

IV.

NOTES ON A BRASS TABLE CLOCK BEQUEATHED TO THE SOCIETY OF ANTIQUARIES OF SCOTLAND BY THE LATE HUGH J. ROLLO, W.S., AND A SILVER-CASED TABLE CLOCK BEQUEATHED TO THE SOCIETY BY THE LATE LADY JANE DUNDAS. BY ALEXANDER J. S. BROOK, F.S.A. Scot.

The Society of Antiquaries of Scotland received last year, by a bequest of the late Hugh J. Rollo, W.S., a large gilt brass clock ; and also, in April 1898, by a bequest of the late Lady Jane Dundas, a silver alarum repeating clock-watch.

There is neither an authentic history nor even a traditional story attached to these, and the subject is perhaps more suitable for a horological society ; but as the clocks in themselves are exceedingly interesting, and are exhibited in our Museum, they have been thought worthy of being described.

The first of them is in the shape of a large watch, and measures $5\frac{1}{2}$ inches in diameter, $3\frac{1}{2}$ inches thick, and weighs about 7 lbs. avoirdupois (fig. 1). It has a gilt brass case, elaborately pierced and engraved all over, the primary purpose of the pierced work at the back and rim being to emit the sound freely.

Both the back and front are domed, the front cover where the glass of a watch is usually fixed being very open and pierced by a series of eccentric circles. On the back (fig. 2) is a circular shield decorated with a battle- or siege-scene in cast relief work, surrounded by a border of pierced ornament of a slightly Gothic character. There is attached to the rim a loop and ring for suspending the clock.

The dial is gilt brass, elaborately chased and engraved. Outside the hour chapters is a large circle divided into four, with little brass knobs at each quarter, and these quarters are again divided into fifteen subdivisions to represent the minutes. The hour chapters are in ordinary Roman figures inside the quarter circle, and they also have little brass

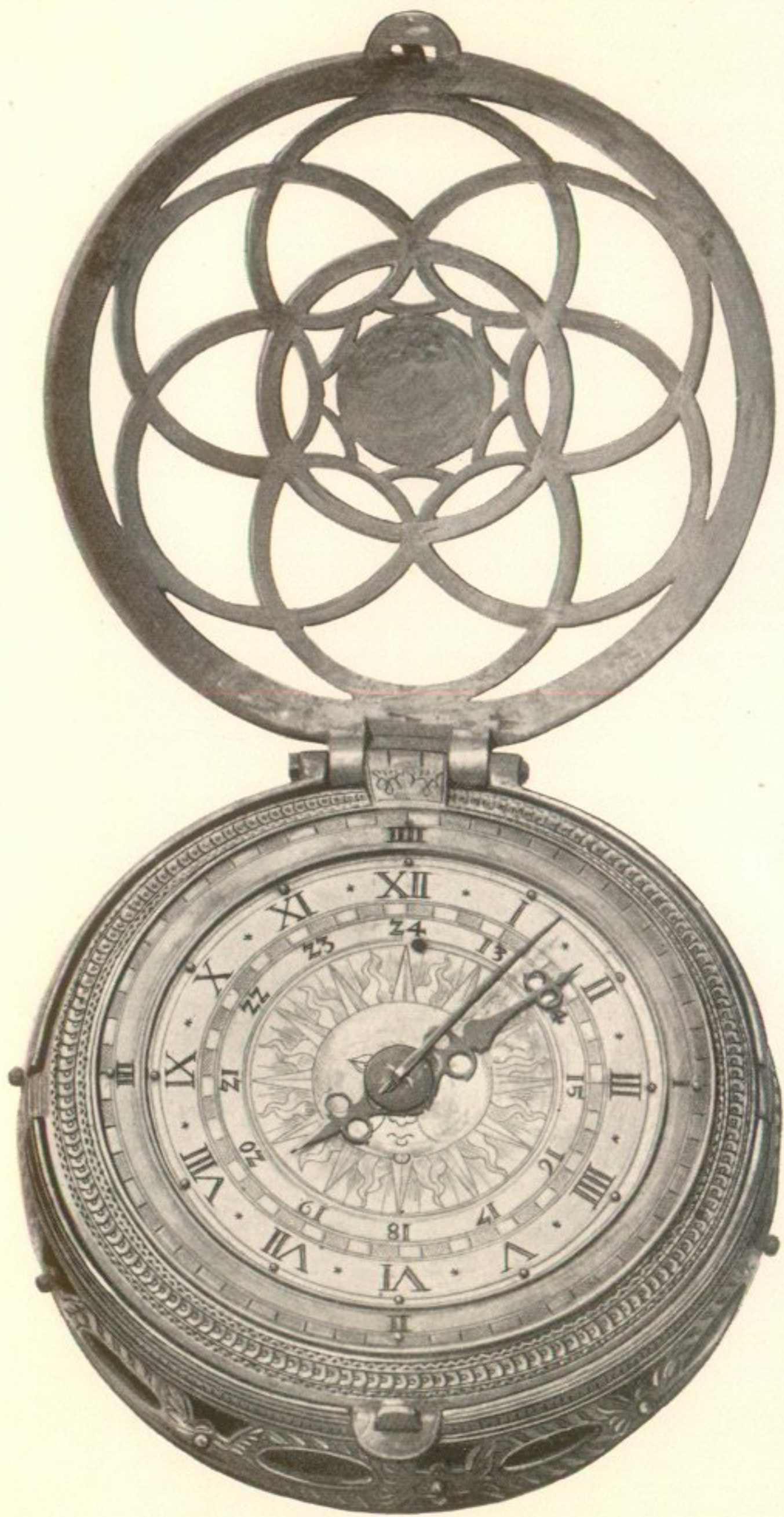


Fig. 1. Brass Table Clock of Sixteenth Century, bequeathed to the Museum by the late Hugh J. Rollo, W.S.



Fig. 2. Back of Brass Table Clock of Sixteenth Century, bequeathed by the late Hugh J. Rollo, W.S.

knobs immediately above them. This would enable a person in the dark to tell the hour by feeling the hands and comparing them with the knobs, and it would also be suitable for use by a blind person. Inside the outer circle of Roman numerals is a circle of Arabic figures beginning with 13 under one o'clock and running up to 24. The inner part of the circle is ornamented with a sun in splendour. Both hour- and minute-hands are made of steel.

The movement is a complicated one, striking the hours and quarters on two bells. The larger of these bells, which lies neatly inside the case, is struck by the hour hammer, and the smaller or quarter bell lies in the inside bottom of the larger one. This last is in the shape of a shallow saucer, as it must of necessity occupy little space. The larger bell is also pierced for the emission of the sound of the smaller one which lies inside it. The movement, which is jointed to the case, when shut down occupies the space inside the larger bell.

From this brief description an idea may be formed of the arrangement of the movement, and bells inside the case, where the space is economically utilised. The plates of the movement are of gilt brass, and the wheels of the quarter and striking train of steel. It is evident that at one time one of the wheels in the quarter train has been injured and has been replaced by a brass one. The wheels of the going train are all brass. The escapement is that known as the verge, which, although varying in detail, is the earliest form of escapement with which we are acquainted. It is also fitted with a brass balance and an ordinary steel balance spring.

In this clock there is no fusee to control the force of the spring, although this was invented as early as 1525, but in its place there is applied to the going train an earlier contrivance known as the stack-freed (fig. 3). This was meant to regulate and equalise the motive force, as a spring fully wound up is very much stronger than when nearly run down. It is not of the usual shape met with, and may be regarded as an improved form. It consists of a strong curved spring, with a roller at its extreme end, resting on a snail which revolves as the

piece runs down. When the clock is run down, the roller rests lightly on the smallest diameter of the snail, and does not retard the pull of the mainspring; but when the spring is being wound up, the snail also turns in the winding. It thus presents a larger diameter to the roller of the stackfreed, which presses harder on the increasing diameter, and when fully wound it rests on the full diameter of the snail with the greatest pressure, so that its pressure and retarding influence are in proportion to the pull of the mainspring. This piece of mechanism was only applied

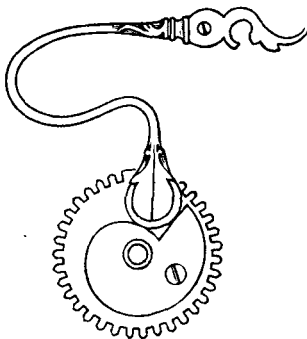


Fig. 3. The Stackfreed.

to very early timekeepers, and as it did not solve the problem of irregular time-keeping, it was quickly discarded.

There were rarely any winding holes in the cases of sixteenth-century clocks, and there are none in this one. To attach the key to the winding squares the case has to be opened and the movement turned out. There is attached to the clock by a ribbon a key, which, although undoubtedly antique, does not appear to be the original one.

There is happily no doubt as to where, nor by whom, and approximately when this interesting old timekeeper was made. On early clocks and watches the maker's name is rarely found; but occasionally the town mark or the workman's mark is stamped on one of the plates, and

on this clock there is found, struck on the upper plate of the movement, the device of a crossed shovel and spade between the initials "H. G." (fig. 4). Through an inquiry in the *Horological Journal* it has been ascertained that this mark was used by the old Nuremberg watchmaker Hans Gruber, who became a master of the Locksmiths' Guild in 1552, and, as is recorded in an old obituary book of the royal district archives of Nuremberg, died in January 1597, so that between these two years this clock was made. The device is interesting, as it is a play on the name of the maker. A "grüber" is a digger, so the spade and shovel are peculiarly appropriate. In the Germanische National Museum at Nuremberg there is a saddle watch with the same mark.



Fig. 4.
Maker's Mark.

The fixing of the date and the present condition of the clock raise many interesting points as to the amount of alteration and renovation the movement has undergone when later improvements and discoveries in the mechanism of clocks were made. At the period of its manufacture screws were just coming into use, Germany being the country of their origin, and most of the screws in this timekeeper show themselves to be hand-made, although one or two have been replaced by more modern ones. It is also evident that the escapement is not the original one, as the balance spring was not invented till 1658, and it is most likely that, with the exception of the main wheel, a new going train of brass wheels with a balance and balance spring were supplied at a much later date. This is evident from an examination of the wheels. The new ones are clearly machine-cut and well finished, and were likely supplied subsequently to 1660, while the older steel wheels are as clearly cut by hand with a file. A regulator, consisting of a pinion and segment of a circle carrying the regulating pins, has also been supplied. The addition of a minute-hand to clocks is first recorded as having taken place in 1665, and in this instance the alteration has been so carefully done as not to leave any trace.

The pierced metal dome in place of a glass is also noteworthy, and

corroborates the date ascribed to the clock, for glasses were not used for table clocks until a later period.

It may not be amiss to note how closely this clock is linked to the original of this class of timekeeper. It was not, of course, until the mainspring was introduced as the motive power instead of weights that it became possible to have a portable timepiece, and it is generally conceded that the manufacture of this was first accomplished by Peter Henlein, a clockmaker of Nuremberg, who died in 1542. The earliest date to which this clock can be ascribed is 1552, so that it appears that Henlein and Gruber were almost contemporary.

Table clocks or watches of the sixteenth century are exceedingly rare, and, outside of museums and collections, there are almost no specimens to be met with, so that the bequest of Mr Hugh J. Rollo of this clock to the Museum is of great value.

SILVER TABLE CLOCK OR CLOCK-WATCH.

The smaller table clock might be more correctly styled an alarum repeating clock-watch. It measures $3\frac{3}{4}$ inches in diameter, 2 inches in thickness, and weighs 1 lb. 12 ozs. avoirdupois. Its maker was Nicholas Bernard, who worked in Paris about 1700. A watch made by him is exhibited in the South Kensington Museum.

The case of this watch is of silver, elaborately pierced and engraved with French decoration of the period (fig. 5). The centre of the back is filled with scrolls of floral ornament with cupids introduced. In the rim, which is treated in similar style, are introduced two curious tilting scenes. In one two winged knights, mounted respectively on a goat and a dog, are tilting with sharpened lances; and in the other, two winged cupids, mounted on hobby-horses formed of poles with the heads respectively of a horse and a cow, are tilting with lances with windmill-shaped terminations at the points.

The watch has an enamelled dial with Roman chapters, the minutes being numbered on the top of the chapters from 5 to 60 in Arabic figures. In the centre of the dial is a movable circle also enamelled



Figs. 5 and 6. Alarm Repeating Watch bequeathed by the late Lady Jane Dundas.

with Arabic figures 1 to 12 for the alarum (fig. 6). Enamelled dials were not introduced till the middle of the seventeenth century, so that this may be regarded as a fairly early specimen. It has ornamental brass hands, decidedly French in pattern. The plates of the movement are gilt brass with ornamental pillars. It has the verge escapement with an ordinary steel balance and balance spring. The going train is fitted with a fusee. It has also the more modern steel winding chain to connect the fusee with the mainspring barrel instead of gut, which was used in older table clocks.

It strikes the hours on a large bell which lies like a lining inside the case. This method was adopted in order to get the largest size of bell possible into the least space. It has also an alarum which rings on the same bell.

In the back of the case there are pierced three holes which also go through the bell lying behind it to give access to the winding squares. In many clocks such as this, where no provision was made for excluding the dust entering through these holes, an outer case, frequently of silver and shagreen or tortoise-shell, was provided. But there does not seem ever to have been such a case for this clock. The length of the pendant and the height of the raised joint of the front bezil exclude the probability of this.

This watch in one respect is quite a contrast to that first described, as its movement does not seem to have been renovated or improved, but presents now the identical appearance it must have had originally.

It is in such good condition and preservation that, if it had a few slight repairs, it could again resume its old duty of measuring the flight of time.

There are attached by a ribbon to the bow of the watch a silver winding key and two silver seals. The key, which in winding or setting the hands is used as a crank (fig. 7), is an extremely fine specimen. It belongs to the same period as the watch.

On one seal is engraved "G. S.," reversed cypher surmounted by a

foreign ducal coronet (fig. 8), and on the other a coat of arms consisting of shield, helmet, mantling, and crest (fig. 9).

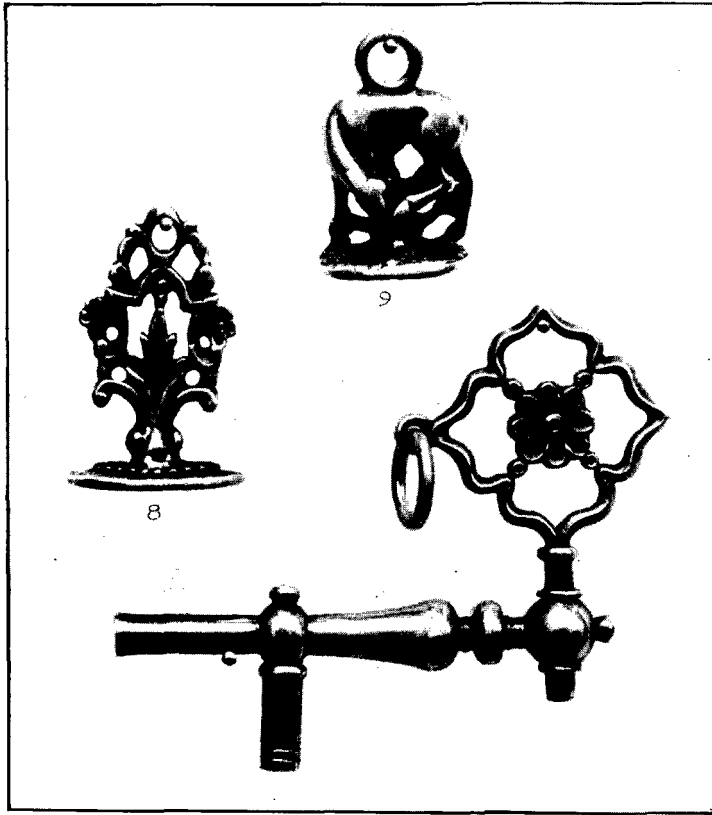


Fig. 7. Winding Key and Two Seals.

On the shield is engraved two lions passant, one above the other, a star of five points in the dexter chief; crest, a horse passant. The arms have not been identified.

There have been many speculations as to how these clocks were used. In the bequest the first was called a camp clock.

They are most frequently called table clocks, but there is not the least doubt that they were also used in much the same way as modern carriage clocks.

The provision of the bow points to their being intended to be hung



Fig. 8. Cypher on Seal.



Fig. 9. Coat of Arms on Seal.

upon a nail or attached to a strap, but the bows of neither of these show signs of their having been much used for this purpose; on the contrary, the back dome of the brass clock is very much worn, clearly indicating that it has usually been placed on its back.

That they were frequently carried about in coaches when travelling appears clearly from advertisements notifying their loss which may be seen in early London newspapers.