Issue 03, 2003

The Alarm Clock Chapter # 178

of the NAWCC

John Darrow

In this issue we present a reprint of second article by John Darrow. Entitled *A Remarkable Clock Mechanism by R. Rahmer of Rondout, New York*, this was originally printed in the NAWCC Bulletin, October 2000.

Update: Alarm Clock Chapter 178 Meeting at The February 2003 Greater Los Angeles Regional

The Greater Los Angeles Regional, February 21 & 22, included 380 plus tables offering a wide choice of horological items. Over 1,600 buyers and sellers, old and new friends and candidates came together for good times and bargains in interesting items. The selection of alarm clocks was varied consisting of items from around the world ranging in age and complexity. From weight and spring driven the late 19th century mechanical to the most modern battery operated quartz movements. On Friday members of chapter 178 took a break to meet. Copies of the newsletter, edited by our new editor Mary Maier, were given to the member present.

-- Mike Wilson

Instructions to Authors

All are encouraged to submit articles for publication. Please include your name, address and phone number with the article. Although certainly not a complete list, suggestions for topics are

. Specific alarm clocks or manufacturers
. Unique designs
. Special methods of cleaning
. Descriptions of interesting repairs.

Photos along with the text are always appreciated. Please email to the editor at

saraandmary@sbcglobal.net

You have to allow a certain amount of time in which you are doing nothing in order to have things occur to you, to let your mind think.

-- Mortimer Adler

Next Issues...

In the next two issues we provide reprints of Doug Stevenson's articles "Wakers and Makers" and "Wakers and Shakers". These articles appeared in *Clocks* and we thank Doug for permitting us to include them in our newsletter.

Hairsprings

It would seem often the difficulty with a new clock is a problem with the hairspring. It might be kinked or even missing. In this section we welcome all members to provide tips on repair or the names of people / companies that provide service.

One company in Pennsylvania, *The House of Time*, will do hairspring work on alarm clocks. Jim Michaels responded to an email stating they do have about 50 hairsprings that would work for alarm clocks. Unfortunately, they charge about $100 to $150 for their services. Anyone interested can browse their site at

http://www.watchmaker.net

As for purchasing hairsprings there is an interesting website site

http://www.king-federn.de/englisch/index_produktpalette.htm

Alarm Clock Chapter : Annual Dues $15.00
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Specific characteristics such as diameter, thickness, width, etc. must be supplied. It would seem hairsprings can be purchased both with and without collets. Its not clear whether the company will handle small orders.

Lastly, the AWI has a video tape on Hairspring Vibrating. Though geared to watches (excuse the pun), it may be of value to the Alarm Clock enthusiast as well. Howard Banta has contacted the NAWCC library about obtaining a copy of the tape.

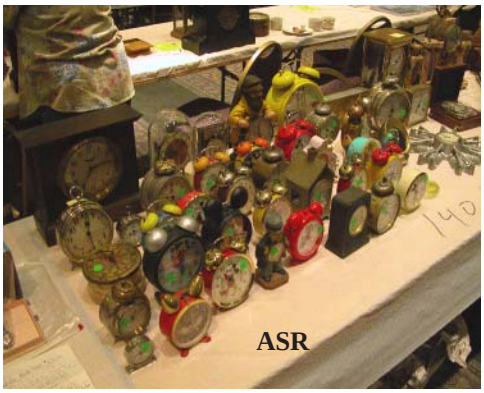
Any news on this topic will be printed in the newsletter.

-- The Editor

Update: The Arizona Sunshine Regional 2003

It was sunny and warm for the Arizona Sunshine Regional March 29 & 30 in Mesa Arizona. It was a great success with all of the 186 tables and over 600 in attendance. There was a wide choice of Horological items with something to fit every ones needs/desires. The display was American Alarm Clocks, from my collection, and American Railroad Pocket Watches. John Hubby , National Association of Watch and Clock Collectors (NAWCC) 2nd Vice President was the National representative and spoke on *Claude Grivolas, The Only French Maker of 400 Day Clocks*. I was privileged also to speak on *An Overview of Alarm Clocks as Collectibles* using slides of the Howard Banta collection.

-- Mike Wilson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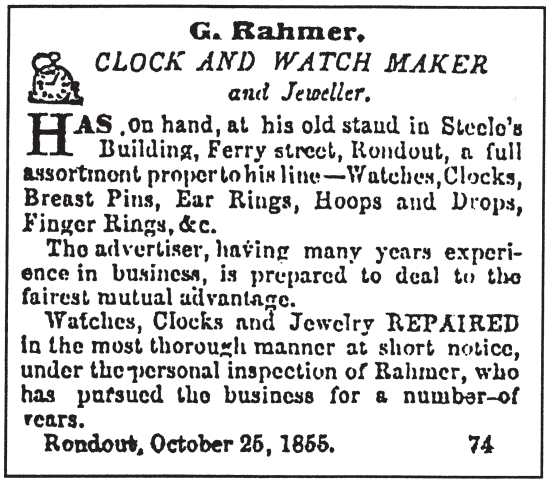
A Remarkable Clock Mechanism by G. Rahmer of Rondout, New York

John Darrow [PA]

Purpose

This is an unusually designed clock mechanism of flatbed construction. Mounted in a large wooden case, it drove via shafting a pair of hands on a remote 12" dial (probably marble). Multiple dials would have been unlikely because of friction problems. In addition, it struck the hours and quarters on remote overhead bells (*petie sonnerie*). An engraved shield on the front of the flatbed identifies its maker as "G. RAHMER/RONDOUT N.Y."



G. Rahmer,

CLOCK AND WATCH MAKER
and Jeweller.

HAS on hand, at his old stand in Steele's Building, Ferry street, Rondout, a full assortment proper to his line—Watches, Clocks, Breast Pins, Ear Rings, Hoops and Drops, Finger Rings, &c.

The advertiser, having many years experience in business, is prepared to deal to the fairest mutual advantage.

Watches, Clocks and Jewelry REPAIRED in the most thorough manner at short notice, under the personal inspection of Rahmer, who has pursued the business for a number of years.

Rondout, October 25, 1855. 74

Figure 1. G. Rahmer's advertisement dated October 25, 1855, in the Rondout Courier.

History

Rondout was first incorporated in 1849. At one time a transportation center, it handled greater tonnage than any other city on the Hudson River above New York City, and by 1874 had 10,000 inhabitants. It is now part of Kingston, New York.

Regarding the Maker

Palmer (BAC) lists G. Rahmer in New York City in 1840, but with no explanation of who he was or what he did. The 1855 New York state census shows a G. Rahmer, 50, wife Augusta, 35, born in Germany, "residents for six years" (presumably of Rondout.) Their son is shown as G., 9 years old, and born in New York. Directories for Rondout for 1857, 1866, and 1872 list Gottfried or G. Rahmer at 12 Ferry St. The 1872-73 directory shows Mrs. G. Rahmer at the same address. The 1873 and 1874 directories list G. Rahmer, jeweler, at Ferry near Division, his home being at the same location. The wife, Augusta, is shown in the 1879-80 directory at 13 Ferry. No relevant Rahmers are listed thereafter in Rondout, but Mrs. Augusta, widow, is shown at a different address in Kingston in 1895. An advertisement dated October 25, 1855, in the *Rondout Courier* (Figure 1) shows G. Rahmer as a clockmaker, watchmaker, and jeweler selling clocks, watches, and jewelry, and also repairing the same, "having many years experience." No further information has been found on anything else he may have made, let alone anything of such complexity and originality as this surviving flatbed clock.

Recent History

An important collector of long ago from eastern upstate New York is said to have gotten the clock in about 1950 from the bank where it was installed. It was later obtained by an eastern Pennsylvania collector. In storage until recently, no apparent work had been done on the clock, except for the stripping of paint from its case, until it came into the possession of the writer.

Clock Description

The clock's walnut case (Figure 2) measures overall 73" high by 25" wide by 17½" deep. It is strictly functional, with no frills other than a bit of ripple molding on the hood. The hood, with glazed front and side doors and a back mirror, promotes maximum viewing of the movement. (Note that the mirror is of 1/16" glass and is not broken.) The weights and pendulum are also visible through a glazed front door in the lower case. The weights shown could not be made to work, as will be explained. Bell strike levers extend from the movement through slots at the rear edge of each side door of the hood. Rows of multiple holes in these levers allowed adjustment of the wires or cords once connected to overhead bell hammers. In addition, a hole in the 9 o'clock side of the hood allows for passage of the dial leading-off rod, which was once connected to the motion work of the outside dial.

The movement consists of three trains having only two arbors each (Figure 3). They are supported by pivot

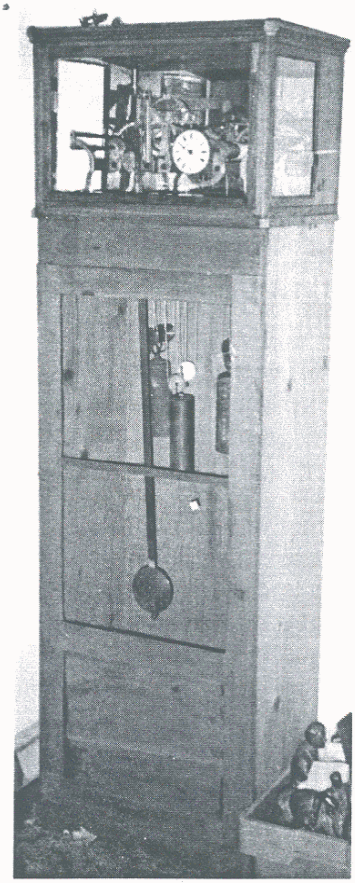


Figure 2, ***above.*** *The clock in the walnut case. Note strips of ripple molding under top.*

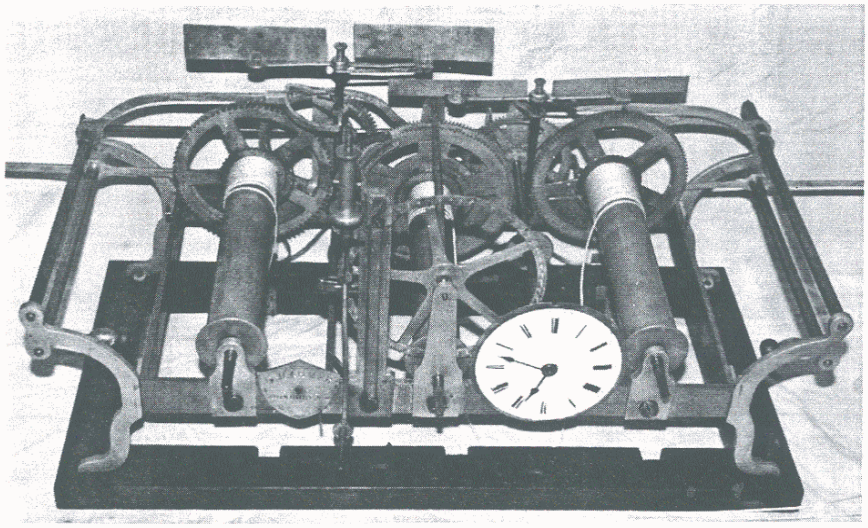


Figure 3, ***above.*** *Upper-front view of the movement, time train at center, hour strike and quarter strike trains at left and right, respectively. Trains are supported on strap steel flatbed frame, mounted by brass legs to a walnut frame. The 60-pin escape wheel, worm gear driven fans, and external strike levers, are all clearly visible. Pallets are at 9:00 on escape wheel.*

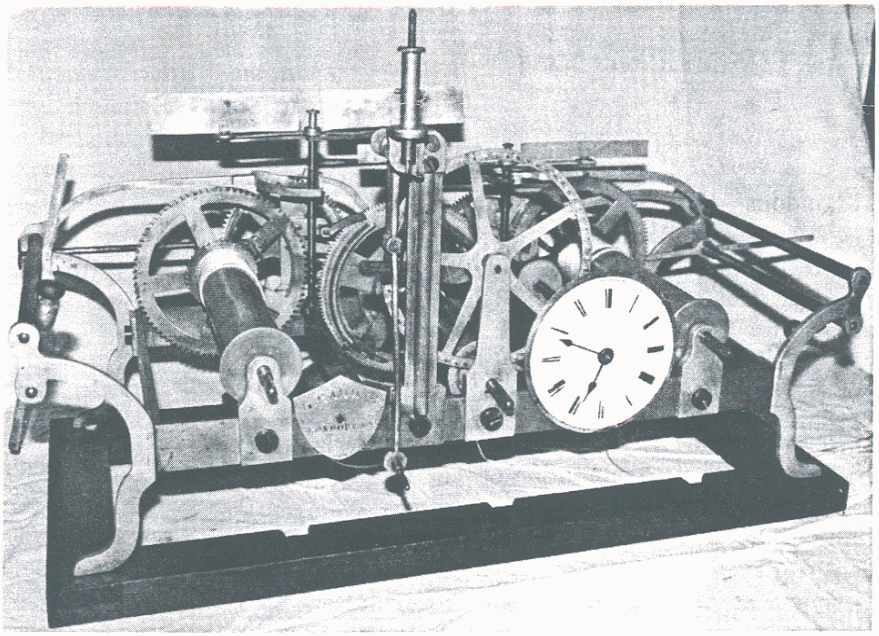


Figure 4, ***right.*** *Front view. Note shaped movement legs with their dovetailed tabs for screwing to the flatbed frame and their feet screwed to the walnut frame. The worm gear driven fans, pallets, setting wheel, and pendulum-regulating nut are all clearly visible.*

cocks mounted to a flatbed frame of strap steel measuring 15 ½" × 8 ½". Operation with so few parts is made possible partially by the clock's 7-inch long winding barrels, plus the multiple compounding of lengthy weight fall lines, giving a bit over two days running, requiring many turns of the winding crank. If the clock stood over a well, a single weight per train would work nicely, since it could move fore and aft as the cord wound on the drum. Accommodating the weights within the case would require six strands for each train, compounded over five pulleys, for a total of 15 pulleys. Note that a single weight and five pulleys per train was tried, but the pulley nearest the drum must pivot enough to feed the cord onto the 7-inch drum. No swivel likely available would allow enough swing with low enough friction. One way to accomplish this would be to use one weight for this first fall, which could pivot freely, and two more (or one double) for the remaining.

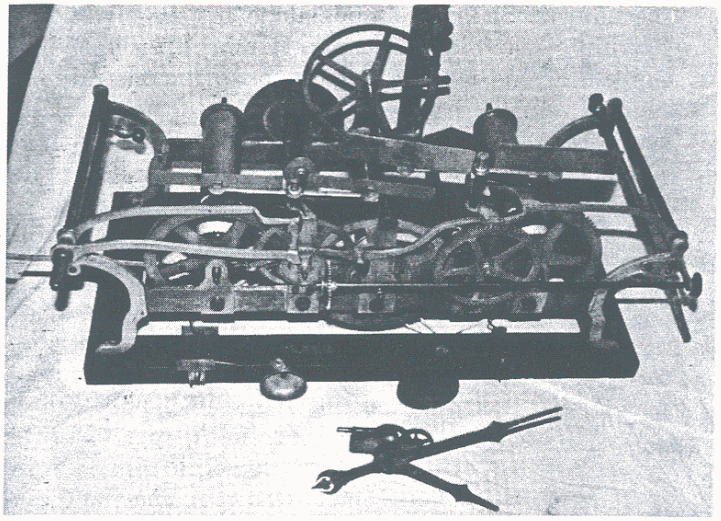


Figure 5. Upper-back view of the movement. The time great wheel drives the escape wheel arbor, and, through an extra wheel on its face, it drives another arbor. Along the length of this arbor are the setting dial, setting wheel, and contrate wheel. The latter has four pins on its face to trip the quarter strike and, through a spur gear, power the external dial take-off rod. The quarter-strike great wheel carries the count ring on its face, and the hour-strike great wheel similarly carries the drop slot ring, driving the flanged hour count wheel from its arbor. Warn and stop pins are on the vertical arbors just below the fans. The wheel spoking, pivot cocks, and internal bells are clearly visible. Separately, the surviving external motion work and hands are shown.

This was tried with three weights of three pounds each for each train, which worked fairly well. The clock does not know, of course, whether it is being driven by one 9-pound weight or three 3-pound ones, so long as the cord feeds freely. This arrangement works best if the first weight is slightly heavier so it will be on the bottom much of the time, resulting in a gradual angle between the incoming cord and the drum (see addendum). The pulley hooks on the underside of the partition have been moved about, suggesting some past trouble in winding. In fact, it seems impractical enough to make one wonder how well it originally worked, but there is enough pinion wear to suggest a good bit of use. Another possible arrangement has been suggested by A.J. Knapp (WI). If the cord feeds off the drum to a fixed pulley at the bottom of the case, the angle change from one end of the drum to the other would be small, making tracking easier. Then a single weight of nine pounds could be used with the six-fall compounding. In any case, the old multiple hooks on the underside of the partition suggest that some elaborate compounding scheme was used. Further opinions on this would be welcome.

The time train is centered on top of the flatbed, flanked on the left by the hour strike and on the right by the quarter strike (Figure 3). The time train's large great wheel has very long coiled-spring maintaining power (Figure 4), and drives the arbor of a 60-pin escapement wheel measuring over 5" across (Figures 3, 5, and 6). The escapement has jeweled deadbeat pallets that are colorless and translucent (Figures 3 and 4). They are non-adjustable and run with considerable lock. A minor improvement by the author consists of the addition of a stop pin to limit the leftward swing of the crutch. Otherwise, if the pallet swung free of the escape wheel, upon its return to the spinning wheel, pins may be damaged.

The pendulum has an effective length of 44" and can be regulated under the bob or fine rated at its suspension end (Figure 4). The time-train arbor drives a parallel arbor, which powers the motion work of a small two-hand setting dial and, via a contrate wheel and spur gear, the horizontal dial take-off rod at the rear of the movement (Figures 5 and 6). Note the four pins on the contrate wheel that trip the quarter-hour strike

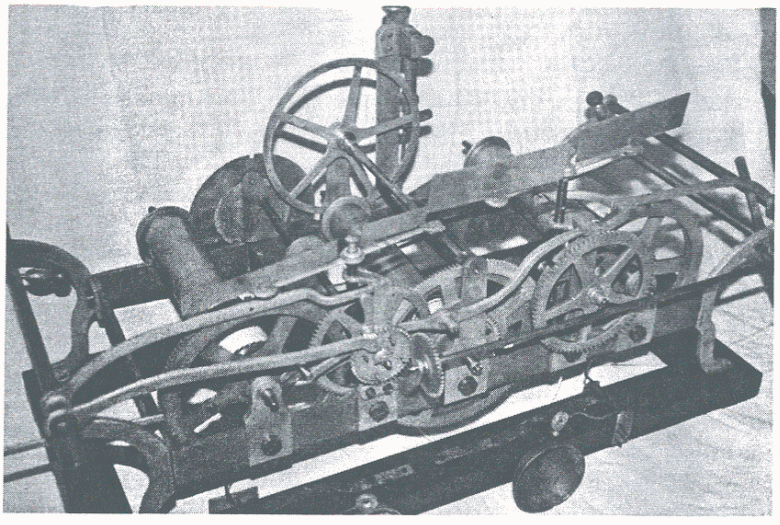


Figure 6. Upper-back close-up view of the movement. By means of the pin on the face of the quarter-strike great wheel, the long, graceful detent trips the hour strike, catching a notch in a raised tab of the detent. The escape wheel, fans with warn and stop pins below, count wheels, drop-slot ring, contrate wheels, take-off rod, and pivot cocks are all clearly shown.

(Figures 5 and 6) and the knurled setting wheel midway on that gear's arbor (Figures 4 and 5). The quarter-hour strike trains employ one great wheel each, driving worm gear arbors topped by long horizontal fan blade assemblies (Figures 3 and 4). The fan blades are adjustable and are mounted on four-lobe, spring-loaded ratchets allowing fan wind-down following a strike sequence (Figures 3, 4, and 6), and a ring with multiple drop slots is attached to the hour strike great wheel (Figures 5 and 6). Quarter and hour strike are controlled by separate count wheels. A long, gracefully shaped pivoted lever is enabled by a pin on the quarter-strike great wheel, the other end raising the hour-strike detent after the fourth quarter (Figure 6). Radial pins on the fan arbors control warning and stop (Figures 5 and 6). Strike levers, originally connected to the hammers of overhead bells (Figure 3), are articulated by pins on the faces of the strike great wheels, which also trip the hammers of two internal bells attached to the frame's wooden base (Figure 5).

Construction

The flatbed frame is an open box having two internal struts. It is constructed of $^{3}/_{16}$" × 1" steel strap, all welded together and ground to a smooth finish (Figure 3). It stands on four shaped legs of $^{3}/_{16}$" brass, made of laminated and soldered $^{1}/_{16}$" and $^{1}/_{8}$" sheet stock. Mounting tabs are dovetailed and soldered into each of the decoratively shaped legs and are screwed to the flatbed frame (Figure 4). The legs and pivot cocks are mounted to the steel frame with large cheese-head screws and guide pins (Figures 3-6). The entire assembly is screwed to a substantial walnut frame, which also holds the two internal bells and their hammer cocks (mounted with wood screws and guide pins). (Figure 5.) Rahmer's work techniques vary from finished machining to improvised assemblies. For example, the dial takeoff wheel is a skilled turning, but it is driven by a contrate wheel built-up from a toothed ring gear soldered to a turned hub (Figure 6). All spoked wheels except the time great wheel are similarly spoked (Figure 5).

The clock's external dial motion work and hands have survived (Figure 5), providing the basis to estimate the 12" diameter of the remote outside dial. The motion work gearing appears to have been factory made, but the right angle drive and associated bridge, soldered to the assembly, appear to have been made by Rahmer.

An Appeal for Information

This is easily the strangest clock I have had my hands on in 60 years of collecting. Additional features could be described, but it is hoped that the foregoing description conveys some idea of this unique clock mechanism. So far, it stands alone as the only known surviving example of Gottfried Rahmer's work. Did he make it for his own amusement, or to demonstrate his ability to make a tower clock, and later sell it? It is hoped that some reader will come forward to cast additional light on the life and work of this skilled nineteenth century clockmaker.

Acknowledgements

This article could not have been written without the sizable help of Snowden Taylor (NY), whose contributions include significant portions of the text. Fred Shelley (NY) located Rondout and provided the abbreviated history. Because of Fred's knowledge of tower clocks, he also reviewed the text in detail. Jim Storrow (NY) found the advertisement and provided the directory extractions. I thank them all.

About the Author

John started "dabbling" with old alarm clocks at about the age of 10, and gradually learned how things work. He was an electronic engineer (University of Michigan, 1949), eventually specializing in Fail-Safe circuit design, with about 40 patents. John retired gradually (1985-1990). He has been the president of Chapter 37 at various times. John gave a "walk-through talk" at the Cleveland National on Art Nouveau and Art Deco.

Addendum

Pulley and weight layout. This schematic shows the arrangement of weights, cords, and pulleys. It can be seen that if weight (1) is bottomed, and either or both of (2) and (3) are up, the force everywhere in the cord is 1.5 lbs. If weight (1) is raised, which means (2) and (3) must be up against the movement floor, the force is 1.6 lbs. The relative positions of (2) and (3) are indeterminate; they will sit happily in any order.