

Elinvar Hairsprings in Watches

R. E. GOULD has recently published a paper on the comparative performance of watches with the usual cut bimetallic balance wheels and steel hairsprings, and those of the new form having uncut monometallic balance wheels and elinvar hairsprings (*Bureau of Standards J. Res.*, 12, April 1934). Elinvar is a nickel-steel alloy having a temperature coefficient of elasticity which is practically zero from 5° to 35° C. (41° to 95° F.). In the new watches the balance wheel is non-magnetic. The experiments show that the temperature-rate errors of the watches having the new vibrating assembly were smaller than the errors with ordinary watches. Instead of the usual parabolic curve of errors a curve approaching a straight line was obtained. The use of the new assembly ensures a very marked improvement in the performance of the watches. The new arrangement almost entirely overcomes the effects of magnetism, so that after a watch has been subjected to a strong magnetic field the rate is not affected. Very few watches maintain an absolutely uniform rate as the mainspring unwinds. If the number of seconds lost or gained since winding be plotted against time after winding, true 'isochronism' is represented by a straight line. So far as 'isochronism' goes, the new assembly does not give any material advantage over the old. Also various small changes, caused by altering the positions of the watches, are practically the same in both types.

Thames Estuary Fisheries

MR. LAURENCE WELLS, who has from time to time contributed articles to the Southend newspapers based on the notes of the late Mr. James Murie, has recently published two more, the "Whitebait Industry" and the "Spratting Industry" (*Southend Pictorial Telegraph*, April 14 and May 24, 1934). Nearly two hundred years have passed since whitebait was first fished for, and the industry was much more important a hundred years ago than it is to-day. There are, however, signs of revival in the trade, and now there are more whitebait in the river than the merchants can dispose of, although one hundred and fifty years ago it was prophesied that within ten years the river would be denuded of fry. Sprat-fishing is apparently on the decline, and the only salvation for the Thames spratters is the canning industry which is here described. Mr. Wells goes into the history of both fisheries and the methods of capture, giving details of the catches of whitebait, which mainly consists of the fry of herrings and sprats but may contain also about twenty other species of young fishes. He also describes the proper way to cook it, and how to distinguish the herring of whitebait size from that of the sprat.

Rabbits and Traps

THE next Parliamentary session will see a bill introduced in the House of Lords by Lord Tredegar to prohibit the use of the steel trap. This bill is now in the final stages of drafting by the University of London Animal Welfare Society, which, as the result

of a recent questionnaire, claims to be in possession of overwhelming evidence in favour of the abolition of the trap, both on humanitarian grounds and—strange to relate—because it is claimed that trapping results in a *continuance* of the rabbit pest. This claim is founded on the experience of certain landowners, who have abandoned trapping for other methods of extermination simply because they have found that extermination was not to be achieved by means of the trap. Landowners may be deemed to be impartial in a matter of this kind; for, naturally, they desire to keep rabbits down. They are also keenly alive to the dangers of the steel trap to fox-hounds, domestic animals, partridges and other game. Another of their objections to the steel trap is that it kills stoats, ferrets and other natural enemies of the rabbit pest.

Speed of Snakes

THE general notion that snakes attain great speed of movement is not supported by timed observations made in the United States, and described in a paper read by Dr. Walter Mosaner before the American Association for the Advancement of Science at Berkeley, California (Science Service, Washington, D.C.). Of seven typical North American snakes tested, the red racer was the speediest with a record of three and a third miles an hour, while the Californian boa, moving at a rate of only a quarter of a mile an hour, was the slowest. The author considers that the mistaken idea about the speed of snakes arose from the deceptiveness of the smooth, fluent, undulatory movement, but he admitted that his records might possibly be broken by snakes doing sudden bursts under stress of excitement, and by some tropical snakes which may double or treble the American records.

Mosasaurian Skeletons from Manitoba

ACCORDING to the *Times*, the National Museum at Ottawa, Canada, has lately received two nearly complete Mosasaurian skeletons from an Upper Cretaceous clay in southern Manitoba. They measure respectively 33 ft. and 15 ft. in length, but both lack the end of the tail. Only fragments of these fossil marine reptiles have hitherto been found in Canada, and our knowledge of the group depends chiefly on well-preserved skeletons from the yellow chert of Kansas, U.S.A. The new specimens were collected, and are now being prepared for study, by Mr. Charles M. Sternberg, son of Mr. Charles H. Sternberg, who collected most of the specimens from Kansas.

A New Platinum Mineral

PROF. O. ZVJAGINSTSEV, of the Russian Platinum Institute, Moscow, has reported, according to the *Prager Presse* of August 18, that a new mineral has been found associated with platinum ores. It contains iridium, osmium, gold and ruthenium as well as platinum. The mineral has a silver-white appearance, is very hard but brittle and has a high specific gravity. Considerable development has recently taken place in the mining of precious metals in Russia.