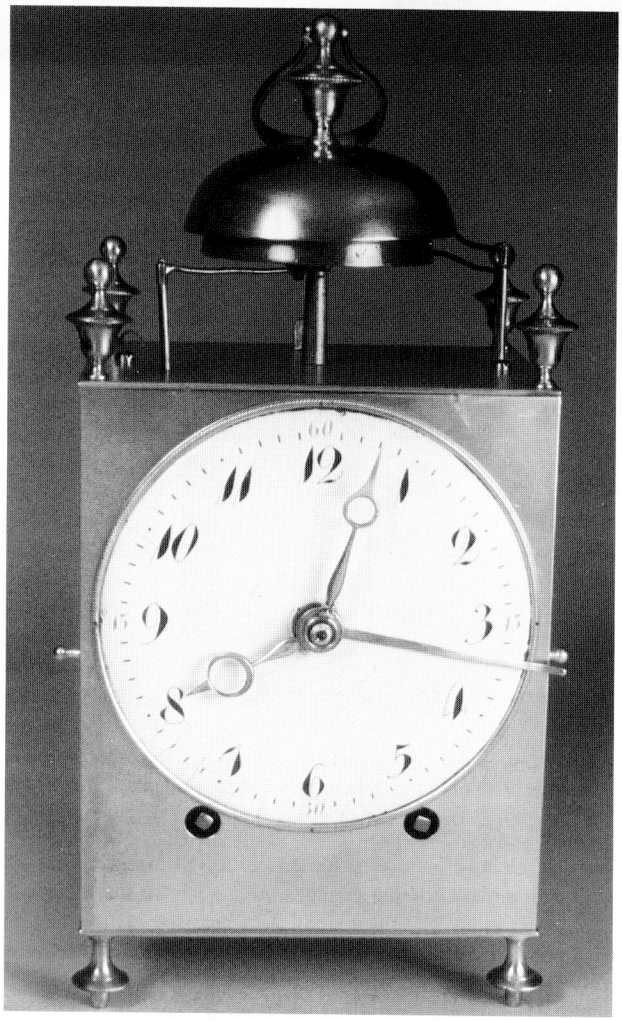
A Capucine Clock

John Robey



1. Capucine clock in a gilt brass case, with a carrying handle on top of the bell stand. Brass hands, including the alarm-setting hand, and no glass to the dial, 11 3/4" high.

IN *HJ* April 1997 there was a request by Roy Conder for further information on a pull-repeat clock striking ting-tang quarters. Replies in *HJ* June 1997 suggested that it might be either a French Capucine clock, or (more likely) a Swiss pendule Neuchâteloise from the area around La Chaux-de-Fonds and Le Locle.

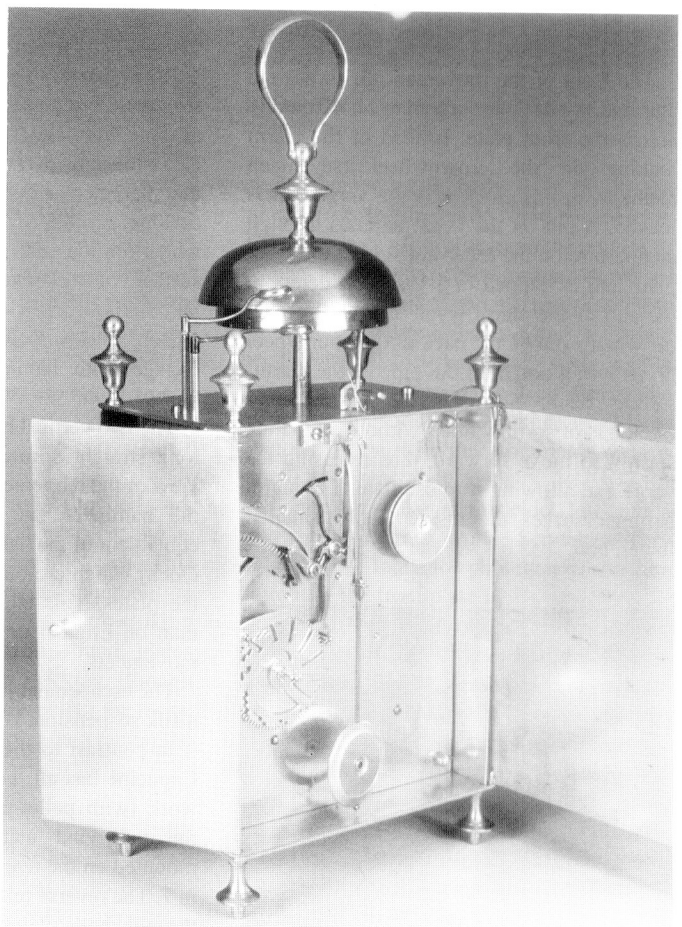
As I serviced a Capucine clock recently, a full description may be of interest, for, though they are described in the two books on carriage clocks, they are not commonly found and no full description of the movements appears to have been published (at least not in Britain). Charles Allix[1] describes Capucine clocks as overlapping and eventually replacing the pendule d'officer, both of which were predecessors of the more familiar carriage clock. He also gives an explanation of the derivation of the name of these clocks, which are also known as Foncine or lanterne d'écurie, but this appears instead to give a reason why Comtoise clocks developed in the Jura region of Eastern France.

This book illustrated three Capucines: a balance-wheel clock with alarm (movement also illustrated), another in its original leather-covered carrying box, and a pendulum clock. Most of these clocks, but not all, have alarms and strike the hours and half-hours. A few strike the quarters. Some play simple tunes on the hour with four bells and eight hammers.

Derek Roberts[2] briefly describes Capucine clocks and illustrates four examples, but not their movements. He describes similar combinations of technical features, with the addition of a verge escapement for the early clocks, the Morbier double hour striking (repeating the strike two minutes after the hour), and one with a musical box in the base.

The clock discussed here has a slightly different combination of features to any of those described or illustrated in these two books. It strikes ting-tang quarters, has a pendulum with a silk suspension and tic-tac escapement, plus an alarm, and is an example of the neat and elegant design of striking work on French clocks.

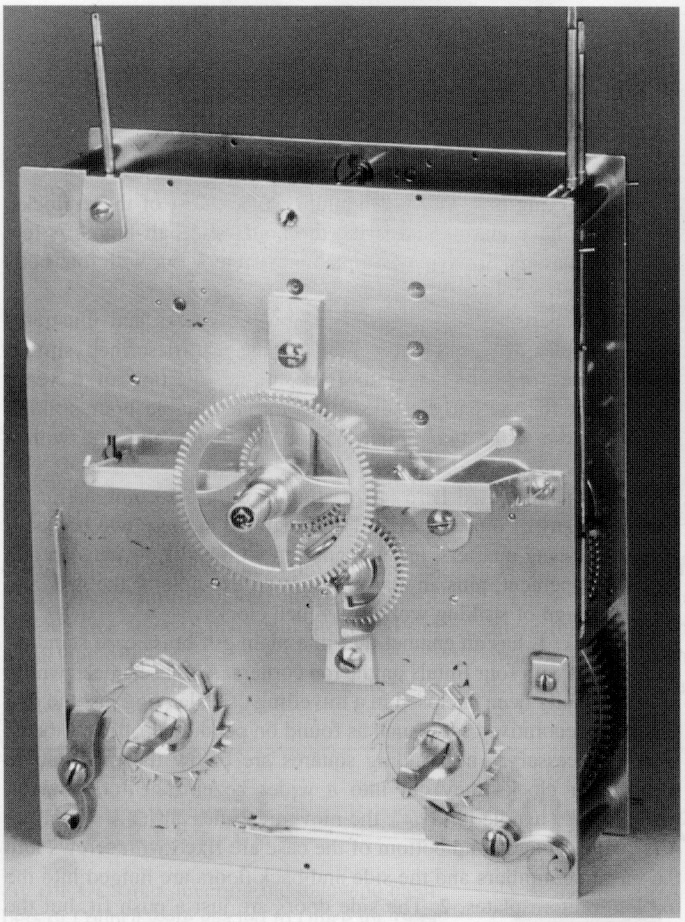
The clock, **1**, has an enamel dial in a plain gilt brass case standing on four feet with four finials on the top corners. As these clocks would have originally been enclosed in a travelling case, leaving just the dial showing, decorative cases, such as found on pendule d'officer clocks, were unnecessary. The winding squares are below the dial, and in some other clocks they cut into a wider bezel. The total height, including the handle is 11 3/4", the movement measuring 5 1/2" tall by 4 1/2" wide. The top and bottom of the case are fixed with screws into the movement pillars and the side and back doors are hinged into the top and bottom plates, **2**. The side doors are just a push fit, but the back door is held with a neat catch into the top plate.



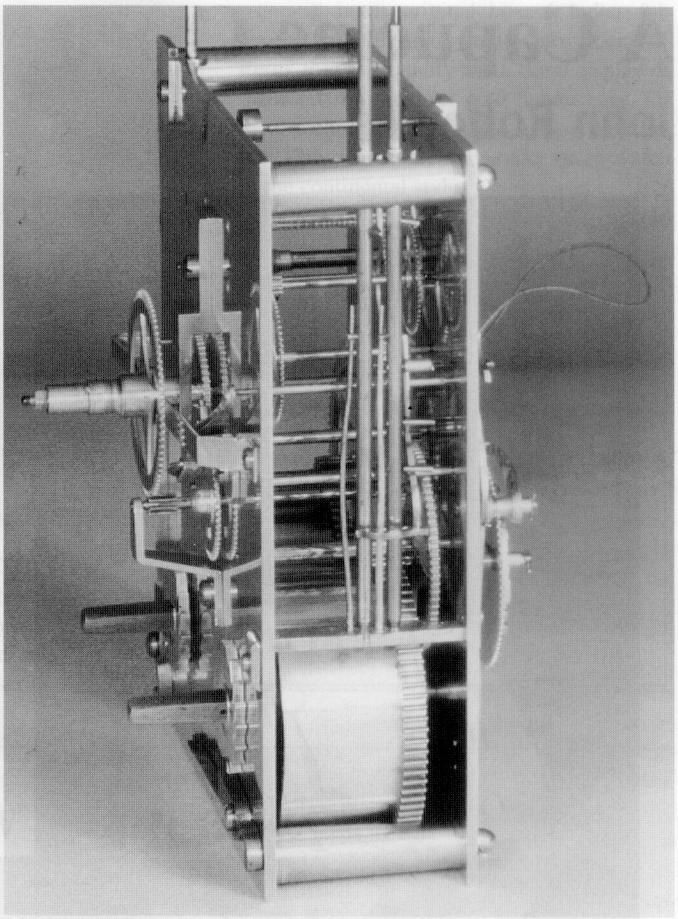
2. Rear view showing the opening side and rear doors, also the pendulum with silk suspension.

1. Charles Allix *Carriage Clocks: Their History & Development*, 1974, pp 21-26.

2. Derek Roberts *Carriage and Other Travelling Clocks*, 1993, pp 20-21.

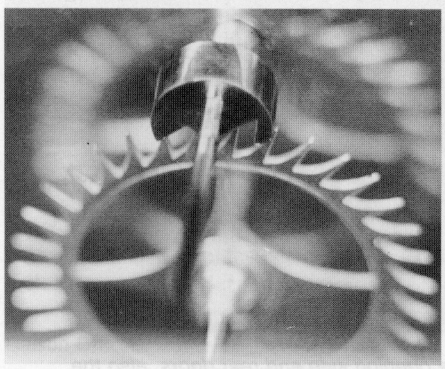


3. Front of the movement showing the alarm lever and the pivoted arm that pumps over the quarter-hour hammer tail.



4. Striking side of the movement with the vertical hammer shafts and their springs. The hammer tails are on horizontal arbors between the plates.

The front of the movement, **3**, shows the alarm set-off lever running horizontally across the front plate. Instead of the alarm locking on the crownwheel (seventeen teeth), with this clock it is the verge that is locked. A pin on the verge extends through an aperture on the left-hand side of the front plate and is trapped in a V-shaped detent at the end of the alarm lever. The alarm is let off when a pin on the back of the hour wheel drops into a notch on the pipe of the alarm-setting hand, allowing the alarm lever (which is of springy brass without a separate spring) to move forward, thus releasing the verge and allowing it to oscillate. The alarm hammer strikes the inside of the smaller, lower, bell.



5. Tic-tac escapement.

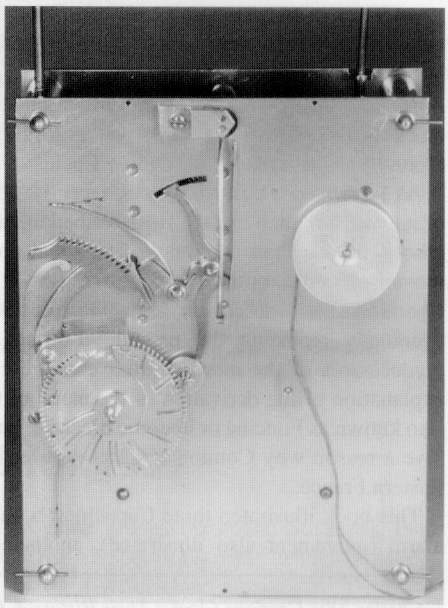
Both barrels originally had Geneva stopwork, but part of this had been removed at some time. The front view of the movemnt also shows the pivoted lever that pumps over the hammer arbor for the quarter-hour striking. A roller (just visible behind the hour wheel) on the end of this lever, rides on the surface of the reverse minute wheel, but before the hour it drops into a slot in the wheel, allowing the horizontal arbor to engage both hammers when striking the hours.

The two vertical hammer shafts, with their long straight springs, are seen in the side view of the movement, **4**. The pinwheel trips the hammers via two curved arms (the equivalent of the hammer tails on an English clock) which are on arbors pivoted between the plates. This is a more complex system than on English or the usual round French movements.

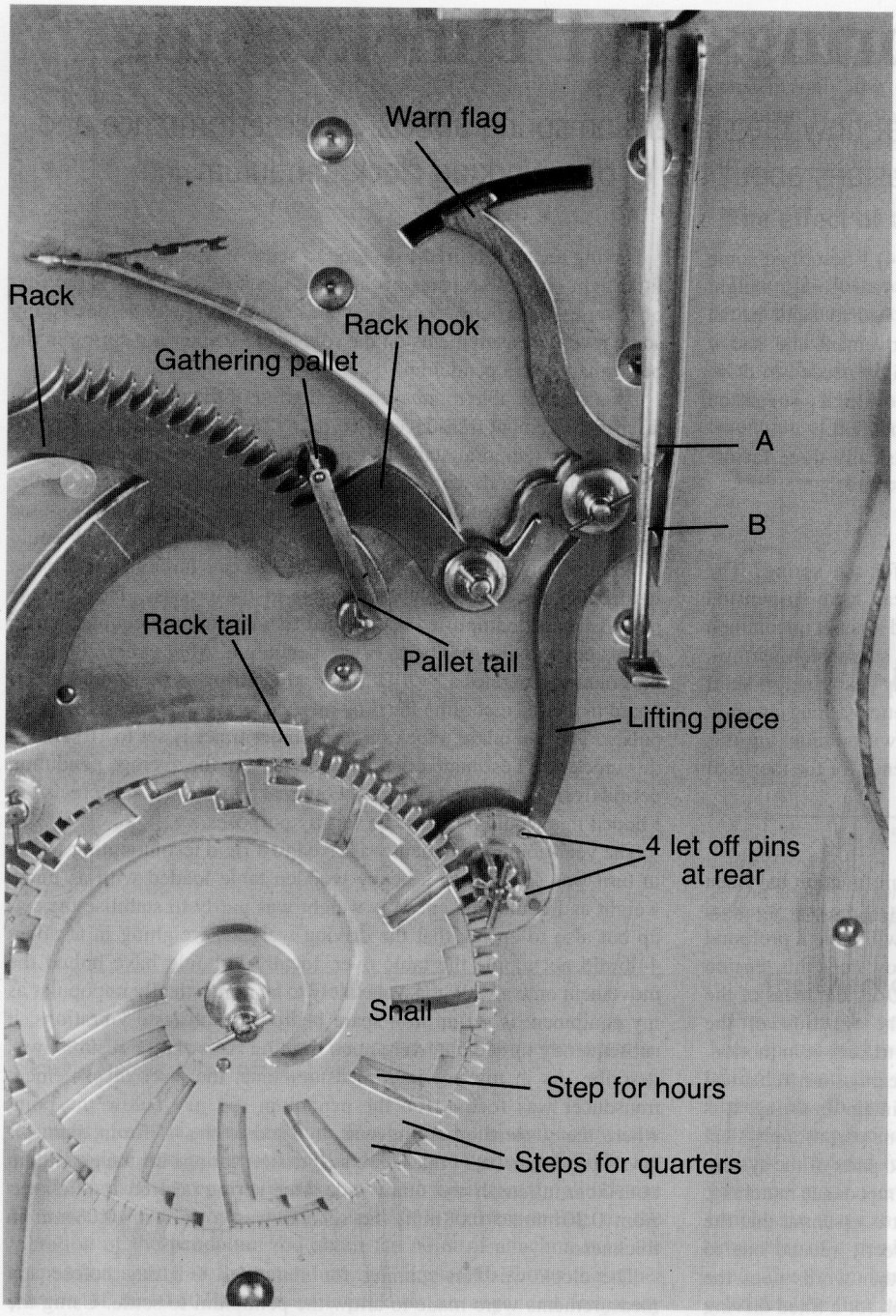
The escapement is a tic-tac anchor, **5**, with a silk suspension.

In contrast to the majority of clocks, the Capucine has all the rack-and snail striking work (with pallet-tail locking), along with the pull-wind alarm spring and pulley, mounted on the rear plate, **6**, shown in detail in **7**. The reverse minute wheel is on an arbor through both plates, the rear end having a disk with four quarter-hour let-off pins and the pinion that drives the snail.

The top end of the lifting piece has a flag that engages with a pin on the warn wheel, and a small arm near the centre that raises the spring-loaded rack hook. Although the lifting piece is solid, there is provision for avoiding damage if the hands are turned backwards. The lifting piece is spring-loaded with the flat spring acting on one of two



6. Rear of the movement with all the striking work and the pull-wind alarm spring.



7. Detail of the rack-and-snail striking, with the compound snail to control both the hours and quarter ting-tangs.

humps, A or B, either side of the pivot point. For normal rotation of the lifting pins (clockwise as seen from the back), the spring acts on point B, but if the hands are turned backwards, then the spring acts on point A. This very neat and simple arrangement does not appear to have been used in English clocks, and is not shown in the diagrams of French striking work in H. Jendritzki and J. P. Matthey's *Repairing Antique Pendulum Clocks* (1973).

The compound snail has three small steps for the ting-tang quarters superimposed on each of the hour steps. On the hour both hammers strike the bells, the arbors being pumped over as already described. The curved brass spring that presses against the end of the hammer arbor can be seen behind the rack.

The gathering pallet has a rounded end, rather than the more usual sharp edge, and its long tail locks on a pin on the rack. This arrangement is, of course, common in English striking work, but rack-striking French mantel clocks with round plates usually have 'deep-tooth' locking (though the deep tooth is actually the end of the rack), with an internal lever locking on a pin on the pallet wheel.

The trains are as follows

Going train

Escape wheel	34–6
Third wheel	78–7
Centre wheel	84–11
Intermediate wheel	88–12
Barrel wheel	80

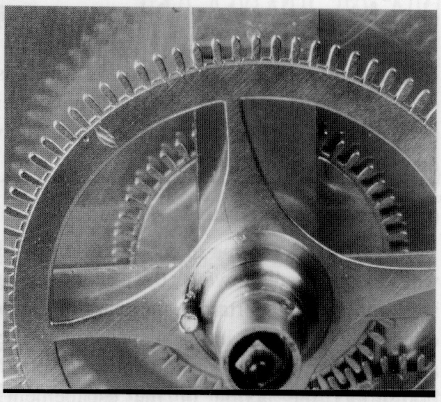
Striking train

Warn wheel	56–8
Pallet (locking) wheel	64–7
Pinwheel (10 pins)	70–9
Intermediate wheel	78–10
Barrel wheel	80

Motion work

Minute wheel	48
Reverse minute wheel	48–7
Hour wheel	84
Snail	84–7

A total of seven different pinion counts were used on this clock, every one from six to twelve leaves. Measurements of the tooth gaps indicate that four different width cutters had been used to slit the wheels of this clock. In British longcase clocks one cutter (or very occasionally two) is used throughout for all the wheels, though early clocks often have the 24-hour calendar wheel and its driving wheel much coarser than the rest. At the base



8. The motion work showing nicks at the base of all the teeth.

of all the teeth, on both sides of all the wheels, small file marks can be seen, **8**. These are occasionally seen on the wheels of British longcase clocks. Gordon Morris of Wrexham has suggested to me that these nicks were used to indicate which teeth had been rounded up by hand with a file (presumably a second time to finish the teeth, as the initial rounding would be obvious by eye). Further comments on this would be appreciated.

Finally, the maker of this clock left quite a full record of his work. Scratched very lightly (too faint to photograph) on the bottom of the front plate is:

'faire, aux d'Horleri, Pres Morez D'Jura, par, Stanislas Michel horloger, Juine 1810'

Assuming that *Horleri* is an abbreviation of *horlogerie*, this translates as:

'made, at the clockworks, near Morez in the Jura, by Stanislas Michel clockmaker, June 1810'

Stanislas Michel is not recorded in any of the standard lists of clockmakers. At the bottom of the dial, in very small letters, is the name Chavin — presumably this was either the dialmaker or the retailer of the clock. □