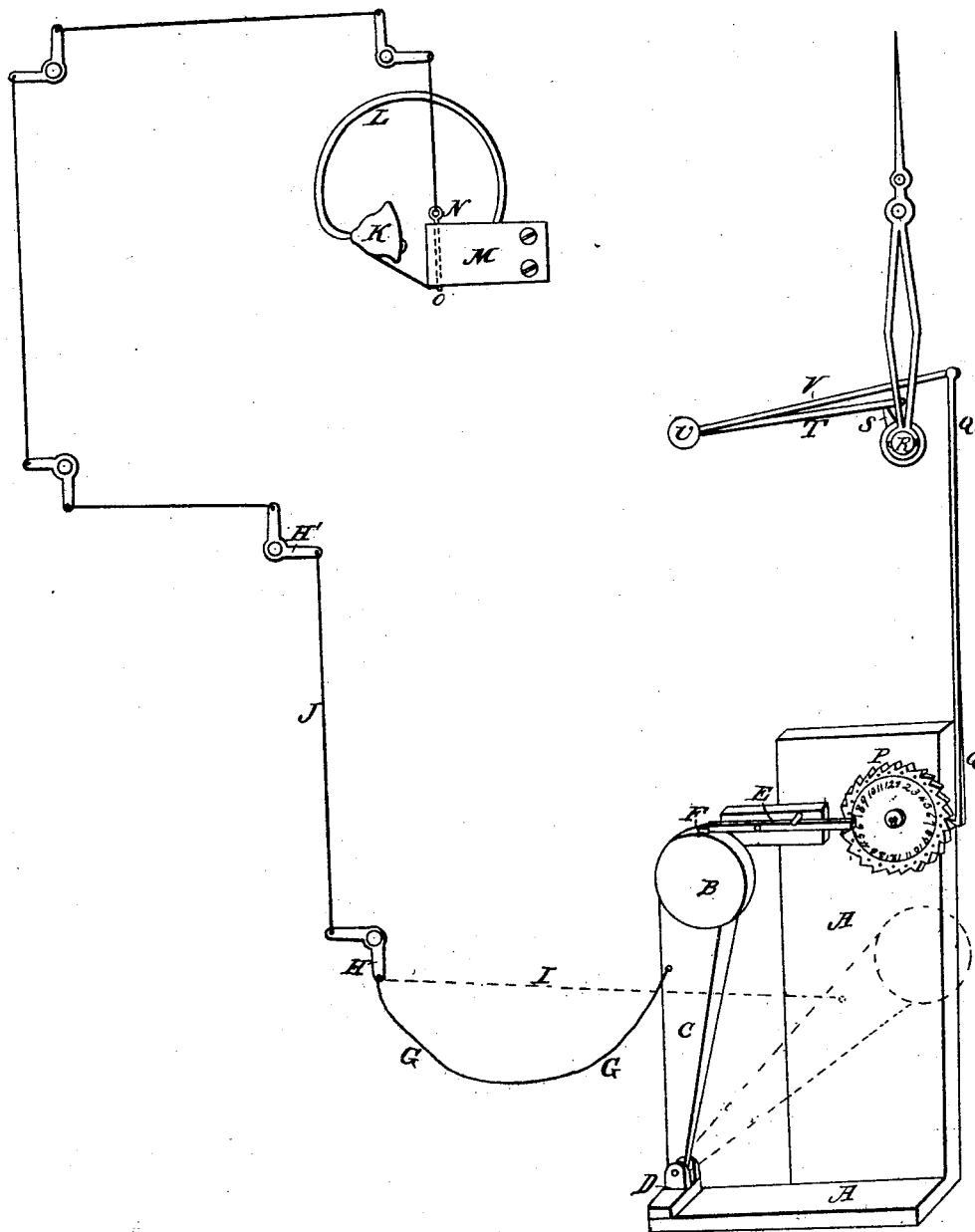


B. KNIGHT.

Time Alarm.

No. 1,780.

Patented Sept. 10, 1840.



UNITED STATES PATENT OFFICE.

BENJAMIN KNIGHT, OF SLATERSVILLE, RHODE ISLAND.

MANNER OF APPLYING ALARMS TO CLOCKS AND OTHER TIMEPIECES.

Specification of Letters Patent No. 1,780, dated September 10, 1840.

To all whom it may concern:

Be it known that I, BENJAMIN KNIGHT, of Slatersville, in the county of Providence and State of Rhode Island, have invented a new and improved mode of affixing alarms to clocks and other timepieces, by means of which improvement a bell giving the alarm may be sounded either in the apartment within which the timepiece is situated or in an apartment or apartments distant therefrom; and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawing, A, A, represents the lower part of a clock, or time-piece, case, within which there is placed a weight B, on the upper end of an arm C, the lower end of which arm works on a joint pin at D. The weight B, is held up by a catch, or latch, E, the end of which bears against a stop at F. When the latch is freed from the stop, it will fall over in the position of the dotted lines, it having a slight inclination in that direction. The latch is to be raised by the action of the time-piece, at the hour designated, and in a manner to be presently described. To the arm C, of the weight, there is attached one end of a cord G, G, the other end of which is affixed to a bell crank H, and when the weight B, falls the cord will be drawn into a straight line, as shown by the dotted line I, and the bell-crank will be forcibly acted upon.

J, is a wire leading to a second bell-crank H'; this part of the arrangement does not differ in any respect from the ordinary mode in which bells are hung; and the bell wire therefore may be made to lead into any apartment, or into several, in each of which an alarm may be sounded.

K, is a bell, attached to the spring L, the other end of which spring is fastened to the block M. A wire, N, passes through this block, and to its lower end O, the bell K, is hooked, the spring being then in a state of tension. When the wire N, is withdrawn by the action of the bell-crank, the bell will be liberated, and will, if properly fixed, ring with great force, and for a considerable length of time.

The following is the manner of constructing the apparatus by which the latch E, is raised at the appointed hour: P, is a wheel turning on a center pin, and having twenty four ratchet teeth on its periphery. On its face there are twenty four divisions, num-

bered from 1 to 12, in two series, so as to correspond with the twenty-four hours of the day. Against each of these figures there is a small hole, intended to receive a pin, 60 which is to project out to a short distance, for the purpose of raising the latch E. A rod, or wire, Q, Q, the upper end of which is acted upon by a pin, or detent, on the arbor of the minute hand, has a catch at 65 its lower end which engages with the ratchet teeth on the periphery of the wheel P, and as the wire Q, is raised every hour by the detent on the minute hand arbor, the wheel is turned one twenty-fourth part of its cir- 70 cumference every hour.

R, is the arbor of the minute hand, and S, the detent, or pin, projecting from it.

T, is a wire, or a strip of metal, attached to the arbor U, and which wire is lifted by 75 the detent S. A second wire, or strip of metal, V, is attached by one end to the arbor U, and by the other to the rod Q, and it will be seen that from this arrangement the required action upon the wheel P, will 80 be attained. The detent, S, must, of course, be made of the proper length to raise the rod Q, to the desired distance. By having forty eight divisions and the same number of teeth on the wheel P, and two detents upon the 85 minute hand arbor, the alarm may be set to half hours. The mode of setting by the insertion of the pin, so as to bring it into contact with the latch at the proper time, is too obvious to need description. 90

Having thus, fully described the nature and object of my invention, what I claim therein, and desire to secure by Letters Patent, is—

The arrangement and combination of the 95 parts as within described, for giving an alarm, by the means of a bell, either near to, or distant from, the time piece; said combination consisting of the detent upon the minute arbor for raising the rod Q, the 100 said rod, the wheel P, the latch E, and the falling weight B, with their necessary appurtenances, the whole constructed and operating substantially in the manner, and for the purpose, herein set forth. 105

In testimony whereof I hereunto set my name this twentieth day of August, 1840.

BENJAMIN KNIGHT.

Witnesses:

THOS. P. JONES,
GEORGE WEST.