



ROBERT BRAY

SINCLAIR HARDING

MAKERS OF FINE CLOCKS

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...where the time honoured skills of traditional English clockmaking meet modern technology to create some of the world's finest clocks.



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Established in 1967, Sinclair Harding honours the historical tradition of fine English clockmaking. With its range of beautiful hand crafted clocks, this unique company embraces the horological industry's ideals for precision, quality and perfection.

Sinclair Harding's craftsmen work hard to study and preserve original production techniques. The exquisite detail of each clock is testament to this skill and dedication, with every delicate stage of production carried out in the Yorkshire based workshop.

Sinclair Harding's valued clients range from private collectors to high class jewellers, and include prestigious, bespoke commissions such as the design and manufacture of a 3 train chiming movement with a solid silver engraved dial for David Linley and Company's magnificent Blenheim Bureau.

Every clock Sinclair Harding makes is lovingly crafted to suit your individual requirements and your involvement is encouraged at all stages during production of what will become a treasured heirloom. Clients are welcome to visit the workshop to appreciate first hand the trademark skill and dedication of Robert Bray FBHI and his fellow craftsmen.

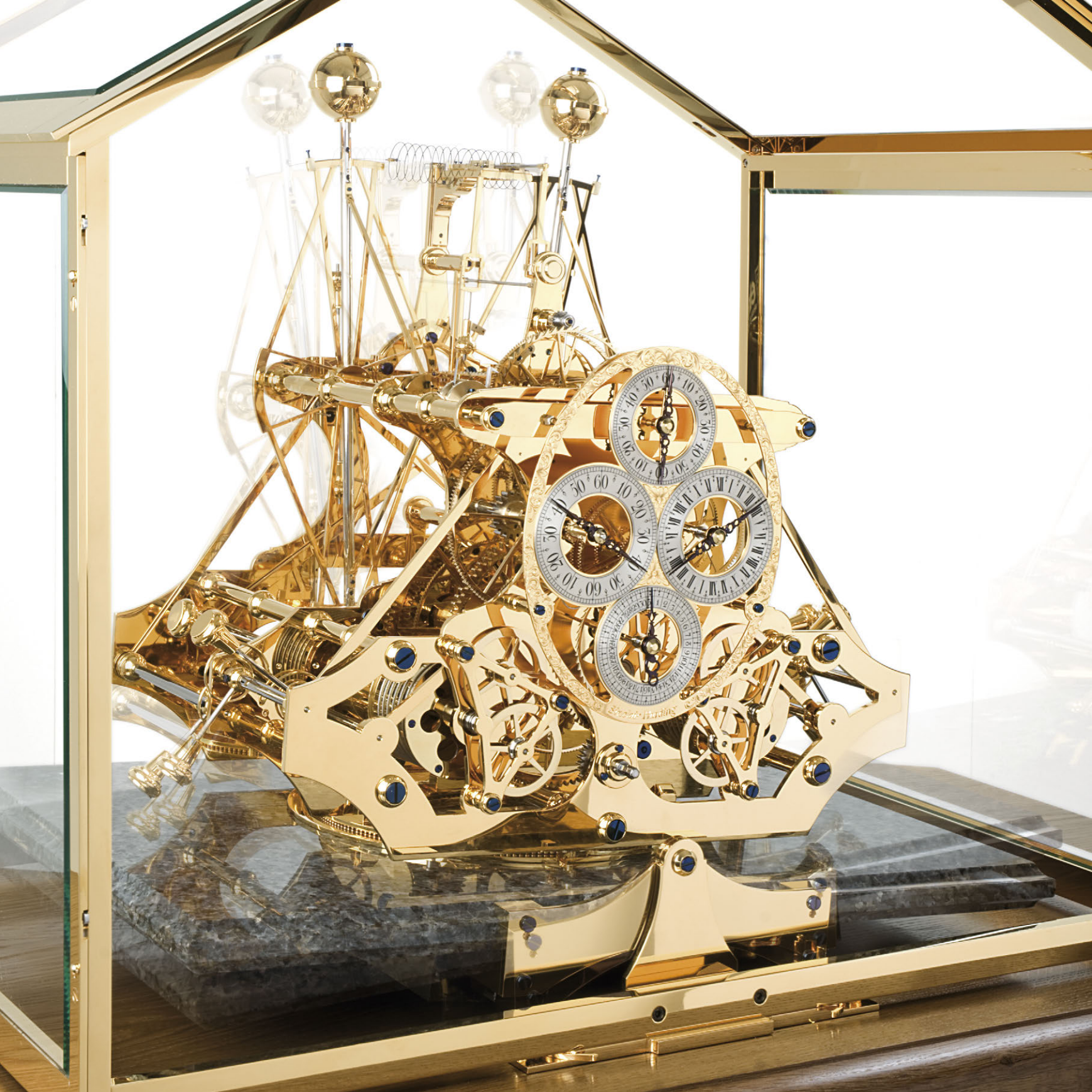
'I am delighted to be able to say that Robert Bray's craftsmanship is beyond compare, and I had the great privilege of working on a millennium cabinet which incorporated one of his highly complicated movements.'

Viscount Linley



Robert Bray is a Fellow of the British Horological society and a member of the internationally known A.H.C.I, Horological Academy of Independent Creators.





## SINCLAIR HARDING H1

In May of 1714 representations from Her Majesty's Fleet, Merchants and Merchant-Men demanded the Government encourage the solution of the Longitude problem and in July of that year the Longitude Act was passed offering up to £20,000 for a method of determining Longitude at Sea.



In the mid 1720's Yorkshire born John Harrison started work on what would be the first of his clocks, the H1, that would work on board ships and so solve the Longitude problem. In 1772 after a lifetime's work, culminating in the watch H4, John Harrison was paid the final balance of the £20,000 reward.

In 1999 Sinclair Harding started work on a clock in homage to John Harrison. Nearly 5 years in development, the Sinclair Harding H1 is a wonderful combination of art and fascinating mechanics, all finished to an exquisite standard.

**The movement is approximately 3/4 of the original size, yet this still impressive piece puts on show Harrison's inventions, from the simple yet significant roller mounting of the Spring barrel arbor through the elegance of the Grasshopper escapement to the mindboggling complexity of the Grid Iron compensation mechanism.**

To demonstrate the H1's capability to work at sea the movement is mounted on a granite base, which in turn is suspended on pivots. The whole piece sits on a table designed to the customer's specification and is counter balanced by a massive weight. A tiny hidden DC motor rotates a small weight which puts the whole assembly out of balance, and a gentle rocking motion ensues, creating a fascinating spectacle inside the elegantly engineered glass case.

## JOHN HARRISON SEA CLOCKS

Our range of Sea Clocks are inspired by the great John Harrison. In each clock we have embodied at least three of the basic principles from Harrison's first Sea Clocks.

Perhaps his most well known invention is the unique escapement, which gives the clock its popular name, 'The Grasshopper'.

The subtle and almost silent 'lock and release' action of the pallets permits them to work without oil (and consequently be free of the effects of changes in viscosity) and at the same time make it so enduringly fascinating to watch.

The Invar pendulums are linked at the back, which allow the clock to function 'out of level'. Their gentle action gives each clock that restful quality which is so typical of an earlier more tranquil age.

The Astronomer Royal, Edmund Halley (c.1656-1742), was a proponent of the Lunar distance method for determining longitude. The observations and calculations required for this method took many hours and were prone to error. The hand painted Moonphase dial (each signed and numbered by the artist) on the Moonphase model symbolises this alternative method.



The Fusee chain is hand made and 60 inches long. The curved click spring is hammered out of a length of solid Brass. The beating produces the shape and gives the material its spring characteristics.



HEIGHT 45CM | WIDTH 32CM | DEPTH 21CM



## JOHN HARRISON SEA CLOCKS

The clocks are normally mounted on a base of selected figured mahogany or walnut, inlaid with Brass on to which the winding key and hand-setter are attached. The base is French polished which is generally recognised as the finest finish that can be applied to wood.

The engraved dials are hand silvered as they were in Harrison's day. The unusual seconds hand deserves special study. It sweeps through 240 degrees going from 0-60 seconds before vanishing, only to reappear instantly at zero again.

All the parts on each clock are hand finished (even the ones you cannot see!) and all the solid Brass parts are protected with a thin layer of Gold or Rhodium.

The 8 day movement is protected by a framed glass shade, which incorporates a winding hole to avoid having to remove the glass each week, or a glass shade with an opening door can be provided if desired.

Each clock is individually serial numbered and so confident are we of our quality that each clock comes with a guarantee for the lifetime of the original owner.



## GREAT WHEEL SKELETON CLOCKS

The superb artistry which typifies the French Horologists of the late 18th Century seems to culminate in this beautiful clock. Deceptively simple, the restrained elegance serves to enhance the obvious craftsmanship inherent in such fine wheelwork with its delicate crossings and very high tooth counts.

The frames, pierced out of solid Brass, are gracefully faceted, polished and burnished to provide a gleaming support for the four-wheel train. The Great Wheel has 288 teeth and makes only one revolution daily. This drives the centre wheel with a diameter slightly larger than the bezel, thus, when viewed from the front, frames the enamel dial.

The escapement is a 'Graham Deadbeat' controlled by a 'silk' suspension pendulum and the whole requires winding once weekly. The movement is mounted on a slim, white marble or granite base to the customer's choice and is protected by a framed glass shade.

Sinclair Harding offers two designs, a variation of the classic 'Y' frame French Skeleton Clock and the 'Arch' frame where the graceful curves of the frame legs are engraved with a simple yet elegant pattern.



Finely pierced wheels can be found in all of Sinclair Harding's clocks. This style of wheel has been traditionally used on the finest clocks throughout history.



HEIGHT 37CM | WIDTH 27CM | DEPTH 15CM



**The Brighton Pavilion Clock, pictured opposite, is entirely based on the Rosemary design. With exactly the same movement and case, only the plates are different.**

## ROSEMARY

The Rosemary, which first came into being in 2009, is a miniaturised version of the Great Wheel Skeleton Clock and was designed to include an integral bevelled glass case and base.

The pendulum is hung from a silk type suspension, which can be lowered and temporarily secured, making it ideal for presentation ceremonies. A presentation case is also available. The plates can be made any shape within the confines of the wheel train and personal engraving can be added to the plinth. Every part, with the exception of the pallet, is made from either Gold plated Brass or Stainless Steel, which will eliminate any tarnishing problems caused by high humidity. The Rosemary is also available in a Rhodium finish.

Just like the Great Wheel Skeleton Clock, the Main Wheel has 288 teeth, which are cycloidal tooth form, and makes just one revolution daily. The escapement is a 'Graham Deadbeat' controlled by a 'silk' suspension and Invar pendulum. The movement is fitted with Maltese Cross stop work to achieve the most accurate timekeeping and the clock will run for a full 8 days.

The Brighton Pavilion Clock demonstrates perfectly Sinclair Harding's unique skill in being able to tailor this design to the requirements of each individual customer. Smaller and more portable than many others in the Sinclair Harding range, the Rosemary or Brighton Pavilion style of clock is perfectly suited for sale in jewellery stores and we would be delighted to develop a range of clocks exclusive to each individual retailer.



## CONGREVE CLOCKS

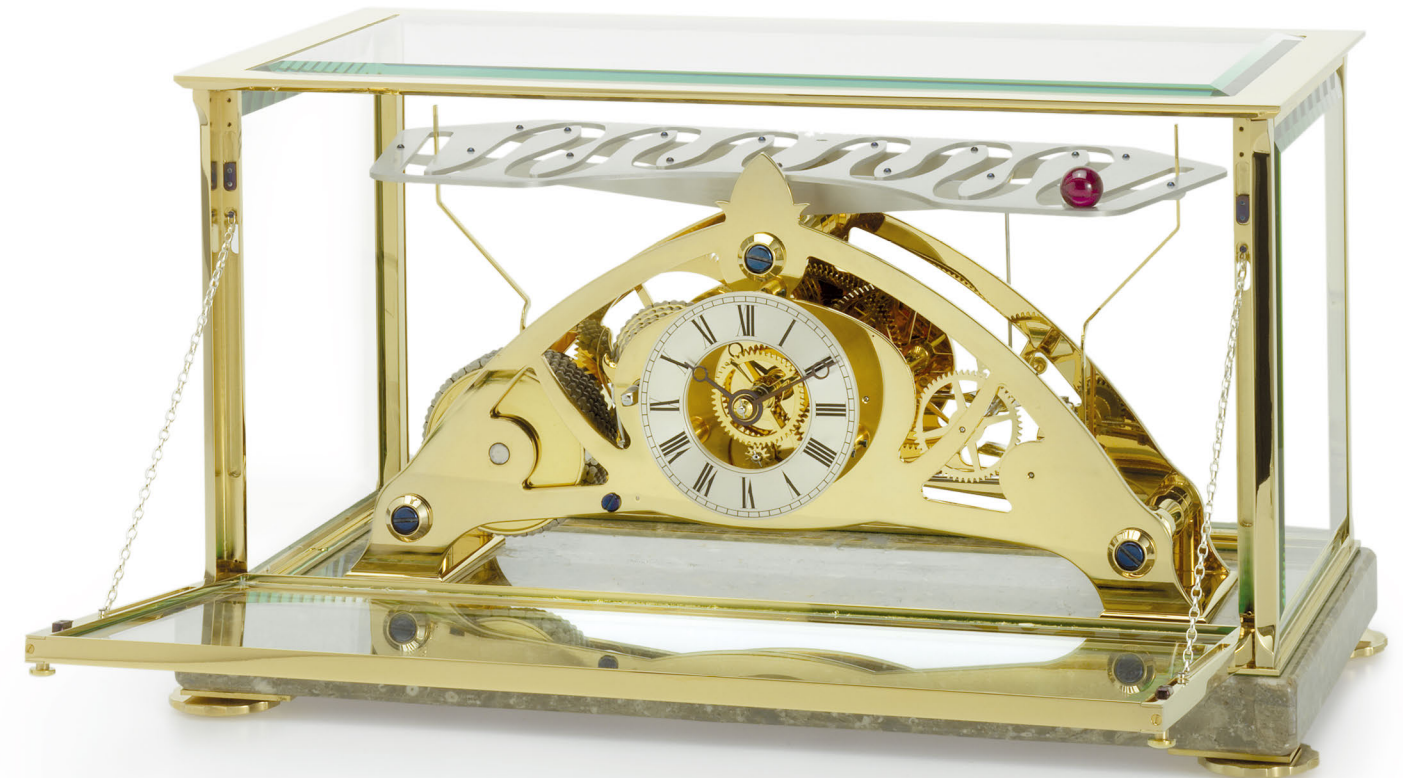
William Congreve, the son of a British General and more famous for his invention of the first Rocket in 1795, patented in 1808 a new Principle for the Measurement of Time using a rolling ball escapement. His original piece was powered by a Cannon ball although later models were driven by springs.



The whole clock is mounted on a piece of Derbyshire fossil, found only in the 'once a week' quarry on the Duke of Devonshire's Chatsworth estate. As the name suggests, fossils are clearly visible in the stone.

His resulting clock was far from accurate, however the mechanism provides a fascinating and hypnotic spectacle for the viewer. The Sinclair Harding Congreve uniquely has the track mounted on top of the clock. The track is made from aluminium and anodised in almost any colour to provide a light yet durable surface for the ruby ball. The ball meanders along the track triggering the mechanism every 15 seconds to gently reverse the ball. The skeletonised track also makes it easy to clean and provides a reasonable degree of timekeeping.

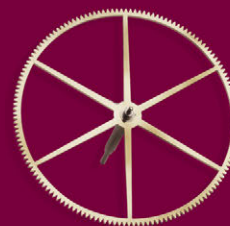
The clock is powered by a spring through a hand made chain, which drives the movement through a Fusee to ensure the clock mechanism sees a constant torque. The movement is 8 days and is wound from the front. At the other end of the train a fly absorbs any shock loads at each index and prevents the tray indexing mechanism vibrating.



HEIGHT 20CM | WIDTH 37CM | DEPTH 20CM



## SUN AND MOON CLOCK



The exceptionally thick plates are polished and gilded and contain the high count, fine wheel work which has variously 5, 6, and 8 crossings all of them hand burnished and visually light and airy.

The movement is visually light and graceful with a novel arrangement for the pendulum, which hangs in front of the movement instead of the more usual position at the back. The pendulum is positioned just behind the dial which gives added life to the clock. The pendulum bob, shaped like the rising sun, reflects light off its many facets in motion.

The hand painted moonphase dial is unique. Most such dials take twenty-nine and a half days to complete a cycle. On this clock the panorama of the sky changes daily as in real life; sunshine and clouds during daylight hours and the moon rising and setting every night. The unique feature being that over twenty nine and a half days the moon goes through its phases, waxing and waning, in the most realistic manner.

The whole clock sits on a base of highly figured Walnut, Mahogany or Rosewood (shown opposite) and can be finished in Rhodium or Gold. The movement is protected by a framed glass shade which does not need to be removed for winding.

## SINGLE TRAIN CONDLIFFE CLOCK

### WITH PASSING STRIKE

In homage to James Condliffe of Liverpool, circa 1860, this Single Train Skeleton Clock features exquisite crossings of the wheelwork and plates which highlight Sinclair Harding's attention to detail and finishing at its very best.

The frames, pierced out of solid Brass, are gracefully faceted, polished and burnished to provide a gleaming support for the four wheel train. The Great Wheel has 288 teeth and makes one revolution daily. This drives the centre wheel, which is framed by the chapter ring and bezel.

The escapement is a 'Graham Deadbeat' controlled by a 'silk' suspension and Invar pendulum. The movement is fitted with Maltese Cross stop work to achieve the best timekeeping and the clock runs for a full 8 days.

A Passing Strike produces a single clear strike every hour on a cast and hand tuned bell. The mechanism is unique to Sinclair Harding and has been created to maintain the symmetry of the design. Two hammers act on one bell and strike the alternate hours. A simple lever hidden under the base can be used to silence the strike at night.

The movement is mounted on two ornate pillars and gives the impression that it is floating over the base, which is made from a combination of decorative Brass plates and a choice of a selected wood or marble.

The clock is protected by a framed glass shade, which does not need removing to wind. The Condliffe Clock can be finished either in Gold or a combination of Gold and Rhodium.



The hands of the Condliffe are extremely delicate and can be made in Gold plated Brass or highly polished and blued Steel to provide a greater contrast with the engraved and hand silvered dial.

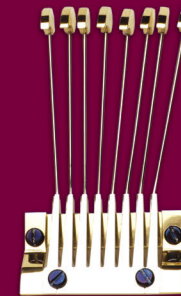


HEIGHT 48CM | WIDTH 33CM | DEPTH 18CM



## THREE TRAIN SKELETON CLOCK

This magnificent chiming Skeleton Clock is the result of months of painstaking hand work. Each plate is individually cut out of solid brass, edge filed, papered smooth, burnished and gilded before finally being built into a finished clock. Every wheel and arbor, detent and lever has been finished by hand to give the whole mechanism the glittering aspect of a true work of art.



**Chiming every quarter the gentle movements of the mechanism locking and unlocking are fascinating to watch. The spectacle builds, and every hour gives a performance which demands careful study.**

The motive power for the 8 day movement is provided by three mainsprings each operating through its respective fusee and chain to give virtually constant torque to the train of wheels. The going train is controlled by a ½ second deadbeat escapement and an Invar pendulum rod assembly, the bob of which is visible beneath the plates. This gives the piece a high standard of timekeeping, which with the seconds dial produces additional movement to add to the already fascinating spectacle.

The escape pallet is made from high carbon steel, with through hardened faces diamond polished to a mirror finish assuring a long life. The chime train operates a pinned drum and hammer assembly which can be set to play Westminster or a choice of Whittington and St Michael chimes on an octave of hand tuned bells, whilst the striking train sounds the hours on a ninth tenor bell. The levers and racks controlling this activity are finished to the same meticulous standard.

The movement is mounted on a base of decorative Brass plates with a choice of wood in between. The bevelled glass shade with opening door, new for 2012, protects the whole clock from dust, while at the same time allows perfect visibility.

## TABLE REGULATOR



The escapement is a Sinclair Harding modification of the fascinating double three-legged gravity escapement - the original design by Lord Grimethorpe controls the great Westminster Clock in London, more commonly known as Big Ben.

Probably the most classic of all the clocks made by Sinclair Harding is the Table Regulator. The case is made from solid Brass polished, bronzed and finally finished with beeswax. It is embellished with heavily gilded furniture such as the classical urn finial on the top, or four palmettos, which break the severe line of the base, mounted on adjustable feet. The front and back opening glass doors are 6mm thick. Similarly finished are the side panels, which give an interesting view of the movement.

The dial is pure 'Breguet' with its large diameter seconds and slim chapter ring. Engraved and silvered by hand it represents the high point of elegant simplicity in dial design. The clock has a very substantial 8 day movement controlled by an unusual 'high Q' spherical pendulum beating half seconds.

Almost every component for the Table Regulator is individually made in Sinclair Harding's own workshop. The case itself is made from nearly 60 parts, machined from solid Brass. The attention to detail is reflected in the hinge and catches arrangement of the front and back opening doors. This is a rare example of an entirely hand made traditional British clock.

At Sinclair Harding we like to use different combinations of finish and materials to make each clock unique. The example opposite shows a blue case with Rhodium movement.



HEIGHT 58CM | WIDTH 25CM | DEPTH 22CM



FLAT TOP CASE | HEIGHT 43CM | WIDTH 30CM | DEPTH 22CM

## EIGHT BELL CHIMING BRACKET CLOCK

This superb English Chiming Bracket clock is hand made throughout. The beautiful and unique hand engraving of the back plate and dial is the most obvious visible sign of the very high quality of the entire movement and case.



The movement has triple fusees spring driven through hand made chains, each being 6 feet long. The movement is made with quarter chiming on 8, cast and hand tuned bells, whilst the hour is struck on a 9th and larger bell. The Chimes can be switched between Westminster and Whittington, or if you prefer, Westminster and St Michael.

The whole piece, being regulated by a recoil anchor escapement and Invar pendulum, is capable of very good time keeping.

The case is an elegant flat top style made from solid walnut and with movement complications comprising of a calendar, date indexing lever, mock pendulum and hour repeat button.

## LONGCASE CLOCKS



The heyday of the traditional London Longcase Clock was undoubtedly the mid 1700's when elegance and space were the hallmarks of an era which is still regarded as the highpoint of English design.

The cases are made from the finest selected timbers, usually English Walnut or Honduras Mahogany with curl or burr panels. The stringing line is inlaid Brass. As a variation, a bevelled glass door can be fitted to the trunk to show the descending weights and the gently swinging pendulum. As each of our clocks is hand crafted, customers may specify any suitable wood or case style. The opposite page shows a contemporary style case made in a combination of English and Brown Oak.

The movements are 8 day, key wound weight driven and can be hour striking or a similar but much more complex quarter chiming on eight bells (with a ninth and larger bell for the hour) playing Westminster or Whittington Chimes every 15 minutes.

We particularly recommend our Moonphase version with a handpainted dial depicting your own land and sea scene.

Our Longcase Clocks embody every feature of fine design which made London Clocks so famous.



6 FT HEIGHT 190CM | WIDTH 35CM | DEPTH 24CM  
7 FT HEIGHT 224CM | WIDTH 47CM | DEPTH 26CM





EMLEY, YORKSHIRE, ENGLAND



ROBERT BRAY

SINCLAIR HARDING

MAKERS OF FINE CLOCKS

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