

The Astronomical Regulator Clock



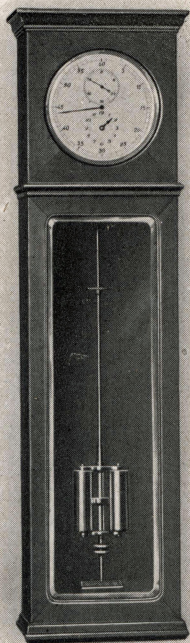
STRASSER & ROHDE

MANUFACTURERS OF ASTRONOMICAL
REGULATOR CLOCKS

GLASHÜTTE ON SAXONY



CODE USED A. B. C. 5th ED.



OUR ASTRONOMICAL REGULATOR CLOCK

Ever since the foundation of our firm in 1875, the manufacture of regulator-clocks with seconds, and of the very best quality, has been a speciality of ours, to which we have devoted the most careful study and the greatest attention. A long experience based on a perfect knowledge of theory, minute and repeated testing, as well as continuous improvements, have enabled us to rank among the very first, as regards chronometrical precision.

Complying with the strict exigencies of precision, our regulator-clock is typical of the most artistic workmanship, as well as of the most carefully executed working parts. The wheels are properly gilt, and cut so as to insure theoretically perfect gearing. Throughout from the pinions and spindles, in tempered steel and black polished, from the pivots and jewel holes to the smallest screw, the workmanship is beautifully carried out.

We have aimed at the
greatest simplicity in design and
construction.

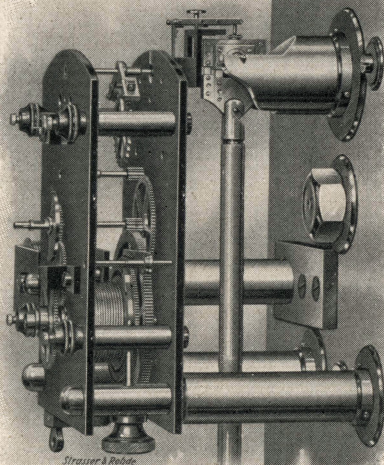
We manufacture two types of movements, viz: A
and B types which differ in the escapement only.

A T Y P E

A high-grade movement, working under free escapement and constant impulse being the original execution of the model designed by our late partner, professor *L. Strasser*, formerly Director of the clock and watchmaking school of Glashütte in Saxony.

This escapement provides for perfectly free oscillations of the balance, which receives the impulse smoothly, independently of the motion, by means of a balance-spring, divided into four parts. The balance is suspended to the two middle springs, which are strongly fixed to the cock. The impulse is given through the two external springs, which can move freely, vertically, by means of a ring, and the lower ends whereof are firmly connected to the inner balance-spring. The anchor has been con-

structed in such a manner that the escapement-wheel remains at a stand-still during the time required for one complete oscillation of the pendulum. The tooth of the escapement-wheel commences its motion just before the back stroke



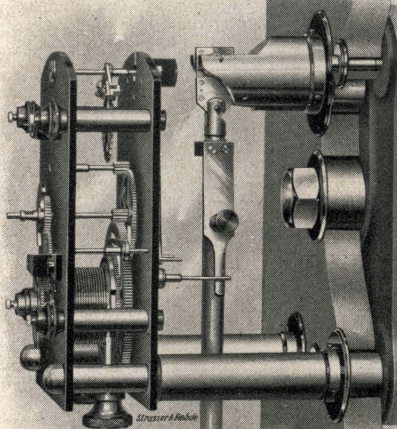
A TYPE

of the pendulum in each oscillation; it immediately falls into position, tends both springs of the movable ring by a bridge fixed to the anchor thereby securing impulse for the next oscillation. The impulse-springs being always tended within the limits of a steady angle, the force of impulse transmitted to the pendulum is always the same, as it is independent of the driving train.

B T Y P E

A first-class movement, executed in the same manner as A type but with a 'Graham' escapement. This escapement is the type mostly used. In our regulator-clocks, it has been built in such a manner that the result proves almost as satisfactory as in the A type. The force of impulse is transmitted to the balance through a lever adjusted to the spindle of the anchor and the lower portion whereof is fitted with a polished steel pin. This pin freely and slightly presses on to the pendulum-guide fixed on the side of the latter. The pendulum guide is fitted with a screw used for regulating the fall of the

escapement wheel. This device prevents any jamming, as well as all superfluous falls, and secures almost perfectly free oscillation of the pendulum.



BI TYPE

Both types are provided with weights so calculated as to keep the movement running for 8 days. On special request, the weight may be disposed on the left side of the frame, so as to leave the pendulum entirely visible.

The composition of the

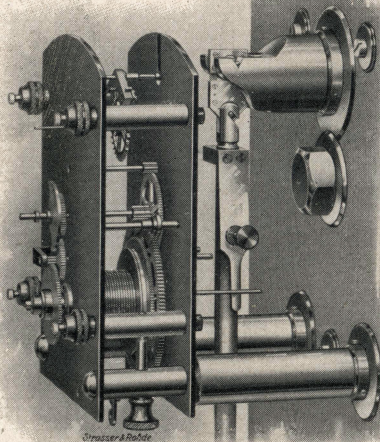
D I A L

is similar to that usually adopted for astronomical regulator-clocks viz:, with eccentric hours and seconds, and concentric minutes. The Arabic figures are modern style. The dial is silver-plated and satin finished. We are in a position to satisfy all special requirements concerning the execution of dials.

In addition to that first quality movement, we manufacture a second type of movement „B II“ of similar construction but simpler in design.

The holes are not jewelled, all spindles revolving in coldhammered brass holes. The lever pallets only are made of fine stone. The different parts are not so beautifully finished as those of the first quality movements. On the other hand, all main parts having a special influence on the

working of the movement, are designed and executed in the same way as those of the B I type.



B II TYPE

This movement will prove quite satisfactory for usual requirements, the average daily variation hardly exceeding $\frac{1}{10}$ of a second.

THE PENDULUM

Our pendulum is made of an alloy of steel and nickel. Its coefficient of expansion is 0,000.0004 per centigrade degree. Such a small expansion hardly testable, would cause a variation of $\frac{1}{5}$ of a second. This error is made up for by means of a compensating device of the length required.

The body of the pendulum is made of two steel-nickel-cylinders, connected together by a transversal brass bar. The body of the pendulum rests on its central portion on the compensating tube and the latter, in its turn rests on the lower portion thereof, on the adjusting-nut. The screw thread of this nut allows of 1 mm winding upwards. One turn of the timing-nut alters the working of the movement by 40 seconds daily. Approximately in the middle of the balance-staff, is fitted a timing-cup, in which may be pla-



Pendulum

ced the small metal blades, delivered with each regulator-clock, and used to correct very small variations.

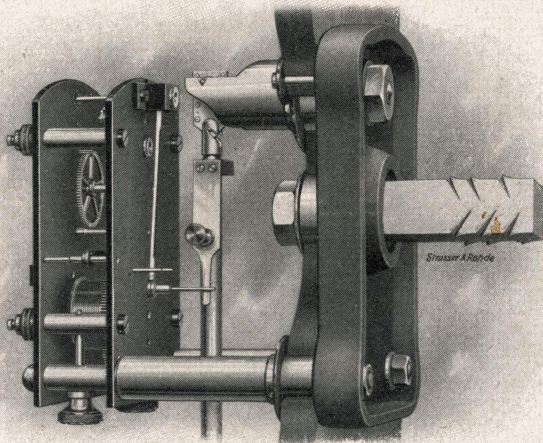
The length of the pendulum depends on the latitude, as well as on the mean barometric pressure of the place of destination. On special request, we time the clock as accurately as possible, taking into account the place where the clock is to be used, provided we are given the necessary indications.

Our three kinds of movements, and our pendulum, are secured by steady rests to a cast iron plate to be strongly embedded in the wall with cemented bolts. Consequently the frame cannot influence in the least the running of the movement.

HIGH GRADE REGULATING

Regulating our timing is carried out as follows: Checking is to be done, first, by means of the balance nut, one revolution whereof corrects a daily variation of about 40 seconds. The lower nut must always be screwed tight. When this

is being done, the pendulum should be firmly held, in order to prevent the spring from warping. After the pendulum has been regulated to the



extent of a loss of one second, per day, minor checking is to be done with the small metal blades above mentioned. Adding blades acce-

lerates the motion; withdrawing blades causes the oscillations to slacken in 24 hours, according to the values represented by tenths of a second, as inscribe on the blades.

The blades are also used to correct small variations without stopping the pendulum. Timing with the blades should be done with the utmost care, so as to prevent any disturbance in the working of the balance, otherwise the pendulum will take hours, and even days, to resume its normal arc of oscillation. It is of the utmost importance too that the frame should be opened and closed very slowly, otherwise the sudden displacement of air would influence the stability of the pendulum.



WE ARE
CONSTANTLY
DEVOTING OUR GREATEST
ATTENTION TO SECURE THE
MOST ARTISTIC FINISH
THROUGHOUT AND TO SUPP-
LY ALWAYS A TRADITIONAL
AND UNIFORM
QUALITY

On special request we send our
great catalogue

