

George Milton Stevens was born in Boston in 1838, the oldest of three sons of Collins and Nancy (Geyer) Stevens. He graduated from the prestigious English High School in 1856 and worked briefly as a bookkeeper before joining as a clerk with the Turret & Marine Clock Company (T&M) on Water Street, Boston, where his father was a partner. It is safe to say that Collins and George Stevens learned everything they knew about tower clocks from Moses Crane, the new firm's highly-skilled superintendent and son of Aaron Crane, a horological genius on whose patents the T&M operated. By late 1861, a dispute resulted in Moses Crane leaving the firm and taking with him the patent rights inherited from his father. Collins and George Stevens exercised damage control in 1862 by patenting their own version of a remontoire escapement, reducing operating space to 5 Water Street, and renaming themselves the Turret Clock Company. Two years later they reorganized once more as Geo. M. Stevens & Co. at 52 Sudbury Street, Boston.

The new company rode the wave of prosperity that followed the Civil War, selling at least 22 "Stevens Detached Remontoire" time and strike tower clocks by 1868. Their early clocks used a number of T&M's features in modified form, a major difference being Stevens' use of wire rope on cast-iron barrels, rather than T&M's chain-and-sprocket winding system. Moses Crane never sued for patent infringement, but he had little use for Stevens the rest of his life.

By 1868, Geo. M. Stevens & Co. abandoned use of the remontoire escapement, switching to a conventional Graham deadbeat with undercut teeth, a four-wheel time train, and a crutch-driven pendulum. Retained were the T&M hand-setting clutch and the crane-striker, features used in some Stevens models until 1900 or later. Tower clocks were priced from \$350 to \$600, depending on the model and what the market would bear. Glass dials imported from France and Germany were offered at added cost. In 1868, Stevens advertised, "Cog-wheels of all sizes, constantly on hand or made to order," suggesting some in-house manufacturing capability. In 1869 the company moved to 90 Sudbury Street, Boston, where, at the behest of the U.S. Lighthouse Service, they developed and produced lighthouse fog alarms. Their alarms, patented in 1873, made use of the tried-and-true crane-striker and also Crane's patented "floating" hammer, representing significant improvement over former government approved lighthouse alarms made by Jacob Custer of Pennsylvania.

Geo. Stevens & Co. remained active well beyond the 1870 cut-off limitations of this work, but a short summary follows. Stevens clock models varied in size and

style after 1870. Collins Stevens died in 1873, and a corporate structure evolved thereafter. The company met in head-to-head competition with E. Howard & Co. and often won the sale, particularly in small New England towns. Eventually, almost all trace of earlier T&M features disappeared as Stevens moved to compete with standardized "factory clocks" that dominated the market after 1872. The Stevens' line grew to include electrical work and fire alarm systems, three-legged gravity escapements, chiming clocks, and time and strike post clocks. In all, probably over 450 tower clocks were sold, many of which are still running hand-wound and giving good service. George Stevens retired in 1905 and in 1909 the company moved to smaller quarters at 53 Franklin Street. It is unlisted in Boston directories after 1916.

Stevens was a rarity among clockmakers; he died rich. In a long successful business career, he sold hundreds of well made tower clocks that were largely derivative of the work of other clockmakers, and by prudent investment left a sizable fortune. He and his wife of 42 years, Addie Holden Stevens, lived in a fine home on Massachusetts Avenue in Cambridge, with a farm retreat at Swampscott. The couple was childless, but had a life filled with relatives and friends, including the offspring of his two brothers. Stevens' only known outside affiliation was with the Charity Lodge of Masons. After his wife's death in 1908, Estelle Rogers, a cousin related to Moses Crane's wife, took care of the household. A victim of diabetes for several years, George Stevens died in February 1917 after an illness of two months. His estate was valued at about \$270,000—millions in today's dollars. Apart from bequests to relatives, he intended that the bulk of the money go in small amounts to local charities. As it turned out, most went to estate trustees, lawyers, and taxes, until its depletion in 1989, 70 years after Stevens' passing.

Geo. M. Stevens & Co. Tower Clocks

GMS Model 1 (1864–1868). Of the 22 clocks made, only three have survived (two with missing parts) from their original installations in Keene, New Hampshire, and in Oxford and Wenham, Massachusetts. In addition, an installation at Poughkeepsie, New York, was sufficiently flawed for George Stevens to travel from Boston to check it out. The cast-iron frame measures 47" high, by 34" wide by 16" deep overall. All parts are stamped with the clock serial number. GMS Model 1 descends directly from clocks made by the Turret & Marine Clock Co.: it has a similar flanged square-sided flatbed with bowed legs, strike crank winding jack, deep-tooth count wheel strike control, fly-less crane-striker, hand-setting clutch on the minute wheel, and a 1½-second free pendulum. The time side uses a larger Crane walking escapement, a different tripping sys-

tem to rewind the remontoire spring, and an outboard fly to cushion the advance of the dial hands at one-minute intervals. Other differences include a four-wheel time train in brass bushings press fit into free-form A-frame plates, and the use of steel weight line and cast-iron barrels. The time barrel is mounted within the A-frame, but the longer strike barrel requires a frame offset and uses two clicks on its ratchet. The clock runs eight days on a winding and drives up to four outside dials. Its frame is painted black with red wheel spokes, signed by the maker with the Stevens patent date, and filigreed with blue, red, and gilt detailing.

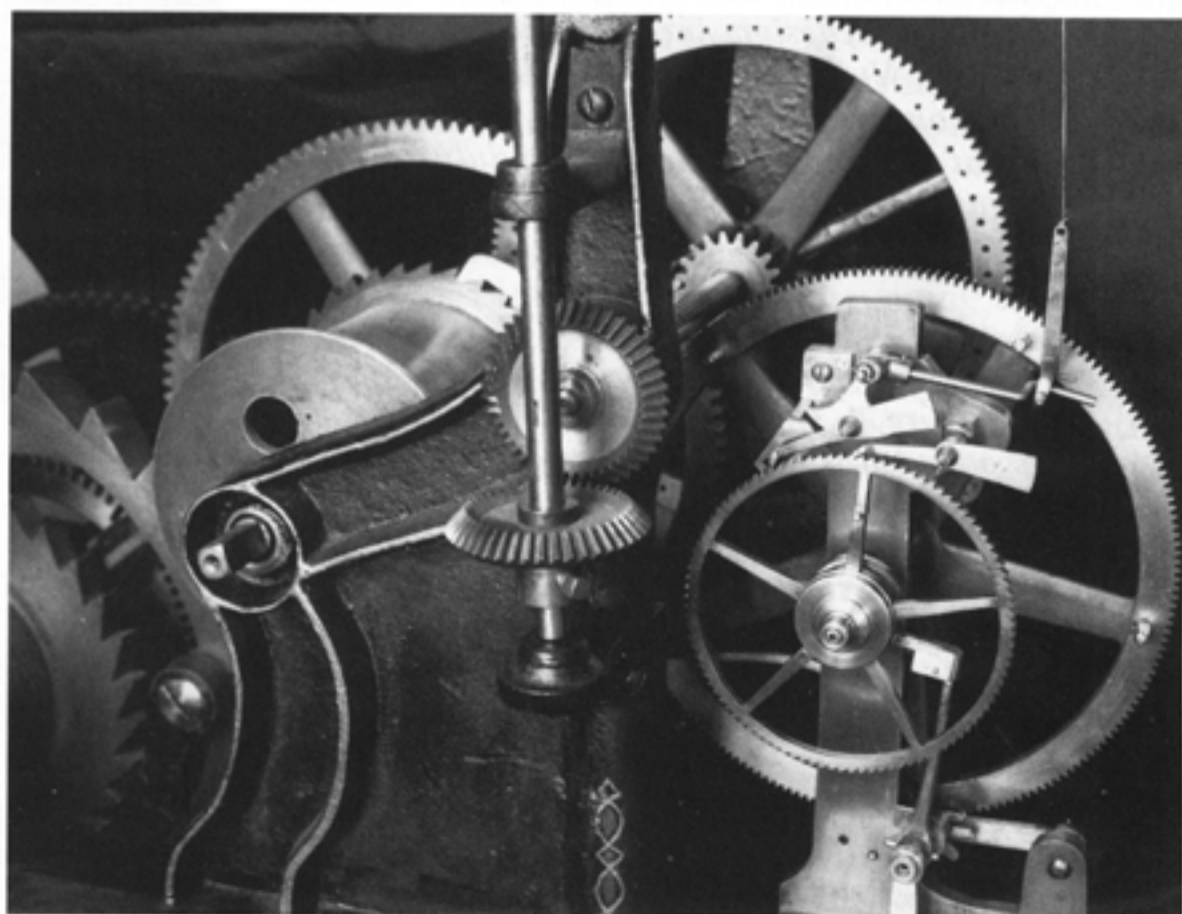
GMS Model 2 (1868–1872). The cast-iron frame design and crane-striker is unchanged, but major changes to the time side include a four-wheel time train, having Vuillamy bushings, mounted vertically in a 26" high cast-iron A-frame. The A-frame is topped by a bridge from which is suspended a conventional crutch-driven 1½-second pendulum with a compensated bi-metal cylindrical bob. Other changes include use of a signed and numbered deadbeat escapement with replaceable steel pallets and Harrison maintaining power. A large cam on the minute wheel arbor trips the strike and doubles as a 60-minute setting dial. The only holdover on the time side is the minute wheel clutch for resetting the dial hands without stopping the clock. GMS Model 2 is more modestly painted, typically in brown or green, with black or white trim, and signed by the maker on the flatbed.



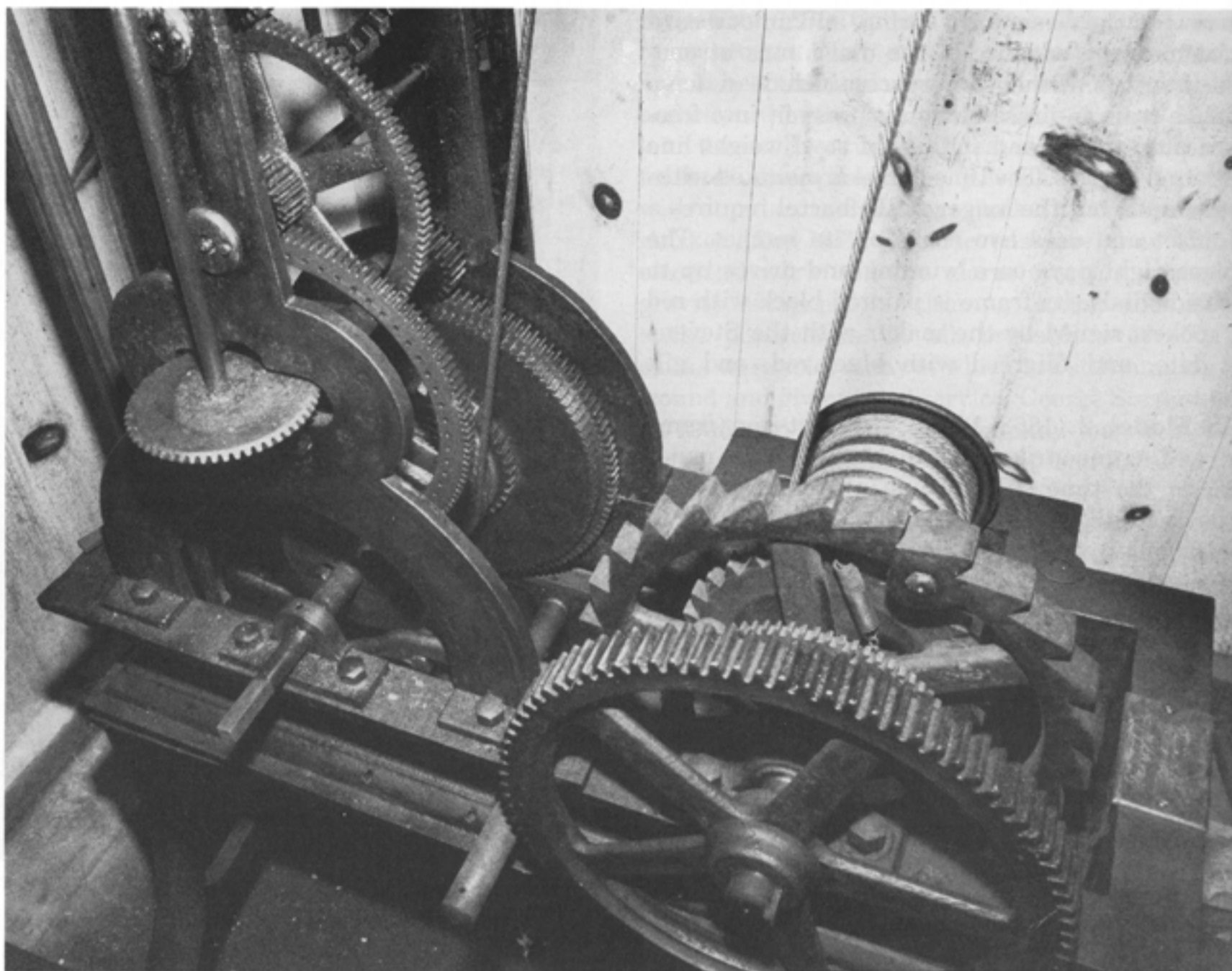
COLLECTION: DONALD SAFP (2)

GMS Figure 1. GMS Model 1 front overview, time left, strike right. Note the time free-form A-frame, its inset setting dial, and the escapement remontoire fly. The crane-striker ratchet and associated wheels are on a single arbor wound with winding jack aid, its wheel seen at bottom right.

GMS Figure 2. The Stevens "detached remontoire" escapement. Although larger and with a different triggering system, it is modeled after the Turret & Marine walking escapement. A remontoire spring in the escape wheel hub is automatically rewound at one-minute intervals. The vertical wire at top right conveys impulses from a falling 1 oz. weight to a free pendulum identical to T&M. (See T&M, Figure 1, p. 156.)



COLLECTION/DONALD SAFP (2)



GMS Figure 3. Model 2 overview. The crane-striker with a winding jack has been retained but its steel weight line winding barrel requires a Stevens hallmark, the frame offset. The time train is a complete redesign, including its cast-iron A-frame with Vuillamy bushings, Harrison maintaining, and a four-wheel train with Graham deadbeat escapement. Precision pendulum rating and beat adjustments are provided.

GMS Figure 4. Crane's "floating hammer" provides added bell power in Stevens' tower clocks, and also in Stevens' fire and fog alarm applications. It operates on the principle of a battering ram, swinging the bell hammer in both directions by a solid rod connection to the strike train below, while "floating" pendulum-like from overhead suspension.

