

struction of model aeroplanes. Inquiries respecting membership should be made between 6 and 7 p.m. any evening, except Saturday and Sunday.

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Wireless Weather Reports.

An instructive guide to receiving wireless weather reports has just been issued by H.M. Stationery Office, price 9d. The book explains how the messages are distributed, how to use the messages and chart the observations, and gives the Air Ministry code for synoptic messages, and a list of meteorological stations with their identification numbers. We observe a recommendation that the receiver employed should have a wave-length range of from 1,000 to 6,000 metres, which will cover the Air Ministry, the Eiffel Tower, and the majority of Continental stations transmitting weather reports. A well-spread aerial of 100 feet and a single-valve receiver are advised. The book, which may be ordered through any bookseller, should be very helpful in making this important section of wireless broadcasting generally useful to the public.

* * *

Wireless Diagrams.

The reader whose time is precious will appreciate the little sixpenny book we have just published entitled "Wireless Circuits." It is full of information and yet it contains practically no reading matter. Its 60 odd pages contain 89 diagrams of wireless circuits and connections, and a clear, though brief, explanatory title is given to each diagram. There is also a table of constants and abbreviations, and a list of symbols which will be of value to many to whom wireless is quite a new subject. To those who have already done some experimenting, even with unelaborate apparatus, the story of the development of wireless, as it is told by the sequence of the diagrams given, will be of absorbing interest. They show its growth in point of preciseness and complexity (we couple the terms, but they are not necessarily synonymous), and will suggest to him many possibilities—what variations in his own work are possible or desirable, and to what extent he can simplify existing circuits and yet retain or even gain in efficiency. As a companion to the standard text books on the subject, we are sure this new publication will soon be found to be a useful and ever handy source of reference. It may be had from any newsagent or bookstall, or direct from our Publishing Department, 66, Farringdon Street, E.C.4, price 7½d., post free.

R. V. C. (Edmonton).—Try The Engineers' Supply Co., 4, St. Paul's Road, Shipley, Yorks, and The Vono Co., Dupont Foundry, Dudley Port, Staffordshire, for the small malleable castings you require.

Complex Turning Lathes.

By G. G.

WE have in hand some notes relating to a wonderful old Medallion lathe, which is also a rose engine, or rose-turning lathe, and it may preliminarily interest readers who are in the habit of using one of the many types of modern screwcutting lathes, to know that, at a period (early in and during the whole of the eighteenth century) long prior to the invention of the slide-rest, as we know it, there were turning lathes of a complexity that puts the modern lathe quite into the shade. The particular tool we shall be describing is now at South Kensington, but is not yet for exhibition in the Science Museum, those of our readers who are generally interested.

A few prior notes however may be of use to those of our readers who are generally interested in lathes. The rose engine action of a lathe is obtained by mounting the spindle in rocking bearings, so that, over a short range, at long radius, the mandrel may be rocked in parallel alignment to the normal axis, and upon either side of it while it is also revolving. By using a series of guide cams, having a wavy or scalloped edge, geometrically cut, mounted upon the mandrel, and bearing against a fixed stop or stops, the mandrel is caused to rock geometrically in relation to its revolution, so that a fixed tool will copy the serrated or wavy edge of the cam, and thus produce roses or petalled figures to the cross section of the work. At the same time such lathes are fitted with traversing mandrels, which, acting with rose cams cut on the side of the edge instead of the front (or periphery), will admit of producing a geometrical figure on the face of the work.

Most of these old lathes were of French manufacture, and there is one instance at South Kensington which is of German origin.

Medallion lathes, or as the French designate them "Tours à Portrait," or portrait lathes, in a complete state are very rare. In the sliding mandrel type these lathes have a spring controlled sliding, or traversing, mandrel, upon the tail end of which an intaglio of the medallion is mounted, facing outward. At the head end of mandrel the ivory, or other material, from which the medallion is to be cut is chuck mounted. Cross slides facing both ends, carry, in the case of the intaglio end a tracer, and the medallion end a cutting tool. As the lathe revolves slowly, the tracer and tool are fed from the centre across, and by the spring action the mandrel traverses backward and forward according to the varying indents in the intaglio acting against the fixed end of the tracer. Both the tool and tracer being fixed endways the tool reproduces the figure of the intaglio in relief upon the ivory. Intaglios may be cast in metal or wax from existing medallions, and the scale of reproduction may be varied.

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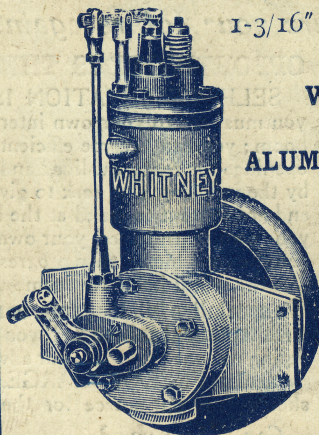
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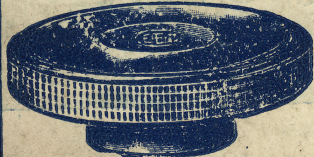
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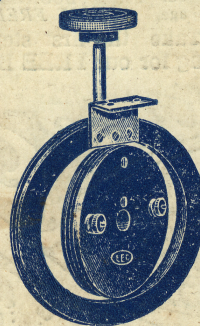
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