Technical

IN SWITZERLAND ALMOST 2 SAVINGS BOOKS PER INHABITANT

According to estimates of the Union Bank of Switzerland, Swiss savings, in bank savings books of various kinds, as well as bonds and cash vouchers amounted to 94.3 billion francs at the end of 1973. This represents an increase of 5 per cent compared with the previous year when the total was 89.9 billion francs. The average value of bank savings books thus worked out at 14,660 francs per head of the population; in Switzerland there are 188 savings books of different kinds for every 100 inhabitants.

TECHNICAL

SULZER ENGINES HAVE A LONG FUTURE

In its last "Technical Review," Sulzer Brothers of Winterthur report that their diesel engine business continues to prosper despite various factors affecting the growth of world shipping. The share of Sulzer's and its licensees in world marine propulsion reached 36.64 per cent in 1973 in terms of brake horsepower. Its two nearest competitors could only claim 23.95 and 12.31 per cent for all ships of over 2,000 tons. Thus Sulzer Brothers continue to represent a major industrial surprise in that one has a major company from a landlocked nation often teased for its "Navy" well ahead of the world's manufacturers of marine diesel engines.

In the same report, the "Technical Review" stresses that of the three main types of marine engines – diesel, steam turbine and gas turbine – the diesel is by far the most economical and is called to an even better future now that the cost of oil has quadrupled. The thermal efficiency of a diesel engine now reaches 42 per cent, whereas a steam turbine reaches at best 35 per cent, and the gas turbine 27 per cent. In concrete terms, this means that with the same amount of fuel, a ship leaving the Persian Gulf can reach Lagos if it is driven by a gas turbine, Dakar with a steam turbine, and Southampton with a diesel engine. This type of marine propulsion has therefore a guaranteed future for a very long time. Nuclear reactors are still a long way from being competitive and do not yet threaten the marine diesel.

NEW MACHINE TOOL

A Swiss firm in Geneva, specialising in the manufacture of high precision machine tools, measuring instruments and scientific appliances, has just put on the market a range of high precision machining centres of an entirely new design. This series comprises three models of different sizes, with vertical chucks and automatic tool changers. These new numerically controlled precision machining centres have been designed to meet the highest standards of quality and profitability required by industry today. The digital control, with built-in mini-computer, commands the operations of milling, boring, screw-cutting, drilling and shaping. These machining centres can operate with either automatic or semi-automatic control (manual insertion) and provide the answer to many problems of manufacture such as the machining of large batches of precision parts, the machining – on a single machine – of parts requiring one or more precision operations as well as less precise or standard quality machining; they are

also suited to the mass-machining of precision parts, the machining of small batches or repeated single parts or even complex single parts, with all the reliability ensured by a thoroughly tested programme and an automatic, programmed sequence of operations. High quality results for the entire life of the machine are the consequence of the unique conception of high volumetric and dynamic precision adopted for this range.

PLASTIC USED IN A PRECISION INSTRUMENT

The requirements of modern engineering and technical science are continually growing. In order to meet the increasingly high demands, more and more use is made of plastics which have the property of being easily processed. Modern, rationally constructed measuring instruments are no exception to this trend. Thus, for example, a Swiss machinery factory at Bienne (Berne) has completely revised the design of its drives for dial gauges for the measurement of bores, with a view to using plastic instead of brass parts. By means of a cord coupled to a set of pulleys, the linear movement of the gauging pin is converted into a rotary movement, which is then transmitted to the needle of the dial gauge by a pair of gears. The drive gear consisting of a pair of gears, pre-loaded against each other with a helical spring, transmits to the pinion fixed on the needle spindle a movement completely free from any backlash. Replacing the pair of gears by a plastic one has made it possible to cut out the laborious and expensive mounting of the spring. Originally, the helical spring, which has also been replaced by a plastic one, was hooked tangentially onto the two gears. Now this cantilever spring, injected radially into one gear, acts directly on the other by exerting pressure on the pin injected in it. As a result, the torque produced by the two gears prevents any backlash between them and the pinion. In order to cut costs, the latter, which used to be made of metal, is now also made of plastic. Thanks to the properties of the plastic used, the measuring accuracy of 0.01 mm has been maintained.

A SWISS NOVELTY – THE AUTOMATIC SHOWER

When one realises that a shower uses on an average 15 litres of water a minute, one can easily imagine, in the present energy crisis, the saving that could be made in a public swimming pool for example if the problem of the hot water wasted by certain inconsiderate swimmers could be solved. The solution has been found by a firm at Crissier (Vaud–Switzerland) specialising in particular in the manufacture of electronic control appliances and regulators; it has in fact designed a photo-electronic control system for showers worked by reflection. With this new control system, the water flows only when there is somebody actually under the shower; it stops automatically as soon as he leaves the cabin or moves to one side in order to soap himself. This new automatic shower device completes the wide range of products that this Swiss firm – one of the first to specialise in this field – offers in the sector of photo-electric devices for sanitary appliances; in fact, it already manufactures electronic washbasins as well as partitions with automatic rinsing control for urinals.

PARACHUTE JUMPING AND UNDERWATER DIVING COMPASS

A watch manufacturer at Bienne (Berne–Switzerland), specialising in the manufacture of compasses popular with sportsmen all over the world, has just produced a new product fully satisfying the needs of today. It is a wrist-compass, specially designed for submarine exploration and direction finding; it is the perfect answer to the needs of divers who require a luminous, resistant and completely reliable compass. Easy to use, even when wearing gloves, it is available with or without a depth gauge. Its power of resistance also makes it an ideal instrument for all sportsmen who need to determine their position and get their bearings, and especially for parachutists. Elegant in spite of its sturdy plastic case, it is equipped with a dial, hands and a bearing arrow with a high degree of luminosity.

ANGLO-SWISS PARLIAMENTARY EXCHANGE

It may be a surprise to many to learn that a number of MPs have formed an "Anglo-Swiss Parliamentary Group" serving as a platform of parliamentary contact between Switzerland and Britain. Mr. Philip Goodhart, a journalist and Conservative MP for Beckenham, is a leading member of that organisation. He kindly accepted to be interviewed by the *Swiss Observer*. The following is the record of our conversion at his Kensington home.

Q: I understand that you're a member of the Anglo-Swiss Parliamentary Group. Could you tell us something about this organisation? Do you meet often?

A: We meet from time to time. We meet leading Swiss citizens and politicians when they come over here.

Q: How many members are there?

A: I think about forty.

Q: They all share a common interest in Switzerland?

A: I think so.

Q: Has this group a political purpose?

A: Not particularly. It represents groups from all the main parties and I think of various shades within these parties.

Q: Does it serve to promote Anglo-Swiss relations?

A: I think so. I think it does. Personal relations are probably more important as far as Switzerland is concerned than most other countries because you, after all, have a policy of non-alignment and this means that you are not a member of the EEC, NATO and various other organisations with the purpose of co-ordinating policies. Therefore, I would say, personal relations with your country are rather more important than, say, with Germany or Holland.

Q: Do you meet Swiss parliamentarians?

A: I of course meet many Swiss parliamentarians if only because of my great interest in ski-ing. I've been Chairman of the Lords and Commons Ski Club for a number of years and indeed I was Chairman for a while of the Developing Committee of the National Ski Federation. One of the nicer activities of the Anglo-Swiss Parliamentary Group is that we have been ski-ing together every year now for the last fifteen years.

Q: So basically it's a platform for establishing parliamentary contact. You do not serve as a channel for "treaties" but rather for enhanced understanding?

A: Yes.

Q: I learnt from Swiss circles in London that you had, at one time, been entrusted with a study of the Swiss Constitution by your party with a view to organising a referendum in Britain on