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TECHNICAL ITEMS

PRECISION EXPANDING CHUCK

A new tool considerably simplifying the machining of inside bores has been developed by a Geneva engineer. It is called an RCD Expanding Centering Jaw, and is an expanding chuck for machining hollow parts between lathe centres. This tool replaces the use of jaws, or centre pieces of grade tolerances usually required for the concentric machining of inside bores.

AUTOMATIC DEVICE FOR DRILLING JEWELS

A new automatic appliance for drilling ultra-hard materials (watch jewels, industrial bearings) has won an award at the last Exhibition of Inventions and New Processes in Geneva. This automatic machine makes simple work of an operation that was previously extremely difficult. With this instrument, drilling is fully automatic, the manual part of the process is reduced to filling a magazine holding about 5,000 jewels ready for drilling which can be carried out by an unskilled worker. An electronic signal announces the end of the drilling and the next jewel is fed in automatically: the drilled jewel drops into a receptacle while an undrilled jewel is automatically fitted into the clamp from the magazine. At this point, a drop of liquid specially designed for drilling (mixed with abrasive diamond dust) is deposited on the jewel.

As soon as this operation is completed, the broach advances. The comparatively fine bit (drilling wire) necessarily undergoes a certain wear, which is checked and measured electronically. As soon as the drilling wire is worn down to a certain length, the broach is automatically opened and the drilling wire pulled out or replaced by another from the magazine. The broach being fitted with a very high precision clamp, the bit is always accurately centered in the axis of rotation. The amount of drilling wire contained in the broach is sufficient for drilling about 200 holes. When the bit becomes worn, the drilling wire can be advanced the required amount. The advance of the drilling wire and the fitting of a new bit are carried out by means of a special device which makes it possible at the same time to keep a constant check on its quality. An extremely modern electronic system has been designed for the automatic control and checking operations. The advantages of the *Cristalperce* (as the machine is called) over other drilling systems such as compressed air and laser beams are many. The percentage of waste is considerably reduced and the appliance is designed for drilling holes of small, medium and large diameters without preliminary adjustments. The new machine being almost fully automatic, it also makes for a considerable saving in labour. One or two unskilled workers are sufficient for manning 100 of these automatic machines.

FIRST SALES MINI-COMPUTER

While big companies and offices have now been using computers for twenty years, small and medium-size concerns are still comparatively unfamiliar with electronic data processing. Data processing equipment is very expensive and often wasted for want of rational use. Aware of the gap existing on the computer market, a Swiss firm has produced a mini-computer, the *Hermes Data System 210*, a sort of compromise between a big computer and the classical calculating machine. What makes it different from the ordinary office machines is its internal memory for storing data as well as its ability to take logical decisions based on this data. This new computer works on the same principle as the big models, but its capacity is particularly suited to the needs of small firms. Consequently, large groups wishing to have efficient decentralized set-ups are interested in it too: a big Swiss chemical works for example, which already possesses several large electronic computers, has purchased about twenty of these small computers, whose field of application is very wide, ranging from book-keeping to invoicing, and administrative, technical and scientific calculations.

(by courtesy of the Swiss Office for Expansion of Trade).



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