

Setting and Identifying Problems with Simple Calendars in Carriage Clocks

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Those who are fortunate enough to own a carriage clock with subsidiary calendar dials can often be confused in how to set them. This confusion is further muddled by the number of different styles of carriage clocks employing a variety of complications. Charles Allix shows several varieties in his book “Carriage Clocks: Their history and development” (pgs. 202 - 206). There are “Fly-Back” calendars in which the calendar hand progresses vertically downward and flies back to the top when reset at the end of the month/week. Perpetual calendars are another style in which the calendar mechanism compensates for “short months” and even leap year. However, the majority of the carriage clocks with calendars have simple indicators which step ahead once per day and merely indicate the day-of-the-week and date-of-the-month on two separate dials. **(Fig. 1)** It is this style which will be discussed here.

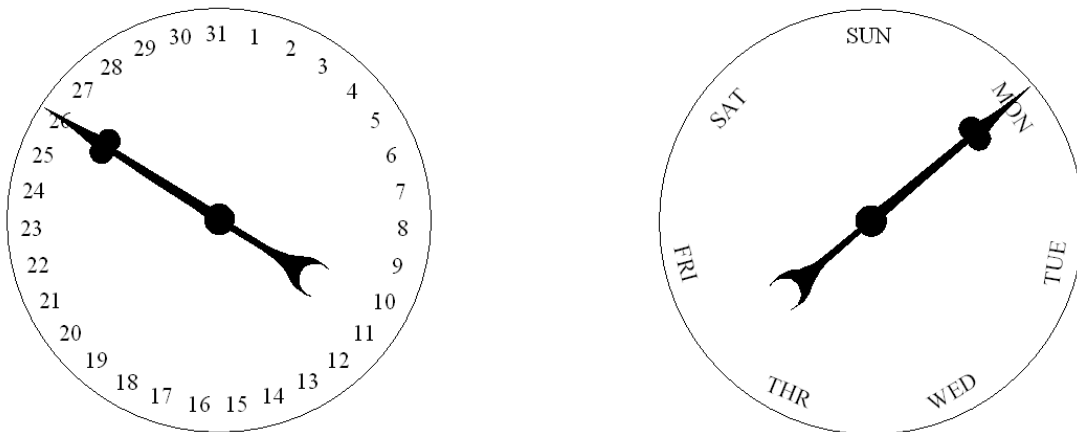


Fig. 1— Simple carriage clock calendar dials showing date-of-the-month and day-of-the-week.

Understanding how to set this style of calendar may best be gleaned by learning how they work. The indicator hands are each fixed to an arbor with a star wheel which is kept in place by a tension/index spring (jumper). The star wheel is advanced once per day via a pin attached to another wheel. **(Fig. 2)**

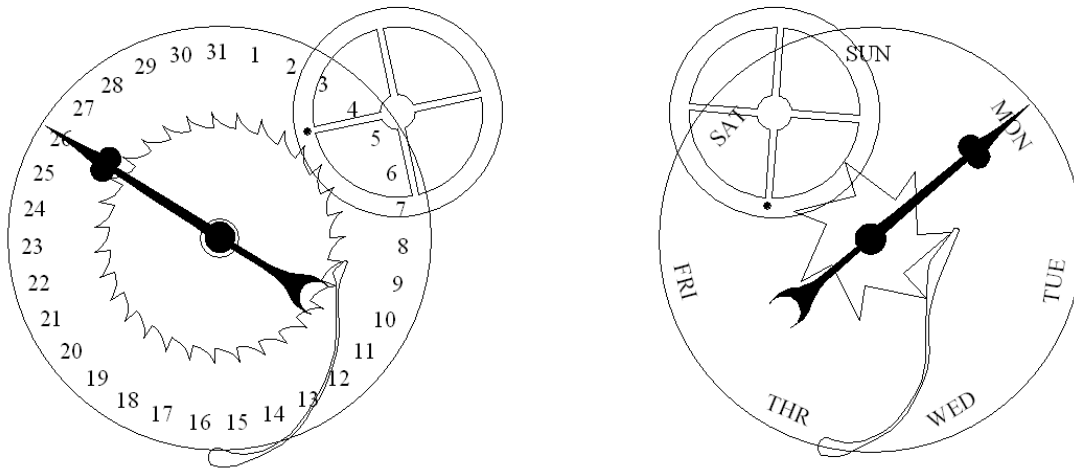


Fig. 2— Calendar dials shown with under-dial work revealed. Note the tension spring with a triangular-shaped index, or jumper, which is engaged in between two star wheel teeth. Note also the wheel with the star wheel advance pin.

When properly set up by the repairer, both hands will advance simultaneously, once per day, at or around 12:00. This is understood to be 12 midnight rather than 12 noon. Since most carriage clocks have a 12-hour dial, and no a.m. or p.m. indicator, it must be determined which “12:00” is midnight. This is done by advancing the minute hand hour by hour and observing at what point the calendar hands advance. Once that is determined, the clock may be set to time accordingly.

Setting the calendar hands is typically done from the rear of the movement using the small end of the key on the set arbors. Calendar hands, unlike alarm hands, may generally be set forwards or backwards. However, if there is a directional indicator on the movement, only rotate in the direction indicated. There will be a slight resistance when setting the hands as the star wheel teeth push the jumper out of the way. If firm resistance is met, it is because the advance pin is engaged between two star wheel teeth and damage will be caused by forcing. **(Fig. 3)** This condition will occur just prior to midnight and for a short time afterward. Therefore, it is generally safe to set calendar hands anytime between 6 a.m. and 6 p.m.

This style of calendar must have the date advanced manually at the end of the month for those months which don't have 31 days.

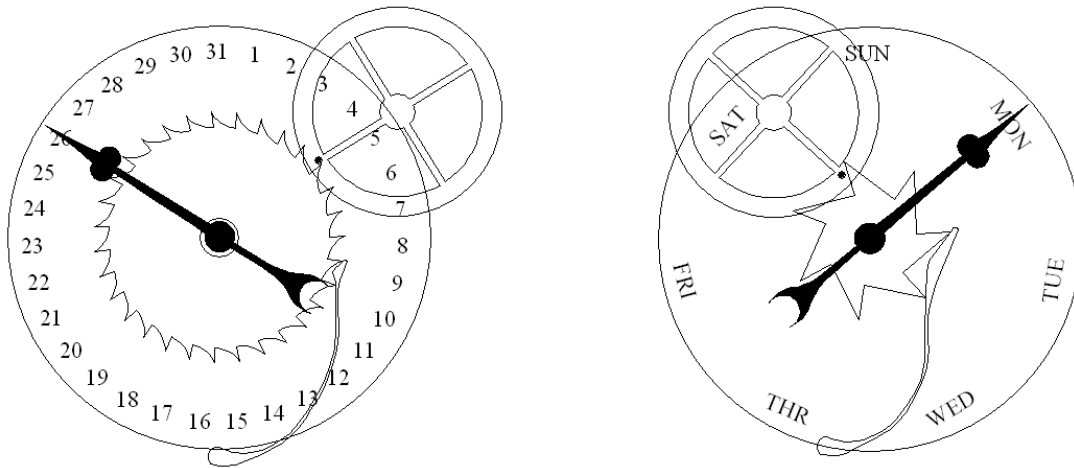


Fig. 3— Calendar works shown just before advancing at midnight. Note the advance pins have engaged a tooth on both star wheels in preparation of the hands advancing. Any setting of the hands at this point will meet resistance due to the advance pin being in the way.

A day and/or date indicator which consistently comes to rest between positions (**Fig. 4**), is a condition which will require some disassembly. There are several problems which could cause this, each of which must be investigated...

- The advance pin has been bent and is no longer rotating the star wheel far enough to trip the jumper.
- The star wheel pivot point has become sticky due to dry, dirty oils. (These wheels do not require oiling and are more akin to levers.)
- The jumper has developed a wear rut and is no longer able to “jump” the star wheel properly into the next position.
- The working face of the jumper has dry, dirty oil on it and is capturing the tooth of the star wheel. (The working face of these is not oiled.)
- The jumper is maladjusted and isn’t indexing the star wheel into a position which allows the advance pin to rotate the wheel slightly more than one tooth.
- The jumper doesn’t have enough tension to properly index the star wheel.

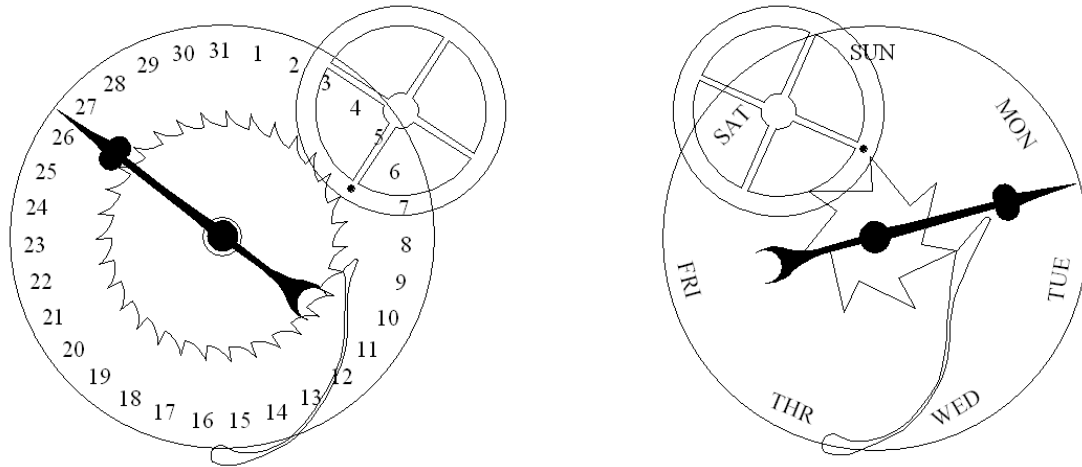


Fig. 4— A calendar hand which consistently comes to rest in-between two positions is an indication of a problem(s) which need correcting.

Another indication of a problem is a hand which consistently jumps two positions. Areas to investigate are...

- The advance pin is bent causing the star wheel to advance two teeth rather than just over one tooth.

- The jumper is holding the star wheel in a position where the advance pin is rotating the star wheel two teeth.

The jumper is a critical component of this style of calendar indicator. The sliding surface should be polished to a mirror-like finish and care must be taken to shape it to the proper angle. The tension of the jumper against the star wheel must be just enough to ensure the star wheel snaps into position but not so heavy that it risks stopping the clock. And the position at which the jumper holds the star wheel is integral to the proper advancing of the calendar hand.