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# Barratt Silver Medal Awarded to J. Malcolm Wild



Justin Koullapis FBHI

John Malcolm Wild FBHI has been awarded the BHI's Barrett Silver Medal. This rare honour is in recognition of his major contributions to the craft and practice of horology.

In 2019, Dr Timothy Treffry, Hon. FBHI, noted that Malcolm Wild had not been recognised by the Institute for his major contributions. He proposed the silver medal and was supported in his proposal by BHI Past Chairman Stella Haward, Silver Medallist Jim Arnfield, and *HJ* Technical Editor Justin Koullapis. The list of Barratt Silver Medallists includes Anthony Randall, David Penney, Stephen Forsey, Roger Smith and Jim Arnfield. Dr Treffry noted that Malcolm Wild is 'entirely worthy of a place among this esteemed group.'

The Board wholeheartedly agrees. Malcolm is known globally for an authoritative volume on wheel and pinion cutting, for his beautiful, creative and useful Sheffield-made horological tools, and the superb clocks that he has built and described in the *Horological Journal*. He is also an accomplished ornamental turner, and is an authority on the subject of horological tools.

Explaining his reasons for proposing the medal, Tim Treffry continues:

*'My case rests on Wild's two major contributions to the craft and practice of horology: his provision of workshop tools and his book, *Wheel and Pinion Cutting in Horology: a historical and practical guide*.*

*'A skilled tool maker by trade Wild set up in business as "J.M.W. (Clocks)" some forty years ago making a range of horological and workshop tools, all produced with the highest levels of skill and precision and presented securely boxed for lasting protection when not in use. Most notable among them are: his clock dephthing tool, his centring microscope and his milling attachment for the popular Myford lathe, which have all had world-wide popularity in both amateur and professional workshops.*

*'Wild has also been very supportive of horological education having donated a number of his products to the workshop at Upton Hall. He is also Honorary President of the Sheffield Branch of the BHI.'*

Unfortunately, the pandemic intervened before the medal could be presented to him. Awards of medals are normally made at the Institute's annual Awards Day in October, when students also receive their diplomas. Of course, it wasn't



possible to do this in 2020, and although the Distance Learning Course continued strongly during 2020 and 2021, it was unclear whether there would be an awards day this year either. Malcolm was notified of the award, and together with the Board it was decided to defer the presentation to a later date. It seemed a bit too unceremonious to put it in the post! When it was safe and lawful to do so, a small group including BHI Chairman Robert Loomes gathered in Sheffield on a beautiful day in late summer to

formally present him with his medal.

The Barratt Silver Medal is not awarded annually, although the BHI Board considers annually whether there are any suitable recipients.

On being awarded the medal, Malcolm writes:

*'I am very grateful to have been considered for the Silver Medal. I have spent the past forty years manufacturing tools to be sent all over the world to help clockmakers and watchmakers. Also, there is my book, which at some eight-thousand copies, has sold far better than I would ever have hoped.'*

The book was first published by Crowood Press in 2001, and is still in print. This follows the publication of a related booklet, *Clock Wheel and Pinion Cutting*, published between 1983 and 1993. A pirate version was produced in the United States without the author's consent.

Tim Treffry notes:

*'His book provides a detailed and comprehensive account of horological gear cutting...a remarkable achievement for a technical treatise. It was very favourably reviewed (HJ vol. 143, November 2001 pp389-90) by Gold Medallist Derek Pratt FBHI who described it as providing "invaluable practical information... in a very readable form". After a highly appreciative chapter-by-chapter account he concluded, "this book deserves the highest praise...an essential reference source".'*

Wild has also published numerous articles in the *Horological Journal* and *Model Engineer*, describing clock construction, tools and workshop processes.

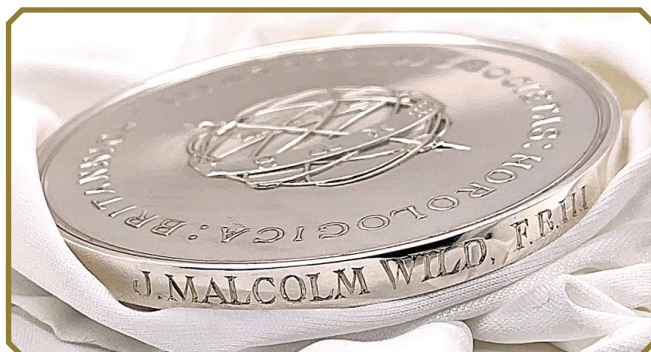
Wild's first clock was a lantern clock in the style of the seventeenth century. He described it in a serialised construction guide. Later, as a young tool-maker with a growing family and scant resources he built a beautiful striking skeleton clock with dead-beat escapement. It runs quietly in a special alcove





in his sitting room. On its wooden base is a pad made of velvet, courtesy of his wife. Other clocks he built include a Claude Reeve-style regulator with gravity escapement. Wild's improvements to the original design are described in *HJ*, August and September 2015. His latest clock is a Condliff-style skeleton, built in collaboration with Bob Bray of Sinclair Harding. The latter was described in detail in *HJ*, April 2018, with his own modifications described in June 2021.

Malcolm is known equally well for his tools as his writing and his clocks. These include simpler items such as a 'pinion-head polisher', which is a large bolt tool, and a jig for marking out wheel crossings. Others are much more complex in construction, culminating in a sophisticated quill for the Aciera F1 milling machine, and a quill head for the Hauser M1 jig-borer with its own self-contained motor, thus improving the light spindle and flexible shaft drive used on the original.



The following is a list of the main tools produced and supplied by Malcolm Wild. Examples of many of these have also been donated to the workshops of the BHI at Upton Hall:

1. Large and small depthing tools
2. Contrate depthing attachment
3. Pinion head depthing tool
4. Mounting kit for the Myford dividing head
5. Tool for lapping and polishing gravers and cutters
6. Small-diameter turning tool
7. Escapement matching and depthing tool
8. Centring microscope
9. Clockmaker's staking tool
10. Marking-out jig for wheel crossings
11. Pivoting and jacot tool
12. Fusee cutting tool
13. Micrometer centring tool for wheel cutters, both sizes
14. Overhead drive kit for independent lathe spindle
15. Independent lathe milling and drilling spindle
16. Finger plate clamp
17. Square-filing rest for the lathe, 2 sizes
18. Clock wheel and pinion-cutting engine
19. Pinion head polishing tool
20. Traditional clock mainspring winder

Malcolm's wife Margaret passed away late in 2020. In a tribute to her he said *'I would not have been able to spend many long hours in the workshop without her support. She never bothered me and it enabled me to do the things I did.'*

If you would you like to obtain a signed copy of Malcolm's book, the *HJ* has provided three copies as a charitable donation which have been personally signed by Malcolm.

Please write to the Editor at Upton Hall, or the email address [charity@bhi.co.uk](mailto:charity@bhi.co.uk) [not set up yet!], with your sealed bid to obtain one of these books. The top three bidders will each receive one copy. The proceeds will be donated to the Alzheimer's Society.

The following pages explore some of Malcolm Wild's clocks and tools in greater detail.





## Traditional Depthing Tools

The impressive and useful clockmaker's depthing tool is one of Malcolm Wild's most emblematic pieces. The large model is the first tool he ever produced, and has now made over 800 of them. This accommodates 4 1/4 inches (114mm) between centres, and can contain wheels up to 4 1/4 inches (107mm) diameter. In addition to the standard runners with scribe and female centres, there is a further selection including large cone centres for barrel arbors and a lantern runner for clock pallets. Wild also makes a smaller model that takes 2 inches (50mm) between centres and 2 1/2 inch (63mm) diameter wheel. Lighter and more agile, it is useful for carriage or French clocks.

He recounts that he first saw a depthing tool illustrated in the late 1960s in a book by de Carle at Sheffield Central Library. Struck by its elegance, he set out to find one, but no tool dealer could supply

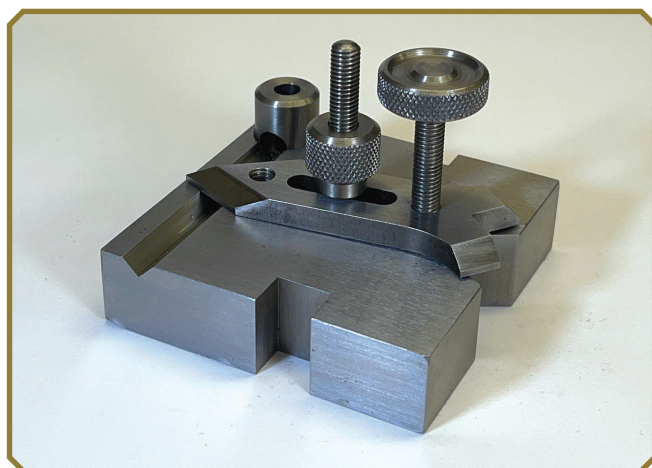
it. They were considered obsolete, so he set about making his own. His prototype was soon obtained by clock restorer in Derby, where it is in use to this day.

In the background is the separate contrate accessory, which can be attached to the main tool, allowing wheels to be depthed at right angles to each other.

Castings undergo a series of machining steps, fitting and fine finishing, and finally hand-testing and adjusting of every pair to ensure the absolute parallelism of the runners.

All are supplied in Malcolm's distinctive velvet-lined Morocco-effect fitted boxes, in the best Sheffield tradition.

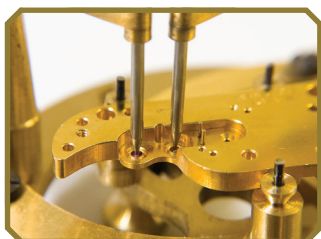
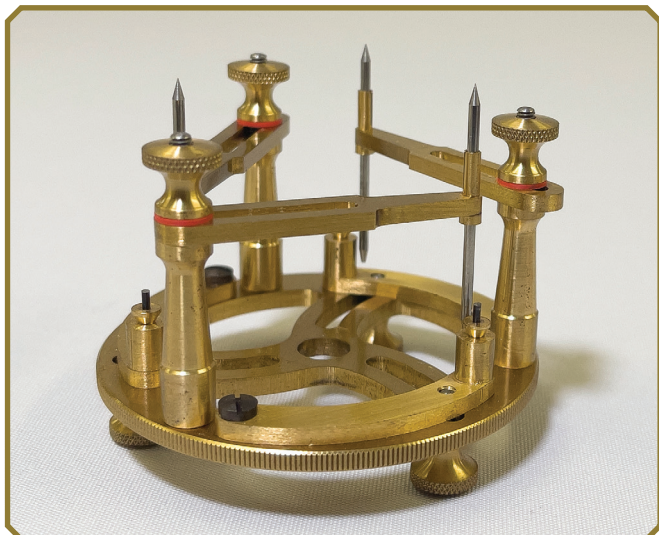
The depthing tool is indispensable for serious work on clocks, or when previous poor workmanship has seen bushings fitted inaccurately.



## Finger Plate Clamp

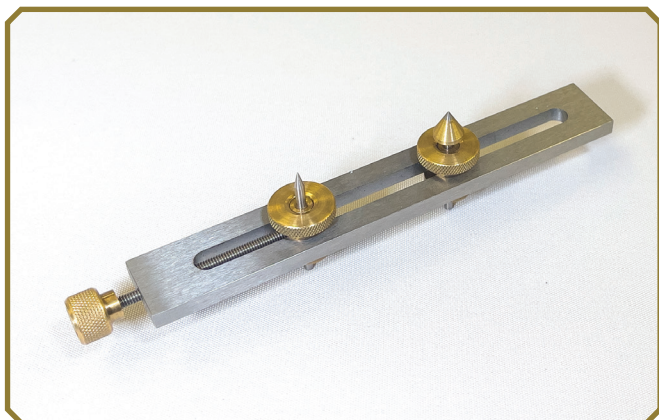
A tool whose construction has been described at various times. It has a clamping finger for holding fine work while drilling, and a jig for accurately cross-drilling arbors. It is ground flat and square all over.





### Escapement Matching and Depthing Tool

This little tool is useful for studying the action of watch or platform escapements; it can be set up with the runners planted in line with the lower escapement pivot holes in the plate, and the components can then be mounted between the runners and the plate. This gives clear sight of all the parts without their bridges or cocks. It can also be used to re-plant pivot holes when making replacement cocks. A rare tool, Malcolm Wild reports that fewer than 20 of these have been made.



### Pinion Head Depthing Tool

In making new clocks, pinion heads are often made loose and later soldered or cemented to their arbors. This light tool allows unmounted wheels and pinion heads to be carefully depthed; the action can be studied closely without the obstruction of the arbors. The construction of similar tools has been described by various authors. Notice the screw allowing fine adjustments.

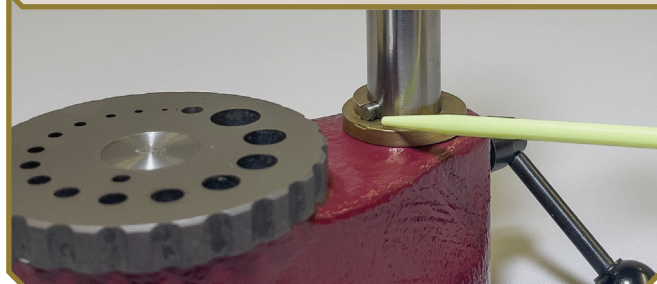


### Centring Microscope

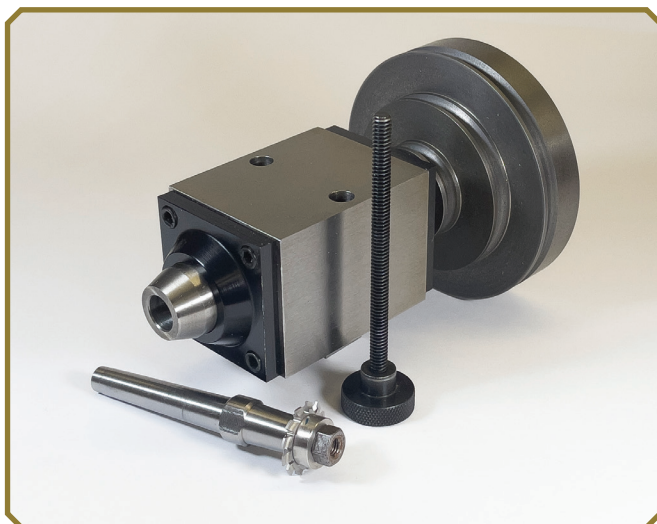
Optionally supplied with different arbors for mounting in the tailstock or an independent spindle, this microscope has 40x magnification, essential for aligning pinion cutters. It can be used to centre work on the face-plate, or used similarly in a milling machine.

### Clockmaker's Staking Tool

The most iconic tool by Malcolm Wild, this very sturdy tool is indispensable for many regular clockmaking procedures. Its unique feature is that the upper arm can be swung away after the upper and lower holes have been selected and aligned. This allows long parts like clock centre arbors to be inserted, which is not possible with fixed-arm staking tools. The arm can be returned to a fixed position determined by the cross pin shown near the base of the column. Supplied with a good range of heavy punches, small punches, as well as bushings to accommodate watchmakers' standard 4.7mm punches.







### Pivoting and Jacot Tool

A creative all-in one pivoting tool for mounting in the tailstock of a clockmaker's lathe. The one shown has a Schaublin 2 deg. taper.

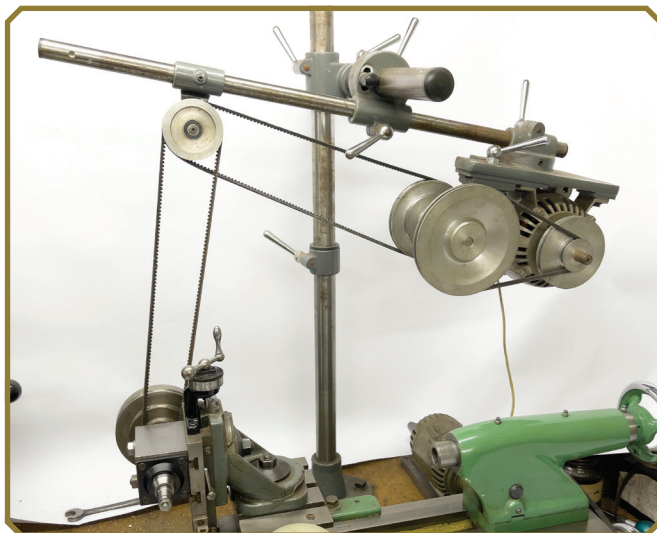
The tool body contains a closely-fitting piston with a small collet at its tip. These collets hold drills for drilling down the end of an arbor.

The black centring accessory is used to align an appropriately-sized hole in the drill plate with the tool axis. This assembly is then fixed to the main body. Once the arbor to be drilled is mounted between the headstock and this drill plate, the drill is advanced using the sliding collar. Subsequently, the jacot drum can be fitted to the tool for burnishing the pivot.



### Independent Lathe Milling and Drilling Spindle

This spindle can be mounted on the vertical slide of a Myford or similar lathe. It consists of a short body, with pre-loaded angular contact bearings. It is supplied with a MT1 bore, for mounting wheel cutter arbors, milling cutters, drills or slitting saws. A draw-bar retains the inserted tooling. Also available bored for 8mm horological collets. The heavy cast iron three-step pulley serves as a damping flywheel to help absorb vibrations from intermittent cuts.

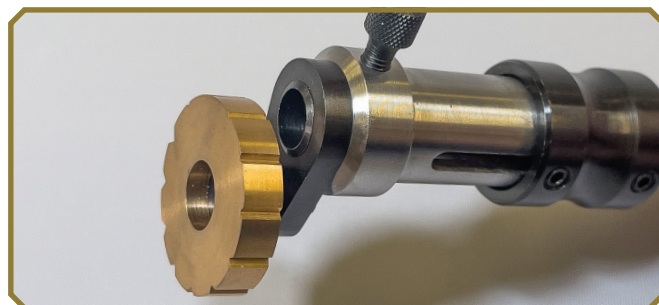
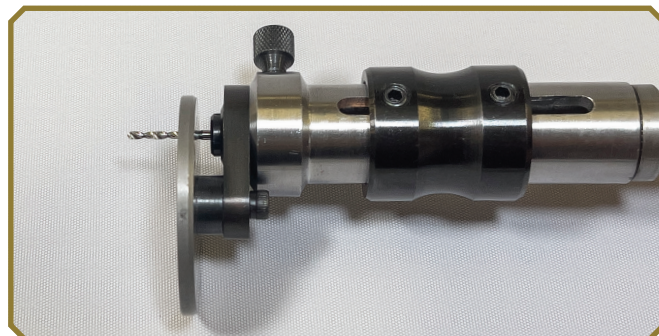
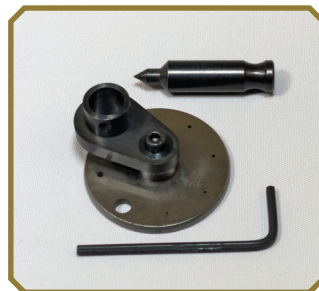


### Overhead Drive Kit for Independent Spindle

Malcolm Wild reports that he has sold hundreds of these kits. The one illustrated is his original, in his own workshop.

A hugely useful piece of equipment, allowing an independent spindle to be driven in just about any imaginable configuration.

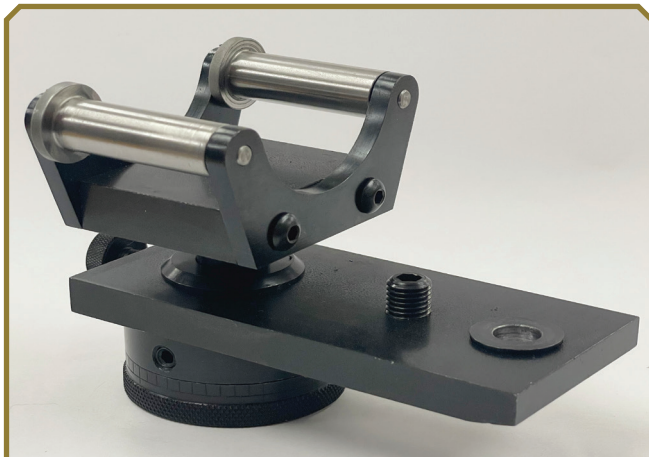
Whilst most of Malcolm Wild's tools are supplied finished to a high specification, this one is supplied as castings. Building this kit presents an enjoyable challenge in fitting and turning, requiring many interesting processes and setups. Much can be learned by machining pulleys, fitting bearings and bushes, and holding, boring and slitting unusually-shaped castings. Many constructors will delight in making beautiful ball handles, although commercially-made adjustable ones can also be used. Absolutely indispensable in the workshop.





## Square-Filing Rest, large and small

The clockmaker needs no introduction to this tool; extremely versatile for helping file squares on material still mounted in the lathe. Hardened rollers, adjustable for parallelism and separately for height with a sturdy jacking dial graduated in 0.001"



## Hauser M1 Precision Quill

Like the Aciera quill, this has its own motor drive, doing away with the awkward flexible pendant drive of the original. The digital scale is affixed with magnets. The whole unit can be removed in seconds for insertion of the quill microscope. Both this and the Aciera quill unit are highly finished in the correct colours for the respective machines.



## Aciera F1 Versatile Precision Quill

The standard Aciera F1 does not have a way to feed the vertical spindle toward the workpiece, for example to drill holes. To do this, the milling table has to be raised toward the cutter. A rare Aciera 'drilling attachment' was made but this uses very small collets and is almost impossible to find. Malcolm reports that not one of these was ever sold in the UK.

In an ambitious tool-making feat, he produced a small series of self-contained versatile quills for the machine. These were described in HJ, June 2006. The tool was made to accept W12 collets so that work could easily be transferred between this and the Schaublin 70. The bearings are combined needle and angular contact, making a very robust spindle.

In his instructions he says not to use the spindle for milling, only for jig boring; but even he has ignored his own advice, having never returned the original spindle to the machine since installation of this model.



## Some of Malcolm Wild's Clocks

Between the production of tools and conducting antique clock restoration, Malcolm Wild has found the time to build a number of his own beautiful clocks, often with improvements or unique features over standard designs. Most are built using traditional hand-methods. His first (not illustrated) was a gothic-style lantern clock, replicated many times after it was serialised in *Model Engineer*.



A custom-made base was made to suit the antique glass dome used on this new interpretation of a Condliff-style clock.



Skeleton with passing strike; the base lined with velvet from a re-purposed ball gown.



The clock train emulates antique Condliffs, beating seconds; this is an adaptation of the Sinclair Harding version that beats  $\frac{1}{4}$  seconds. Lever escapement with helical balance spring and jewelled balance bearings.



Gravity-escapement regulator, with mercury pendulum; the case purpose-made for the clock by an English clock-case maker in the Victorian style.



## The BHI Barratt Silver Medal

An early silver medal, the *Turners' Medal*, was offered annually to BHI examinations candidates by the Worshipful Company of Turners, initially for 'horological turning in metal'. Thereafter it was awarded for 'excellence in mechanical drawing', among other subjects. That arrangement was in place from 1870 to 1940, at which date the Institute temporarily suspended examinations, following which the award fell into abeyance.

Along with the Turners' Medal, the BHI Bronze Medal has long been awarded annually to the examinations candidate who completes their qualifications at the highest level.

The Institute has only occasionally awarded its prestigious Gold Medal since 1928. The Gold Medal is to 'reward, by the highest distinction which it is in the power of the Institute to confer, the greatest advance in the Science of Horology...or some achievement of outstanding merit beneficial to the science or practice of time measurement.' The criteria for awarding this medal are so strict that in the ninety-three years since its inception, it has been awarded only twelve times.

This means that for a long time after 1940, there was an extended gap in the types of award available for the Institute to confer; nothing between 'best annual student' and 'somebody making an extraordinary contribution to horology'.

Therefore, in July 1987 a new Silver Medal was announced. The criterion is for '*outstanding, but not necessarily extraordinary, development or achievement in any field of horology, or related to horology*' including mechanical, electrical, electronic or atomic, and for any aspect, i.e., product, tooling, machinery or theoretical, of the chosen technology.' In 1991, the medal's name was changed to the Barratt Silver Medal, after the late D. W. Barrett, Managing Director of the Clock and Watch Division of Smiths Industries. This medal is only awarded to members of the Institute. The first recipient of the award was Cecil Clifford, '*for outstanding services to horology and especially the advances in the accuracy of domestic timekeeping associated with his invention of the magnetic escapement in 1938.*'

### Silver Medallists of the British Horological Institute

- **1987 Cecil Frank Clifford BSc FBHI MIEE (UK)**  
Invention of the frictionless magnetic escapement in 1938.
- **1988 Martin Burgess FBHI and Peter Haward FBHI (UK)**  
Jointly for their many achievements in horology over a long period.
- **1989 Peter B. Wills FBHI (UK)**  
Development of the dynadromic pendulum.
- **1990 Richard Good FBHI (UK)**  
Writer, historian and designer. Erstwhile Curator at the British Museum.
- **1990 Henry B. Fried FBHI (USA)**  
Author, instigator of horological teaching in New York, staunch friend of the BHI.
- **1991 Anthony G. Randall BSc FBHI (UK)**  
Research and work on the detent escapement.
- **1992 Derek Pratt FBHI (Switzerland)**  
Restoration and construction of precision and complicated mechanical watches.
- **1993 Theodore (Ted) Crom FBHI (USA)**  
Collector of horological tools, historian and author.
- **1994 Dr Philip Woodward DSc FBHI (UK)**  
Contributions to precision horology.
- **1995 David Penney FBHI (UK)**  
Horological illustrator. Former editor of *Antiquarian Horology*.
- **1995 Remy Waelchli FBHI (Switzerland)**  
Improving standards of watch repair. Responsible for ETA training programme.

- **1996 Michael Harding FBHI (UK)**  
Known world-wide for manufacture of high-quality clocks of unusual design.
- **1997 David Poole FBHI (UK)**  
Horological excellence and services to horological education.
- **1998 John Wilding FBHI (UK)**  
Contributions to horology and stimulus to amateur clockmakers.
- **2000 Ron Rose FBHI (UK)**  
Services to horology and to the South London Skeleton Clocks Project.
- **2005 Don J. Unwin (Associate) (UK)**  
Construction of replicas of famous clocks and support for amateur clockmakers.
- **2007 Dr John Robey PhD (Associate) (UK)**  
Horological historical writing and research. Support for horological publication.
- **2008 Project 150 Clock**  
The medal was awarded 'to the clock' – collectively for the clock-building team who built this commemorative clock. The constructors each received a certificate, whilst the medal is affixed near the clock at Upton Hall.
- **2008 Jonathan Betts FBHI (UK)**  
Historical research and curatorial care and conservation of horological artefacts.
- **2010 Robert Bray FBHI (UK)**  
Innovative design and successful use of modern manufacturing techniques (Sinclair-Harding successors).
- **2011 Roger W. Smith FBHI (UK)**  
Dedication to and successfully continuing the finest traditions of English watchmaking.
- **2013 David Thompson FBHI (UK)**  
Service to the history of horology and curatorial work.
- **2015 Jim Arnfield FBHI (UK)**  
Eminent watchmaker, educator, and inventor of a number of detached gravity escapements.
- **2015 The Right Honourable Alan Henry, the Viscount Middleton FBHI (UK)**  
Historian, Curator Emeritus of the BHI Museum, and staunch friend of the Institute.
- **2016 Robert Egan (UK)**  
Development and research at Timex; horology educator at the BHI and elsewhere.
- **2017 Robert Greubel & Stephen Forsey (Switzerland)**  
Two medals; for their development of high-grade complicated watchmaking.
- **2020 J. Malcolm Wild (UK)**  
Major contributions to the craft and practice of horology by the production of tools and the publication of an important book.

### Acknowledgements

Much of the information upon which this section on the Barratt Silver Medal is based is drawn from a private paper prepared in 2015 by Alan Middleton; this in turn cites research by Dr K. Lloyd-Jones, former Chairman and President of the BHI.