

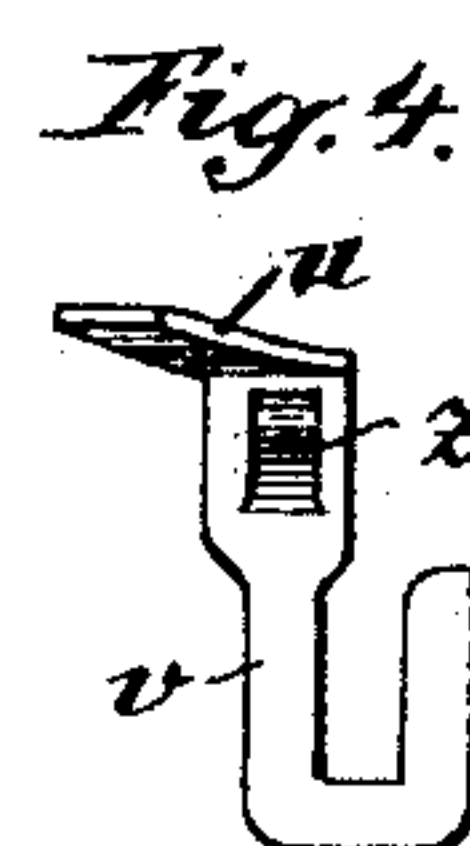
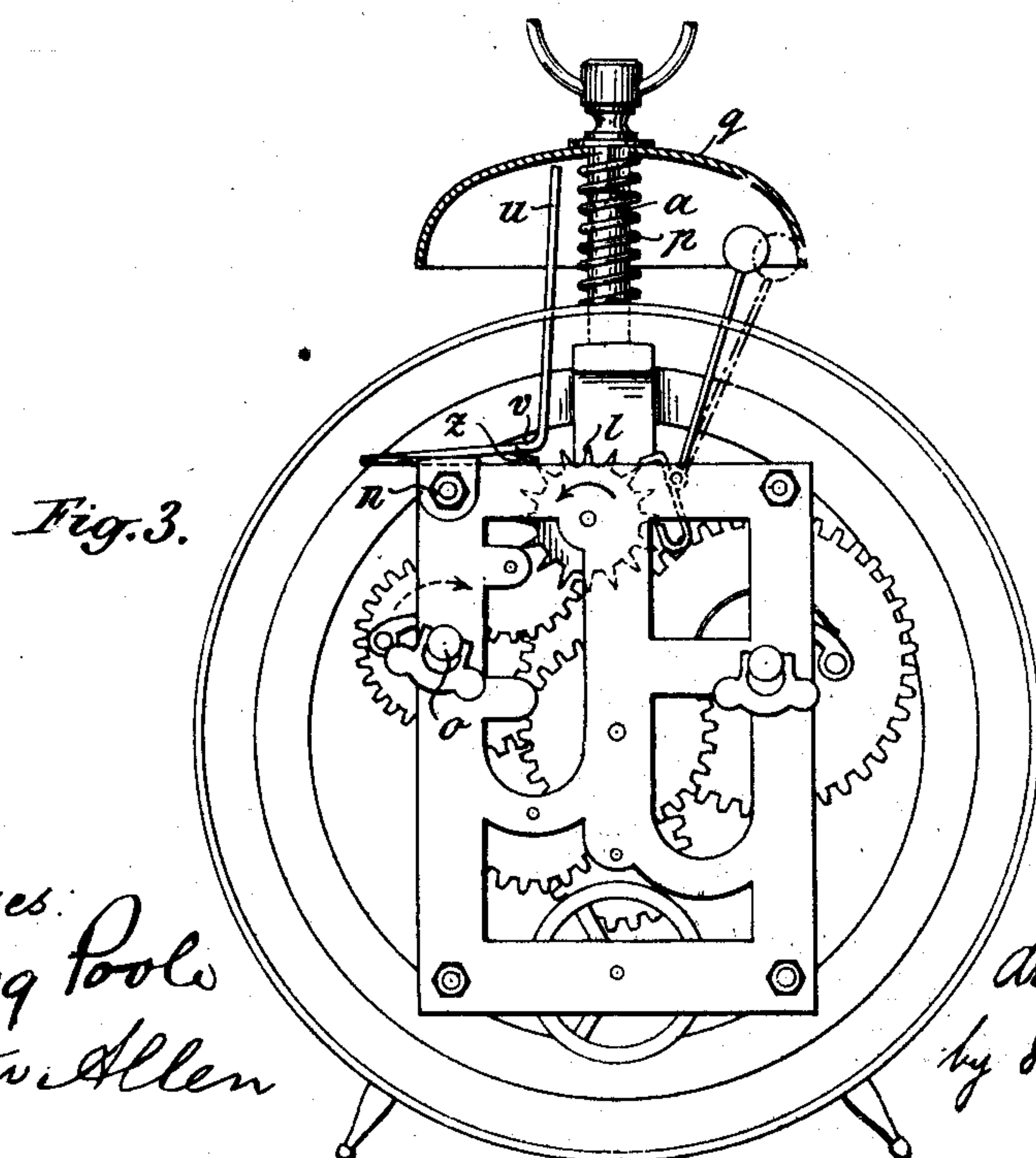
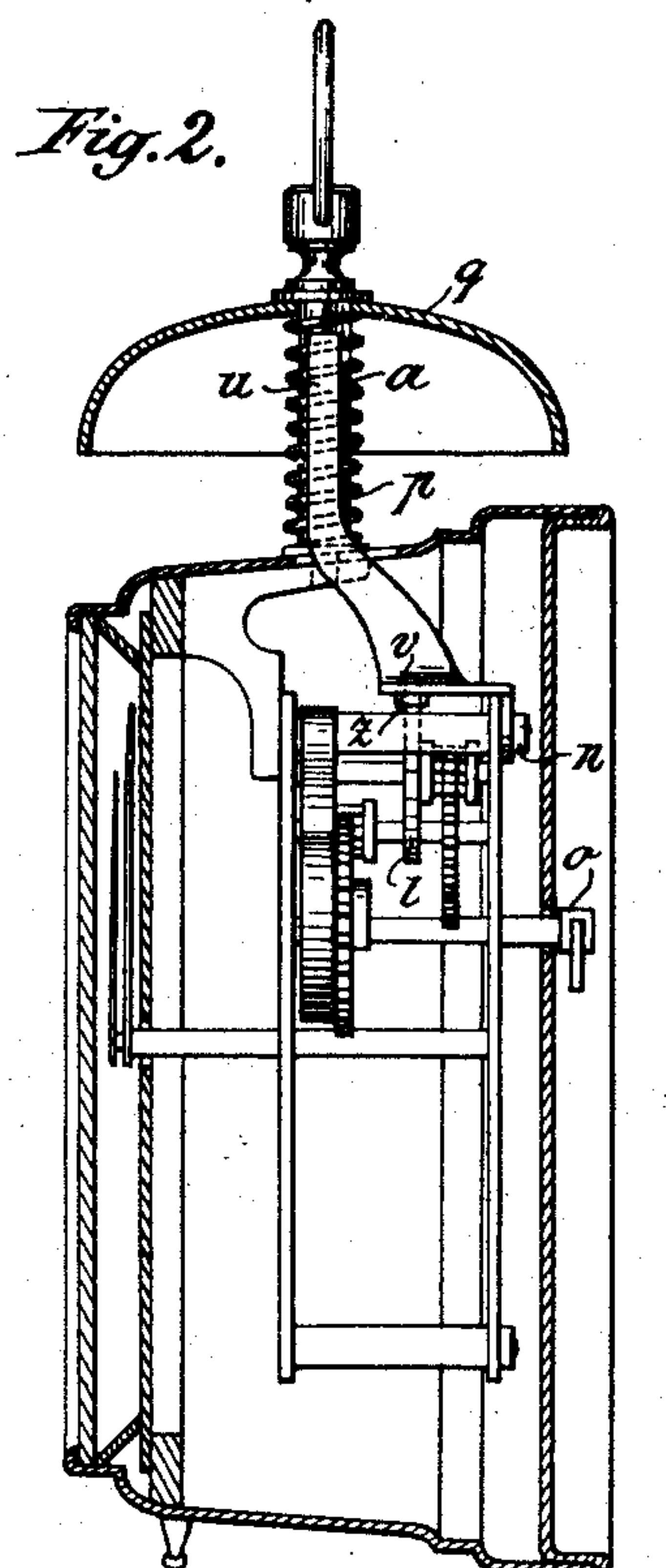
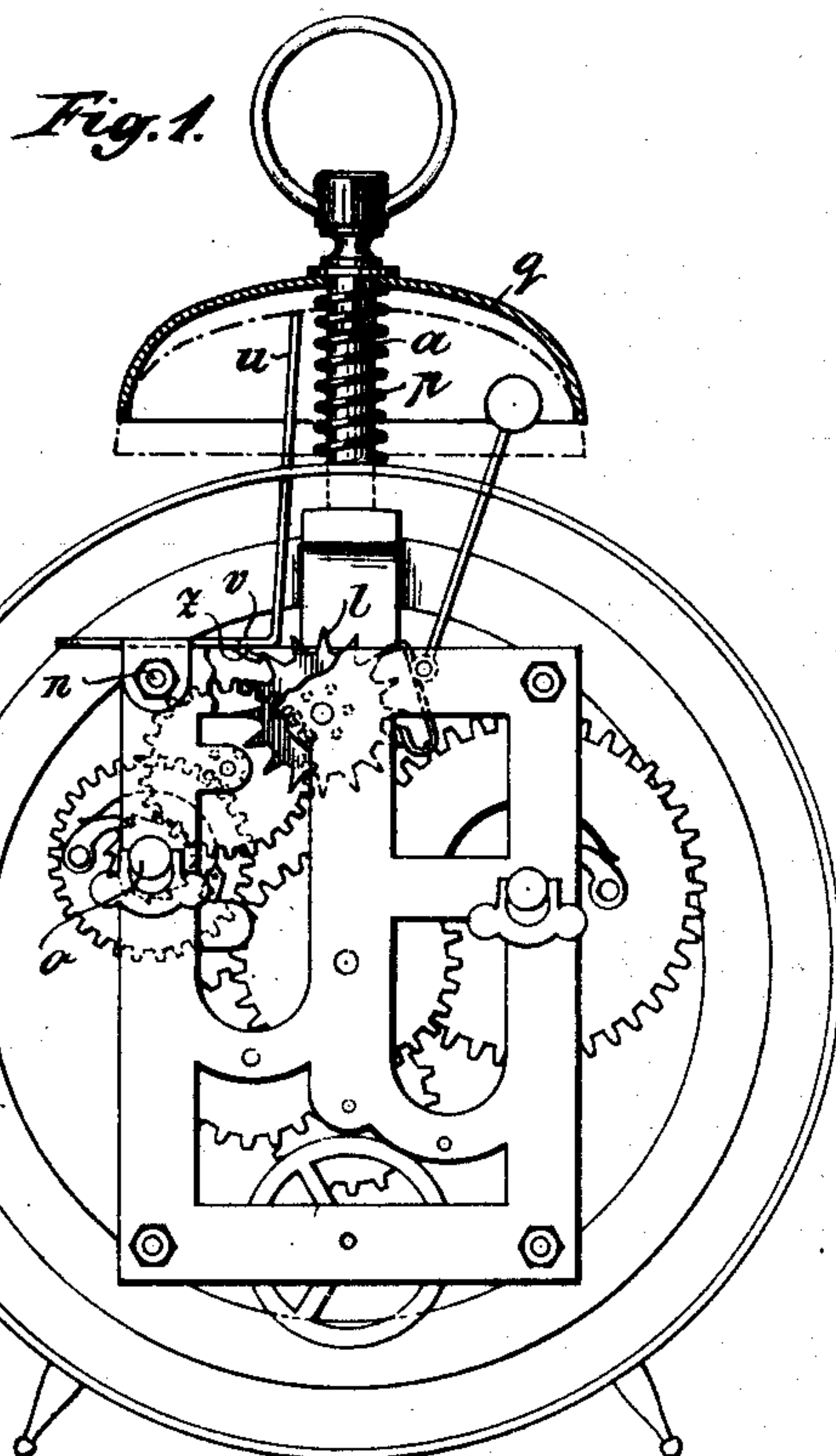
No. 667,320.

Patented Feb. 5, 1901.

A. JUNGHANS.
ALARM CLOCK.

(Application filed Oct. 18, 1900.)

(No Model.)



Witnesses:
J. Sprigg Poole
Walter Allen

Inventor
Arthur Jungmans.
by Herbert W. Jenner.
Attorney

UNITED STATES PATENT OFFICE.

ARTHUR JUNGHANS, OF SCHRAMBERG, GERMANY.

ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 667,320, dated February 5, 1901.

Application filed October 16, 1900. Serial No. 33,208. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR JUNGHANS, a subject of the Emperor of Germany, residing at Schramberg, Württemberg, in the Empire of Germany, have invented an Improved Alarm-Clock, of which the following is a full, clear, and exact description.

In alarm-clocks as hitherto constructed it has been necessary in order to check the operation of the alarm to give a horizontal movement to an arm situated under the bell or gong, so as to arrest or hold the hammer, and that such hammer should be afterward released by hand, so that the alarm might again come into operation. The release of the hammer-arresting device is according to the present invention effected automatically and insured by simply winding up the alarm works or movement.

One of the distinguishing features of the improved arrangement is the employment of an arresting device, such as a lever, the return of which to its inoperative position is made automatically and is dependent upon the act of winding the alarm mechanism. The fact that during this winding process the alarm escape-wheel has a rearward rotary movement is utilized in effecting the automatic release above described. One form of the improved construction is represented by way of example in the accompanying drawings, in which—

Figures 1 and 3 are rear elevations of the works, illustrating the inoperative and operative positions of the alarm mechanism, respectively. Fig. 2 is a cross-section, partly broken away; and Fig. 4 is a top view or plan of the arresting-lever.

The alarm-bell *q* (shown in section at Figs. 1, 2, and 3) is capable of being depressed in opposition to the pressure of a spring *p*, coiled around the pillar *a*, carrying the seat for the bell, and by this movement effecting a sudden discontinuance of the operation of the alarm whenever the alarm-train is ringing the bell. A spring-arm or spring-operated lever *v* is rigidly secured at one end to the clock-frame by a nut *n*. This arm or lever normally springs upward by its own resiliency to the position shown in Fig. 3, and it is preferably formed like a letter U, as

shown in Fig. 4. The free end of the spring-arm *v* is provided with a push-piece *u*, which projects upward into close proximity to the crown of the bell. The arm *v* is provided with a downwardly-projecting tooth *z*, which it normally holds clear of the teeth of the alarm escapement-wheel *l*. While the alarm-works are running down, this escape-wheel turns in the direction of the arrow indicated in Fig. 3. By depressing the bell the spring-controlled or resilient lever *v* is moved a little distance downward, and the said tooth or pawl *z* comes into engagement with one of the teeth of the alarm escape-wheel *l*, whereby such escape-wheel is arrested, and the lever *v* itself is at the same time held down by the pressure of the tooth of the escape-wheel acting upon the point of the tooth or pawl *z* in the right direction. After the release of the bell *q*, which as soon as released springs back to the position shown in full lines, the lever *v* continues in its arrested position, as shown in Figs. 1 and 2, and not until the winding-arbor *o* commences to be turned, and thereby imparts a rearward rotary movement to the escape-wheel *l* inversely to the direction of the arrow shown in Fig. 3, does the tooth *z* become released, so that the lever *v* may spring back to its initial raised position, as shown in Fig. 3, whereupon the alarm is restored to its operative position. Thus it will be seen that the object accomplished by the arrangement described is to enable the alarm-works automatically to resume their operative position and without necessitating any special setting or adjustment by hand, the backlash of the escape-wheel in the process of winding being utilized in lieu thereof. The lever *u v* may, however, be thrown into operation otherwise than by the depression of the bell *q*.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an alarm-clock, the combination, with one of the toothed wheels of the alarm-train, of a tooth, a spring normally holding the said tooth out of contact with the said wheel, and means for moving the said tooth into the forward path of one of the teeth of the said wheel against the pressure of the said spring, whereby the said tooth and wheel become in-

terlocked until the said wheel is moved in the reverse direction in rewinding the alarm-train, substantially as set forth.

2. In an alarm-clock, the combination, with
5 one of the toothed wheels of the alarm-train,
of a spring-arm rigidly secured at one end
and provided with a tooth which it normally
holds out of contact with the said wheel, and
means for bending the said spring-arm so as
10 to place its said tooth into the forward path
of one of the teeth of the said wheel, whereby
the said spring-arm and wheel become inter-
locked until the said wheel is moved in the
reverse direction in rewinding the alarm, sub-
15 stantially as set forth.

3. In an alarm-clock, the combination of a
striking-hammer, an escape-wheel operating
such hammer, a spring-actuated lever, a pawl
carried by such lever capable of engaging and
arresting the said escape-wheel, a push-piece 20
connected to such lever, a bell arranged above
such push-piece, a seat by which the bell is
carried, and a spring upon which such seat
rests, substantially as set forth.

In testimony whereof I affix my signature 25
in presence of two witnesses.

ARTHUR JUNGHANS.

Witnesses:

H. VON DER TANN,
LOUIS HARBURGER.