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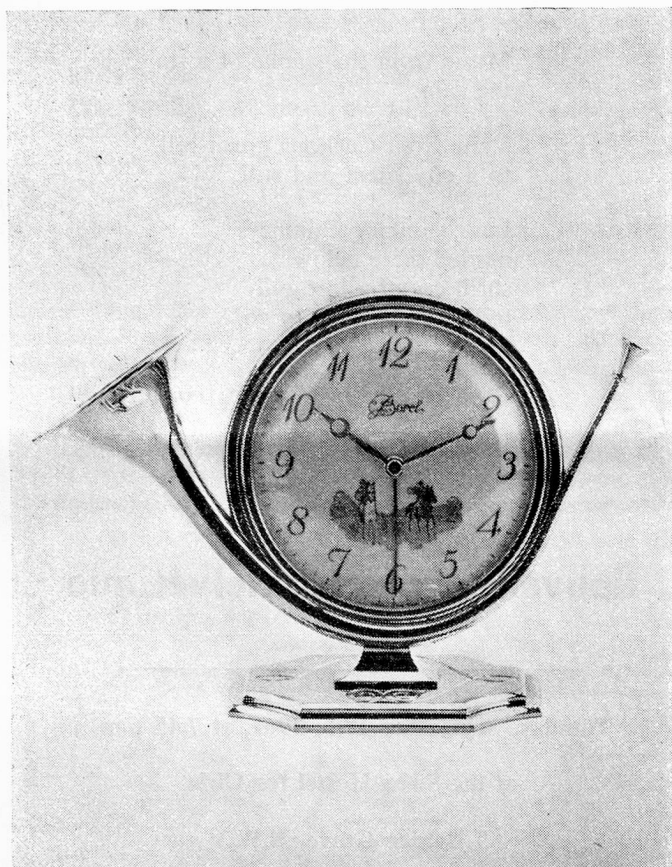
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MONTRES ET BIJOUX

The international exhibition of watches and jewellery, "Montres et Bijoux", is now open, for the nineteenth time, at the Rath Museum, Geneva, until 1st October.

The theme chosen this year is "Treasures of India". A splendid collection of jewels, ornaments, inlaid signets, saris and other fabrics — chosen from among the fabulous treasures of maharajahs and the coffers of the famous jewellers of Bombay — displays the subtle delicacy of Indian adornment. Films, running continuously in one of the rooms at the Rath Museum, illustrate the traditional art of adornment in India.



Swiss watchmakers introduced this elegant hunting-horn clock at the 1961 Basle Fair (15th–25th April).

Designed as a table clock, it aptly bears the name "Cor de Chasse".

Switzerland's most celebrated watchmakers and Jewellers, according to custom, present their latest triumphs. Several German and Italian master jewellers are also, for the first time, presenting their most striking creations.

Established in 1959 by the Town Council of Geneva, the "City of Geneva Prize for Watchmaking and Jewellery" will, as every year, reward those artists whose creations have brought an innovation to the aesthetic aspect of watches and jewellery. Three prizes of Fr. 5,000 each will be awarded by a panel judging the following three categories: men's watch without watchband; jewellery necklace; small box in precious metal, without precious stones.

IMPORTANCE

The importance of the watchmaking industry to the Swiss economy may be gauged from the fact that it exports 95 per cent of its production.

The percentage of production exported by foreign watchmaking industries is as follows:—

Germany	—	44 per cent
France	—	19 per cent
England	—	7 per cent
Japan	—	4 per cent
U.S.A.	—	2 per cent

Swiss annual production has risen to some 40 million watches and movements, which amounts to a little less than half the total world production.

In 1960, 1,259,248,341 Sw. frs. were earned for the Swiss economy as compared with 1,124,569,909 Sw. frs. in 1959, and watchmaking accounted for approximately one-fifth of total Swiss exports.

Present-day structure of the Swiss Watch Industry

The industry is divided into sections, each of which is responsible for making one of the main groups of watch components. A watch is composed first of all of an ebauche, that is to say the chassis or frame which contains the mechanism. The factories producing this chassis or frame are grouped into a holding company: Ebauches S.A.

The mechanism is composed of the organic motor, the spring, the wheels and the escapement or regulator (which comprises the lever, the balance and the hairspring). All these parts, called functional parts, as well as the exterior parts — the case, dial, hands, crystal — are manufactured by firms grouped in U.B.A.H. (Union des branches annexes de l'horlogerie).

The factories under these two groups are controlled financially by the General Society of Swiss Horology S.A. (better known as the Allgemeine schweizerische Uhrindustrie A.G. under the initials A.S.U.A.G.).

Finally, there are the Federation of Swiss Watch Manufacturers (F.H. — Fédération Horlogère), which makes the quality jewelled-lever watches, and the Roskopf Association (makers of popular-styled watches).

The F.H. is made up of 550 manufacturers divided into six regional sections (Geneva, Vaud, Fleurier, Le Locle, La Chaux-de-Fonds, Berne. The Roskopf Association has about 50 members.

Within the F.H. there are two categories of manufacturers: the assemblers who, as the name implies, only assemble watches but do not make the parts; and the complete manufacturers, who make their own ebauches as well as some or all of the parts, and assemble them into complete watches.

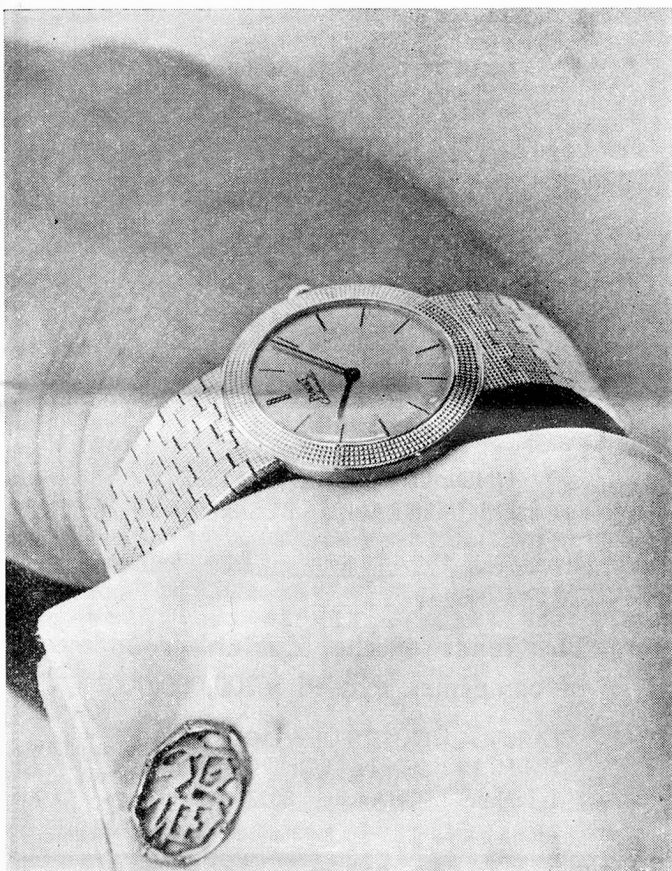
Relations between the watchmaking organisations

Ebauches S.A., U.B.A.H. and the F.H. have signed an agreement, the Collective Convention of the Swiss watchmaking industry. The terms of this Convention are only occasionally waived by agreements concluded with foreign horological industries.

Ebauches S.A. and U.B.A.H. can sell their products only to manufacturers of Swiss watches; the manufacturers are committed to buy parts only from Swiss firms. Legal statutes contained in a Federal decree protecting the watchmaking industry support this principle.

OF WATCHMAKING TO OUR ECONOMY

The organisation which controls the various groups in the industry is the Swiss Watch Chamber (Chambre Suisse de l'Horlogerie). Founded in 1876, this organisation, according to its present president, M. Edgar Primault, "serves as a liaison between the different branches and the various sectors of the industry and between them and the government". The Swiss Watch Chamber is regularly consulted by Federal authorities on all questions concerning the Swiss watch industry. Furthermore, since 1934, the Chamber has been charged by the Federal Council to collaborate in the application of decrees protecting the watchmaking industry.



The thinnest self-winding watch in the world. Incredibly skilled workmanship, super-fine metals and centuries of watchmaking tradition permit Switzerland — and only Switzerland — to turn out such marvels as this 2.3 mm thin work of art. This model was one of the stars of the 1961 Basle Watch Fair.

Some 70,000 workers are engaged to-day in Swiss watchmaking. The F.H. and U.B.A.H. each employ between 25,000 and 30,000 persons; Ebauches S.A. employs more than 8,000, and the Roskopf Association more than 5,000.

Professional training is given in watchmaking schools located in the principal industrial centres, that is to say at Bienne, La Chaux-de-Fonds, Le Locle, Geneva, Le Sentier, Saint-Imier and Soleure. In other areas there are watchmaking classes which, under the aegis of the complementary training schools, give specialist training to qualified workers.

Furthermore, to ensure continual development in horological scientific research, watchmaking-engineering training has been offered for the past twelve years. After obtaining a degree as watchmaker-technician or a baccalaureat in sciences, students wishing to go into research spend three

For Swiss watch manufacturers, the problem of novelty is by no means restricted to the search for new mechanical devices and original or luxury styling. Teams of research workers are concentrating all their efforts on discovering new possibilities of use for time-pieces so as to make them increasingly practical adjuncts to the professional life of modern men and women. In this connection mention should be made of the "Sherpa" line of watches, which offers a very highly perfected range of models carrying out, thanks to combinations of dials, all sorts of calculations required in various professions.

First of all, there is a special watch for amateur and professional divers, which has been perfected in close collaboration with diving experts. By means of a graduated scale on the glass, the diver can see at a glance how long he requires for a safe return to the surface. The revolving bezel is also provided with a movable index for calculating intermediate times.

Another model is designed for the calculation of average speeds and outputs. Average rates are, in fact, becoming more and more important daily, for it is necessary nowadays to calculate not only land-, sea- and air-speeds but the output of a machine, for example. All these complicated calculations become mere child's play with the new watch in question, which is in addition an exceptionally sturdy, high-precision chronograph, in a super-waterproof steel case.

A third model, with calendar mechanism, makes it possible to clock the passage of time simultaneously in any two parts of the earth; a movable ring enables pilots or businessmen to know exactly what time it is in any part of the globe. Nothing has been left to chance in this remarkable model since time changes (summer-winter) are accounted for thanks to a special inscription. Finally, a model for stewards and stewardesses allows them to indicate in flight the correct time and the time still to go before arrival; thanks to a revolving bezel, this information can be obtained at a glance. It should be added that the factory also makes a dashboard chronograph, for rally motorists, which is extremely easy to read and greatly simplifies the calculation of average speeds.

more years at the Swiss Horological Research Laboratory, at the end of which period examinations determine if they are worthy of the degree, "watchmaker-engineer".

Like all other industries, watchmaking must constantly adapt its techniques and its manufacturing processes

to increase its competitiveness. This necessity is, perhaps, more imperative for it than for other industries, considering its position as an export industry and as the principal watchmaker to the world. But success has not been lacking in this field and the industry can look to the future with confidence.

Let us cite, in particular, the atomic clock created by the Swiss Laboratory for Horological Research at Neuchâtel — viewed by millions of visitors to the 1958 Brussels World's Fair — which is accurate to 1/100,000th of a second a day, and the recently introduced electric wrist-watch.

As two to three million watches of various types are turned out every year, automation is a profitable proposition. In contrast to this, however, is a new manufacturing technique, employing perforated control bands, which is ideal for shorter production runs. This technique has been demonstrated in experiments conducted by the Geneva Society for Physical Instruments (Société Genevoise des Instruments de Physique). These have shown that, for groups of 4 to 12 pieces, tool economies of 60 to 80 per cent can be achieved. By this method Swiss horology can maintain its unique variety of manufacture, and satisfy tastes all over the world.

The Swiss Watch

As for the product itself, here is how it was described several years ago by the publication "Journal d'entreprise des Fabriques d'Ebauches S.A.":

"Let us take, for example, a ten-year period. The minute hand has made 87,656 revolutions. And since this hand is one-seventh of an inch long, the distance swept by its point is 9,906 metres (10,787 yards). The second hand has made 5,259,480 revolutions and its point has covered a distance of 198 kilometres 282 metres (123 miles 307 yards) or, measured on a straight line, the distance between Geneva and Soleure.

"The escapement wheel has made 52,594,800 revolutions. Since it has 15 teeth, this wheel has meshed and unmeshed 788,923,000 times.

"The balance spring has oscillated 1,577,846,000 times without stopping. In counting one turn to each vibration (average calculation), the distance covered by an exterior point of the balance is equal to 79,300 kilometres (49,567 miles), that is to say, two trips around the world.

"This then is some of the continual work produced over a ten-year period by this tiny marvel."

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