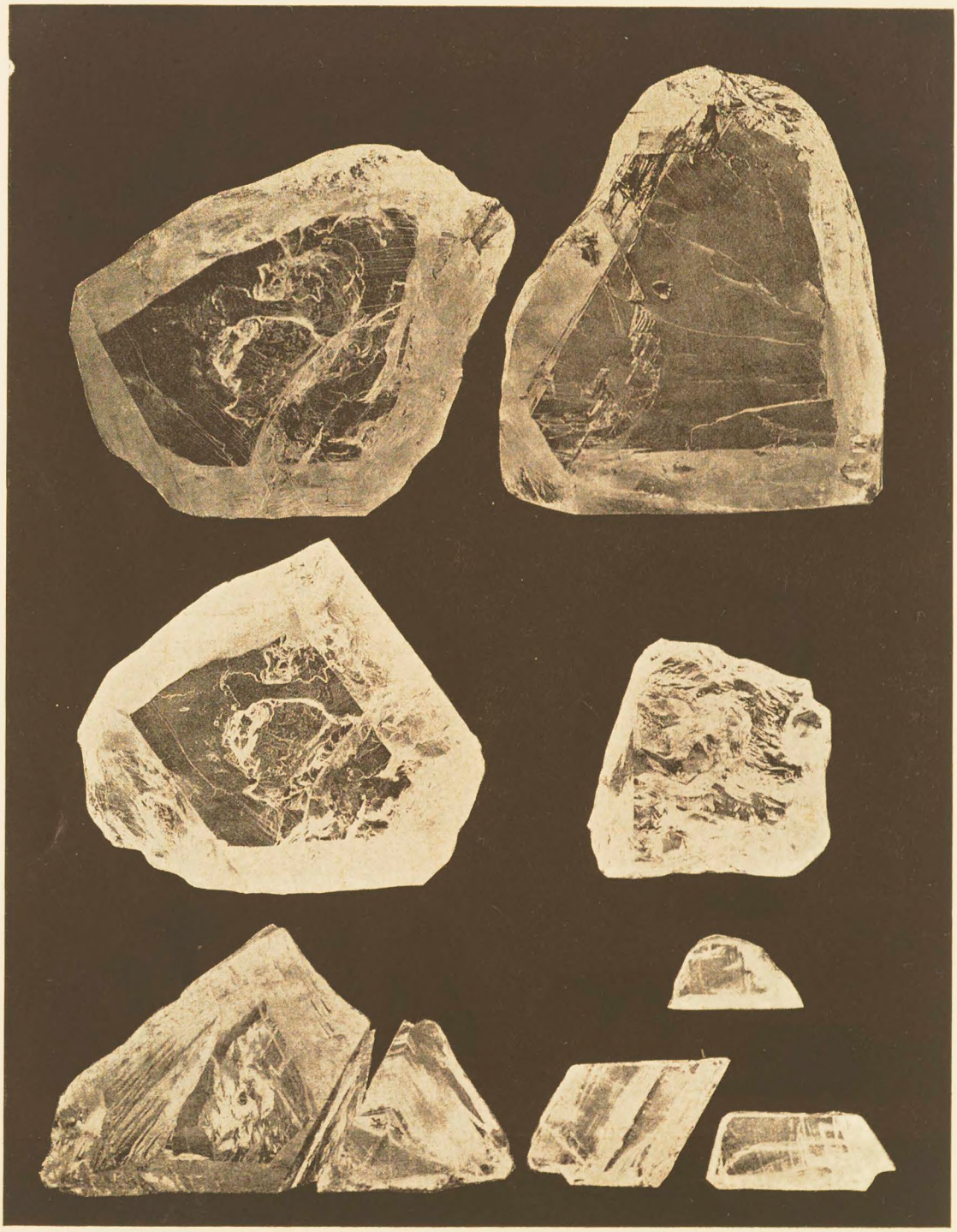
Mr. J. ASSCHER making an incision in the CULLINAN.

Conveyed to Amsterdam — with the utmost precaution — it was submitted to the most careful study. No diamond cutter had ever had in his hand the destiny of so splendid a stone. How would it be possible to turn this irregular mass into one or several diamonds in harmonious context? It was impossible to think of shaping and polishing the stone without previously splitting it. It was therefore decided to cleave it and this operation was entrusted to Mr. J. Asscher. For three days he worked at it with specially constructed tools, and finally completed the necessary incision.

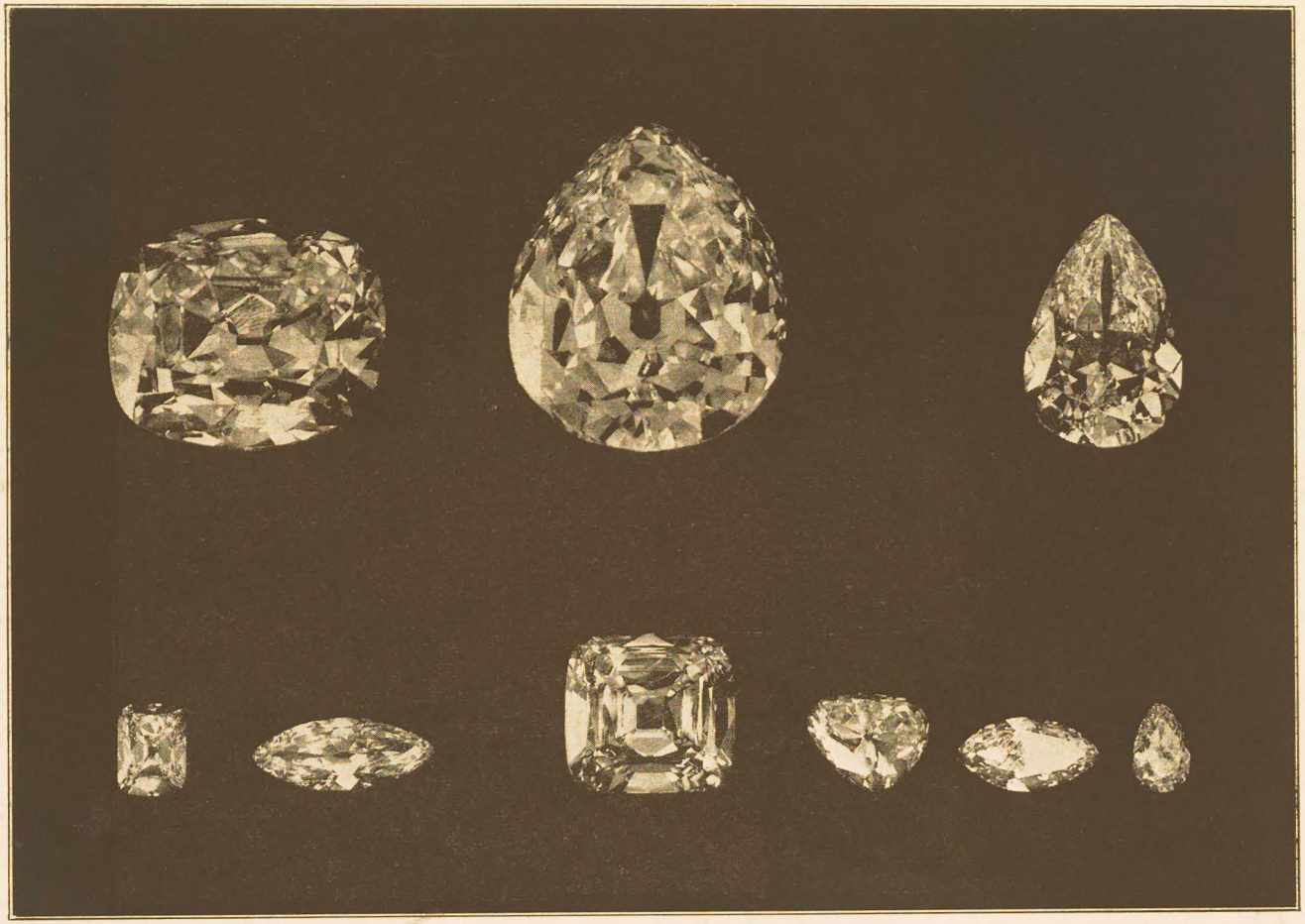
Then the great moment came, involving enormous risk and responsibility, as the lot of one of the most precious diamonds would depend on one blow of the hammer. Would it split



Mr J. ASSCHER cleaving the CULLINAN.



The CULLINAN after the cleaving process.



The polished stones derived from the CULLINAN.

according to plan under the blow? Would it not be shattered into insignificant fragments?

On the 10th February 1908, at 2.45 P. M., in the presence of representatives of the King of England, of qualified experts, and a notary public to draw up an official report and register the weight of the parts after the cleaving, Mr. J. Asscher, not without intense emotion, but with a firm hand and perfect mastership, seperated the Cullinan in two parts, as it was intended.

One fragment weighed 1.977½, the other 1.040 carats.

For certain technical reasons the cleaving was continued. After the polishing, the collection of stones emanating from the Cullinan, all of the most remarkable purity, consisted of:

		Carats
1.	The CULLINAN I, a pear shaped diamond, weighing	516½
2.	„ „ II, a square „ „	309 3/16
3.	A pear shaped diamond „	92
4.	A square „ „	62
5.	A heart shaped „ „	18 3/8
6.	A marquise „	11 3/4
7.	„ „	9 3/16
8.	A square „ „	6 5/8
9.	A pear shaped „ „	4 9/32
10.	96 diamonds of a total weight of	7 3/8
11.	A quantity of non-polished fragments	9

To accomplish the honourable but difficult task, with wich the King had entrusted them, Messrs. I. J. Asscher only required 10 months' time.

On the 5th of November 1908 all the stones of the Cullinan went back to England under a special escort.

They were presented to King Edward VII at Windsor Castle on the 21st of November. The King admired them and expressed his high satisfaction to Messrs. Asscher for the conscientiousness and perfection of their work; placed among te other jewels of the crown, the collection, destined to become historical, compares favourably with the most celebrated stones in past times added to the Crown jewels of Great Britain.

If the diamond industry is remarkable and beautiful on account of its valuable material and consummate skill, it is likewise powerful, and also curious from a psychological standpoint. That is what Mr. J. Asscher dwelt on in his speech at the inauguration of the Diamond Works at Versailles:

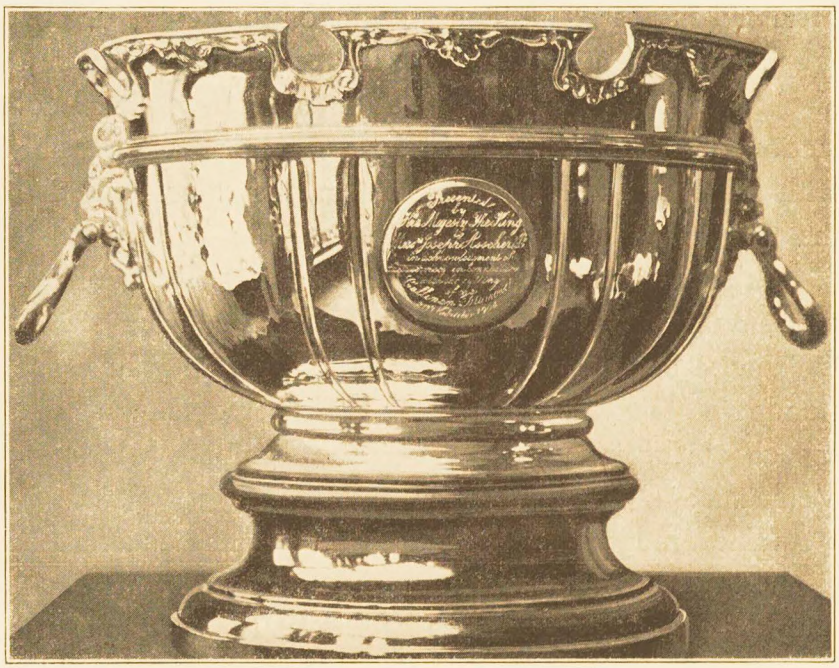
„The predilection for adornment, which has animated all nations throughout the history of the world, will only disappear with humanity itself. Who does not wish to wear a modest brilliant? Who does not wish to add a second one to the first? Who does not entertain the desire of possessing ever finer and grander stones? Who does not wish to give one of these marvels, in order to see joy sparkle in the eyes he loves?

„On the other hand, buying diamonds is neither foolishness nor waste. All those who know our industry and trade are convinced, like ourselves, that the value of the diamond will never decrease.

TESTIMONY

of the august satisfaction of H. M. King EDWARD VII

with the cutting of the CULLINAN.



Presented by HIS MAJESTY THE KING to Messrs. JOSEPH ASSCHER & Co. in acknowledgment of their services in connection with the cutting of the CULLINAN diamond, 21st November 1908.

„When one is aware of the competence and scrupulousness of the eminent men who direct the large producing companies, and rule the sale of the rough material; when one knows how the workers, who in their thousands are labouring with might and main, especially in South Africa, extract these most precious stones from the soil; when one is acquainted with the difficulties of cutting the stones; when one has learned to appreciate designing and the art of mounting; when, in one word, one's eye follows the long road from the depth of the mine to the jeweller's shop, it may be safely stated that wealth, consisting of diamonds, is beyond all possibility of decline.

„And it cannot be said that this wealth is improductive, for does it not bring unfailingly every day dividends of joy, of happiness, and of beauty?

Printed by
N. V. Vereenigde Drukkerij Dico
Amsterdam — 1928