




MUSÉE   
OPINEL®

## **1/ History of the museum**

This building was built by Jean Opinel, brother of Joseph, creator of the famous pocket knife. Knives and tools from the Croix de Savoie toolmaker were made in this old smithy from 1932 to 1973. From 1973 to 1986, it became an ancillary workshop for Opinel, a business installed since 1915 on the outskirts of Chambéry.

In 1989, with Opinel's agreement, Joseph Opinel converted the building into a museum. The Opinel Museum very quickly became one of the most visited attractions in Savoy.

The Opinel company, Jacques and his son Maxime, extended and renovated this private museum tracing the history of the Opinel® in 2013.

You can explore Opinel's family and Savoy roots, changes in manufacturing techniques and the brand's industrial and commercial development.

The visit ends with a film made right in the workshops showing the current manufacturing process.

## **2/ A family of blacksmiths-toolmakers**

*Iron was mined in the Maurienne mountains as early as 700 BC. In the Middle Ages, metallurgy extended from the Lac du Bourget to Grenoble, with the smithies producing swords, knives and other iron objects. The name of Opinel is part of the region's metallurgical history. Thus a certain Joseph Opinel, a well-known master goldsmith, born in 1715, came from a family in Albiez-le-Vieil. An iron merchant Opinel is also mentioned in a manuscript of 1792 at Saint-Jean-de-Maurienne.*

The Opinel family originates in Gevoudaz, a hamlet of Albiez-le-Vieux near Saint-Jean-de-Maurienne. Life is hard in the mountains, but the power of the Torrent d'Arvan saw the development of a craft industry: clog makers, turners, weavers, millers, etc.

Having learned the blacksmith's trade during his travels as a pedlar, Victor-Amédée Opinel, born in 1799, set up his forge on the banks of the river and made nails, billhooks and axes. His sons Pierre and Daniel worked with him until his death in 1856, then worked together to produce billhooks, logging tools and knives.

In 1870, Daniel bought the workshop from his half-brother and despite the frequent, devastating floods that ruined the family on several occasions, he continued his father's work. He trained his sons Joseph and Jean in the blacksmith-toolmaker trade. Whilst Daniel and Jean continued to shape tools and plough shares, the elder son, Joseph, had other ideas.

## **3/ Cutlery in the genes**

Victor-Amédée started a genuine dynasty of blacksmiths-toolmakers. Many of his descendants started their own smithies and made tools and knives.

The success of the famous pocket knife with its highly-recognisable shape, invented by Joseph in 1890 and struck with the Crowned Hand since 1909, naturally inspired his uncles and brothers:

Between 1914 and 1967: the Cross and Palm Opinel were made by Jean-Marie Opinel and his descendants in the hamlet of Le Plan des Rois (municipality of Fontcouverte).

Between 1927 and 1973: the Savoy Cross Opinel were fashioned by Jean Opinel and his descendants in the hamlet of Le Plan des Rois, then from 1932 in Saint-Jean-de-Maurienne (museum site).

The Cross and Palm and Savoy Cross productions never went beyond the craft stage and were halted.

## **4/ Joseph Opinel, inventive craftsman and visionary entrepreneur**

Joseph Opinel was born in 1872 at Albiez-le-Vieux. Joseph worked for his father Daniel from a very young age, learning the blacksmith's trade at his side. Of a naturally curious and ingenious nature, he liked to study the tools and the mechanisms. In 1890, aged 18, and despite paternal misgivings, Joseph turned his energy to inventing a pocket knife. He started with a traditional blade profile, the Yatagan blade, then carefully shaped the handle that he wanted to be comfortable, practical and strong. To make it even more solid, he developed a splitting machine that removed just the required amount of wood.

The Opinel was born! This pocket knife was increasingly successful.

In 1896, the year he married Marie-Henriette Samuis, Joseph and his three workers made five dozen knives a day. With a marketing brain far in advance of his time, in 1897 he had the idea to produce his knife in twelve sizes, from the tiny No. 01 for cleaning pipes to the sturdy No. 12, designed for use by peasants.

The peddlers made his knives known outside the valley in Switzerland and Italy and he had to intensify the production to meet demand. Joseph decided to spend three months working in a factory in Thiers, a well-known area for cutlers. When he returned full of what he had seen, he perfected the machines, bought new ones and expanded the paternal workshop.

In 1901, he used his wife's dowry to build his own factory at the Pont de Gevoudaz. This was larger and more functional than the family workshop a few dozen metres away. He was now employing some fifteen workers and the dynamo from his factory provided the hamlet with electric light. But Joseph's industrial and commercial ambitions did not stop there. He was aware that he had to move nearer to the major communication routes and a more extensive employment catchment area to give his brand new impetus.

In 1915 he decided to leave his Maurienne birthplace and move his business to Cognin, on the outskirts of Chambéry.

## **5/ The Crowned Hand**

In 1565, the King of France, Charles IX, ordered that each master cutler should affix an emblem on his fabrications to guarantee the origin and quality. To avoid counterfeiting, the trademarks had to be lodged in a "safe place", at the Office of the Clerk to the Lieutenant of Police for Paris or at the corporate headquarters or the most respected Lawyer or Juror for the cutlery centres. They had to be stamped on a copper, lead or silver plate to certify their registration and to be able to store the print in the event of a dispute."

In 1909, Joseph Opinel followed this tradition by choosing the "Crowned Hand" emblem. This was inspired by the arms of Saint-Jean-de-Maurienne: "Silver hand raised in blessing, on azure field, clad in the same way."

The right hand with three raised and two folded fingers is that of Saint John the Baptist. Saint Tecla brought three fingers of Saint John the Baptist back from Alexandria to Maurienne in the 6th century. These relics have been preserved since then in the heart of the cathedral of Saint-Jean-de-Maurienne. Joseph Opinel added a crown to this hand raised in blessing to remind people that Savoy was a Duchy.

## **6/ Forging the blade**

In the old days, knife blades were made of forged steel, requiring numerous secondary operations. The steel was delivered in bars before being cut into small pieces called "crampons" (ingots) of varying sizes, depending on the model of blade to be produced. The ingots heated red in a coke furnace were then forged and converted into blanks by the weight of the reciprocating hammer. After descaling, the Opinel trademark and the tab were punched onto the blanks using the pendulum press. The blade obtained its final shape through cutting with a punch and its die.

Each blade was then hit by the board hammer to be straightened. To sharpen his blade and hold it during the grinding operation, the grinder used wooden tenons that he made himself to suit his hand. To achieve more force, he was stretched out on a board above his grindstone which turned constantly in water. The blade was polished by rubbing it on a wooden wheel covered in leather and coated with polishing paste.

## **7/ Making the handle**

The first knife handles were hand-made by the people living in and around the village using a cutting tool, the "paroir" (bench knife). Mechanical reproduction machines, with a metal handle template, were created to rationalise production and make it homogeneous.

Thus, at the end of the 19th century, Joseph Opinel developed his first machine for making knife handles with a fixed shape. The handle needed a little more work before it was finished:

- Cut the handle to the correct length
- Bevel the ends

- Make the tenon to receive the assembly ferrule
- Saw the slot to hold the blade

The handle was sanded and varnished after assembling the blade to keep the knife looking good.

### **8/ The tilt hammer**

Machine used to draw the metal heated red and make the tools and the large knife blades.

The smith sat on the cradle.

### **9/ The reciprocating hammer**

Two people working together were needed to forge the traditional knife blades on this machine.

The steel ingots were heated red then converted into blanks by the 250 kg weight.

### **10/ The board hammer**

During the previous stage, the cutting stage, the blade is arched and the trademark creates embossing on the back. The board hammer straightens and flattens the blade.

### **11/ The bench grinder**

Used to remove the burrs from the forged parts.

### **12/ The small press**

Used to drill the blades.

### **13/ The smithy**

The original place, formerly full of smoke and noisy, where the bond between fire and steel, controlled by Man, gives birth to a knife blade.

### **14/ The pendulum press**

This press has a pendulum connected to the endless screw and is launched manually by the operator. It served to punch the trademark and the tab on the blade.

### **15/ The handle machine**

The trolley with the milling cutters and the metal reproducing template were activated simultaneously to make the handles.

### **16/ 1915 Opinel becomes established in Cognin (Chambéry)**

Joseph decided to leave the hamlet of Gevoudaz and set up business close to a large town to move nearer to the major communication routes and a more extensive employment catchment area. An opportunity presented itself at Cognin, on the outskirts of Chambéry. The tannery J. B. Dumas was abandoned and up for sale. Located near fall no. 10 on the Hyères Canal, it was close to some fifteen establishments that were using the power of the canal: flour and oil mills, silk manufactory, textile mills, saw mills, etc. Joseph was won over by the canal and the proximity of the town and the sale was agreed for an amount of 12,000 francs in front of a notary on 21 December 1915.

But the tannery's premises were obsolete and a month of refurbishment work was required before Joseph could move in. The move was organised in October 1916. The machines were carried on the backs of mules from Gevoudaz to the station at Saint-Jean-de-Maurienne. Then, even in wartime, Joseph managed to find a wagon that had not been requisitioned by the Army to continue the journey to the Savoy capital. The expansion continued on a site that was better organised and in the heart of a dense industrial fabric. Joseph was joined in 1920 by his two sons, Marcel and Léon, to whom he entrusted the technical and commercial aspects respectively. The two brothers would each play their part in the increasing popularity of the brand.

Father and sons courageously faced up to a dreadful fire in January 1926 that destroyed the entire building. A modern factory was built in a few months and opened in 1927 on the day on which Maurice, Marcel's first child, was christened. In 1950, Maurice Opinel was in turn called to join the company's management to help his uncle Léon expand sales.

## 18/ The handle

Before 1991, the sawmill took up a great deal of space on the production site. Here logs were cut into different sizes of "carrelets" (timber sections) matching the various sizes of handle. To simplify the process and save on space, the timber sections are nowadays delivered by a Jura sawmill.

Six operations turn the tile into a handle: cutting to length, hooping, shaping, bevelling the ends, sawing the slot and sanding. These operations can only take place on a timber section with a certain hygrometry rate that differs depending on the wood worked - not too damp nor too dry.

These stages took place on different machines invented by Joseph Opinel before 1960: shaping, splitting and hooping machines. This required many work stations and fairly long manufacturing time.

In 1960 Marcel Opinel developed a revolutionary machine that did all six operations. The wood goes in as a timber section and comes out as a handle ready to be varnished. The principle has remained the same since 1960, but the machines have been upgraded regularly with hydraulic and electronic techniques and then by carbide tools.

Today, a handle is produced three times faster than in 1960, just a few seconds for a No. 8!

## 20/ Species of wood

Opinel knife handles have large slots and strong, wear-resistant woods are the only option.

The handles were originally made from wood taken from the forests in the Albiez region - cherry, pear, beech or ash, with a tinted varnish that made production uniform. The collection is mainly in beech since the 1950s. This is known locally as "fayard": the wood has a fine, homogenous grain and tremendous mechanical strength. Some ranges use more noble woods like olive, oak, walnut, box, etc. Birch and hornbeam, which are pale and only lightly veined, are used for the coloured handles.

To avoid harming the environment (pollution due to transport, deforestation, etc.), 95% of wooden handles come from French logging.

## 21/ Using wood for heating

The shavings from making handles have always been burned to heat the workshops.

In 1926, a poorly-extinguished stove caused a fire that destroyed the Cognin workshops installed in a former tannery. A modern factory was therefore built and opened in 1927.

Since 1973, the entire La Revéraz site has been heated by sawdust burned in a mixed boiler, thereby saving about 100,000 litres of heating oil a year.

## The three fundamental aspects of a blade: Steel - Heat treatment - Grinding

### 22/ Steel: carbon or stainless

Steel, so-called "carbon steel", is an iron and carbon alloy. Carbon steel is extremely hard, thereby guaranteeing excellent cutting quality, good wear resistance and easy regrinding. Carbon steel corrodes very easily: it is advisable to avoid damp environments and to wipe and grease the blade after use. In the early 20th century, it became possible to make the steel stainless by adding certain elements, mainly chromium. Stainless steel was used more and more in some industries in the 1950s. In 1970 Opinel launched a few items in stainless steel, but the cutting quality was well below that of carbon steel and it wore more quickly. It was not until the 1990s that steelmakers produced a stainless steel that met the cutting requirements of the Opinel blade.

Today, the Opinel stainless steel is Swedish; the 12C27 modified stainless steel (Sandvik). It is extremely corrosion-resistance and its carbon content of at least 0.40% guarantees an excellent cutting edge.

### 23/ Heat treatment

*The three fundamental aspects of a blade: Steel - Heat treatment - Grinding*

Having been cut out of a strip of steel, the blade undergoes heat treatment that modifies the internal structure of the steel, making it very hard.

The blade is heated at 830 degrees for carbon steel and 1070 degrees for stainless steel, then plunged into an oil bath. This is called "quenching". The blade is very hard, but can also break very easily. To

make it elastic, it is heated again to 300 degrees for carbon steel and 210 degrees for stainless steel, then air-cooled. This is called "tempering".

## 24/ Grinding

*The three fundamental aspects of a blade: Steel - Heat treatment - Grinding*

After the heat treatment, the raw blade undergoes two operations:

- grinding the back: this removes any roughness from the cutting operation and makes the blade the correct size.
- grinding-polishing the faces: previously carried out using two different machines, the blade is nowadays ground\* and polished by a dual-function grinder in fully-robotised machines.

This gives the blade a unique convex profile which ensures unrivalled strength and cutting edge.

Grinding profiles : Flat Asymmetric / Concave / Convex

The Opinel knife blade is ground to an exclusive convex profile. This profile ensures a strong blade and can be honed to give an excellent cutting edge.

## 25/ The Virobloc®

Four components originally made up the Opinel knife - the blade, the fixed ferrule, the rivet and the handle. The fixed ferrule was required so that the blade could be riveted securely to the handle. In 1955, anxious to improve the safety of the knife when in use, Marcel Opinel invented the Virobloc® system. He added a rotating ferrule which when slid over the fixed ferrule closes the slot and thus locks the unfolded blade in place. The idea is simple but it is complicated to achieve. Conical shaping, balance between strength and elasticity of the steel, consideration of dimensional variations from the wooden handle, the riveting, etc. A real challenge!

The Virobloc® system was altered in the 1990s so that the blade could be locked in the closed position. Used solely for a few items initially, it became standard on all models in 2000.

## 26/ Assembly and sharpening

In 1920, Marcel Opinel developed a vertical assembly machine: the operator positioned the handle, the fixed ferrule and the blade and the machine assembled the components.

Today the first operation on the assembly lines is the same: assembling the handle, the fixed ferrule and the blade. The logo is then pad printed on the handle, the blade is drilled and riveted and the rotating ferrule is added.

The final operation is to sharpen the blade by hand. The sharpener moves the blade through two grinding wheels, a unique, precise operation that gives the Opinel its legendary cutting edge.

## 27/ OPINEL It's not just the Opinel!

After the Second World War, consumption went crazy and demand for pocket knives skyrocketed. Knives had to be produced! Thus little by little Opinel focused on producing the pocket knife and abandoned the other items.

Consumption was changing in the 1980s and 1990s and Opinel started to diversify its product range: new wood species, engravings, commemorative products and garden tools.

Although its shape has remained the same, the history of the Opinel knife is dotted with many innovations that kept it in production in France, optimising its manufacturing costs and improved its cutting quality, strength and appearance: the machines invented by Joseph, Marcel and then by the technical teams guaranteed the future of this famous knife.

Today, the Opinel collection extends to many worlds and offers knives and tools intended for numerous craft and leisure activities for both adults and children: outdoor/mountain sports (hiking, mountaineering, potholing, exploring Nature, etc.); water sports (sailing, kayaking, rafting, canyoning, etc.); fishing and hunting; camping, cooking outdoors and picnics; DIY; creative leisure activities; gardening; cooking; tableware.

The 1911 display showcase testifies to the variety of Joseph Opinel's collection: the twelve sizes of knife but also table knives, butcher's knives, pruning knives, forks, scissors and razors.

## **28/ The Opinel : identical since 1890?**

Although its shape has remained the same, the history of the Opinel knife is dotted with many innovations that kept it in production in France, optimising its manufacturing costs and improved its cutting quality, strength and appearance : the machines invented by Joseph, Marcel and then by the technical teams guaranteed the future of this famous knife.

The latest-generation technologies are these days applied to the various operations - the factory is constantly modernising. An "on-going improvement" policy is implemented to maintain excellent industrial competitiveness of the workshops. This involves:

- permanent training of all industrial staff
- search for better materials, more efficient production tools and the most pioneering technologies
- optimum organisation targeting production quality and fostering staff development.

## **29/ Legal protection**

In the 1960s, under the management of Maurice Opinel, the registration of trademarks, patents and models was introduced in France and worldwide. This protection is one of the company's fundamental pillars. Copies and forgeries are the price the Opinel pays for its success. Previously French, they now mainly come from Asia. The company is vigilant and takes legal action.

The good quality-price ratio remains the brand's greatest advantage in discouraging copiers.

## **30/ Commercial development**

Through the decades, brochures, display stands and posters testify to the brand's commercial vitality. At the end of the 19th century, the word was spread at local fairs and by peddlers who crossed borders and sold the Opinel in Italy and Switzerland.

Joseph also entrusted his goods to the railway workers who would make the brand known throughout France.

Post-War, Léon and Maurice dealt with many wholesale drapers and other wholesalers who supplied the town and village shops. The Opinel was everywhere and its reputation grew as it was distributed.

Today, the various ranges of the Opinel brand are found in numerous sales outlets: cutlers, department stores, hardware stores, garden centers, sports shops, DIY stores, newsagents, design boutiques, kitchen utensil and tableware boutiques, gift shops, etc.

The Savoy knife that has become the knife of all French people, abroad it represents a certain art of living French style - the French knife!

## **31/ Opinel, heritage object**

The small pocket knife has influenced generations and been adopted by the greatest artists and explorers. Pablo Picasso used a No. 5 to sculpt his figures

If Paul Bocuse had to take a single object on a desert island, it would be his Opinel. Eric Tabarly attached several Opinel at strategic locations on his boat Pen Duick. When he was very young, in 1949, he went aboard a tuna boat and put twenty-three notches on his Opinel for the number of days of this fishing campaign. In 1978, Alain Colas released his leg by cutting a rope and saved his life out at sea. Roger Frison Roche always had one in his pocket.

**Now you tell us a memory, your history with the Opinel !**

