

(No Model.)

E. JUNGHERMAN.

AUTOMATIC WINDING SIGNAL FOR SPRING CLOCKS.

No. 297,520.

Patented Apr. 22, 1884.

Fig. 2.

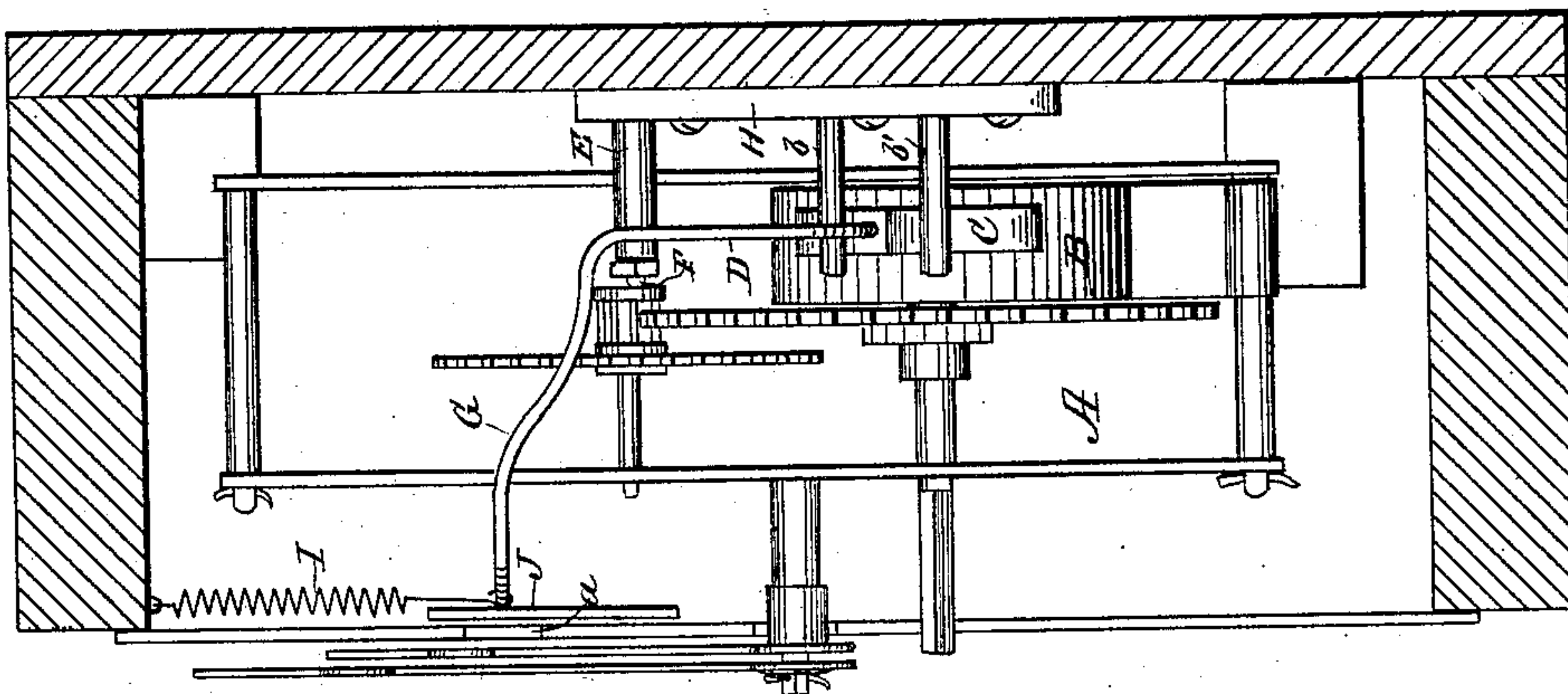
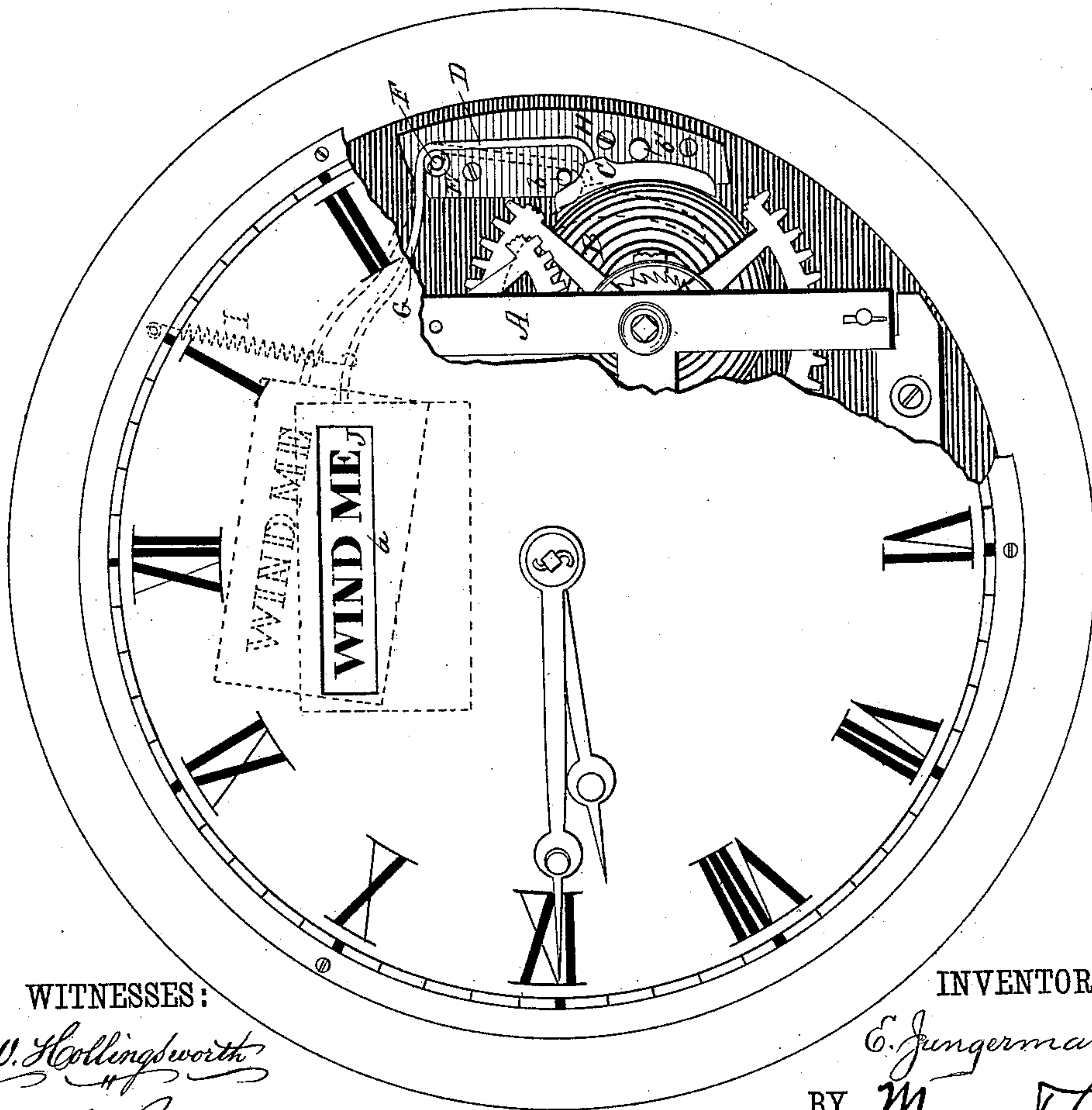


Fig. 1.



WITNESSES:

W. W. Hollingsworth
Edw. A. Ryan

INVENTOR:

E. Jungerman
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDWARD JUNGGERMAN, OF GETTYSBURG, PENNSYLVANIA.

AUTOMATIC WINDING-SIGNAL FOR SPRING-CLOCKS.

SPECIFICATION forming part of Letters Patent No. 297,520, dated April 22, 1884.

Application filed January 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD JUNGGERMAN, a citizen of the United States, residing at Gettysburg, in the county of Adams and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Winding-Signals for Spring-Clocks, of which the following is a description.

Figure 1 is a front view of a clock with a portion of the face broken away, showing the application of my invention; and Fig. 2 is a vertical section of the clock-case.

The object of my invention is to provide a means for indicating in spring-clocks when the clock is nearly run down, or requires re-winding. In twenty-four-hour clocks it is a part of the day's duties to wind up these once every day, and they are not likely to be forgotten; but in eight-day clocks the interval of winding up recurs at such remote periods that it is apt to be entirely forgotten, and as such clocks are for the most part relied on as standard time-keepers it is important that they should never be allowed to run down.

My invention relates to spring-clocks only; and it consists in combining with the mainspring of said clock a shoe or yielding bar, which, when the spring expands from uncoiling, is struck by said spring and made to bring a signal into the range of vision, either on the face of the clock or at any other point, as hereinafter described.

In the drawings, A represents a clock-movement, which is actuated by a mainspring, B, through the usual train of spur-wheels. In the plane of the mainspring, and at a point near its utmost limit of expansion, is a yielding shoe or bar, C, connected to an arm, D, that is rigidly secured to a sleeve, E, which oscillates on a pin or fulcrum, F. This sleeve also has another arm, G, that is bent outwardly nearly to the plane of the clock-face, and is then extended parallel with the clock-face to an opening, *a*, in the same. At this point said arm bears a signal-plate, J, with the words "Wind Me" appearing thereon, which is capable of being thrown out of registration with opening *a*, so as to be invisible, or into registration therewith, so as to be seen on the face of the clock.

I is a spring, which holds the signal out of

registration with opening *a*, and projects the shoe C in toward the mainspring.

The pivot-pin F, upon which sleeve E oscillates, is fixed to a plate, H, fastened to the back of the clock, and on this plate are also two other pins, *b b'*, between which the bent arm D, carrying the shoe or bar C, passes. One of these pins, *b*, limits the inward movement of the shoe or bar C toward the spring, so that said shoe cannot always press against the mainspring, which would somewhat retard its movement and action, but is only struck by the spring when the latter expands to nearly its greatest limit in unwinding. The other pin, *b'*, co-operates with *b* in reinforcing the shoe C when the latter is forced back by the spring, and affords a support for it to rest against without danger of bending or breaking the arm D.

The operation of my device is as follows: When the mainspring is fully wound up, the arm D rests against pin *b*, and the signal-plate J is drawn out of registration with the opening *a* by the spring I. Now, so long as the clock does not need rewinding the parts remain in this position; but whenever the mainspring relaxes and expands to a degree to require rewinding, as shown in Fig. 1, it then, by coming against shoe or bar C, pushes the latter to one side, and this, by moving the arm D, turns the sleeve E on its pivot-pin and brings the arm G with its signal-plate down in front of the opening *a*, thus affording a visible signal indicating the condition of the clock, with a suggestion to wind it up.

I do not confine myself strictly to the location of the parts shown, nor to the exact construction of said parts, as these may be changed without departing from my invention.

Having thus described my invention, what I claim as new, is—

1. The combination, with the spring of a clock and its working parts, of a yielding bar placed in range of contact with the mainspring when relaxed and expanded, and a signal adapted to be set by the yielding movement of said bar, as and for the purpose described.

2. The combination, with the spring of a clock and its working parts, of a yielding bar placed in range of contact with the main-

spring when relaxed and expanded, a stop for limiting the movement of said bar inward toward the clock-spring, a signal adapted to be set by the yielding of the bar, and a spring
5 for drawing back the signal, as and for the purpose described.

3. The combination, with the spring of a clock, its slotted face, and its working parts, of the yielding bar C, adjusted in relation to

the spring to be struck and moved by the expansion of the latter, arm D, oscillating sleeve E, arm G, signal-plate J, and spring I, substantially as and for the purpose described.

EDWARD JUNGGERMAN.

Witnesses:

EDW. W. BYRN,
CHAS. A. PETTIT.