(No Model.) 2 Sheets—Sheet 1.

C. O. MAJOR

TIME ALARM.

No. 524,026. Patented Aug. 7, 1894.

Fig.1

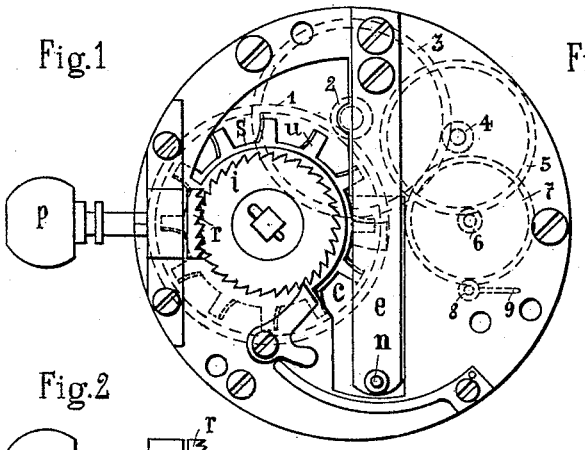


Fig.2

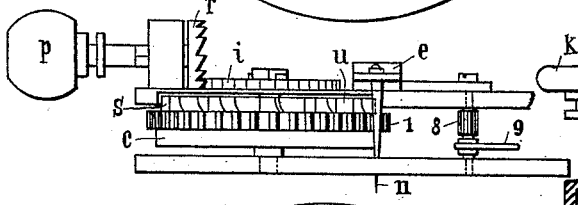


Fig.3

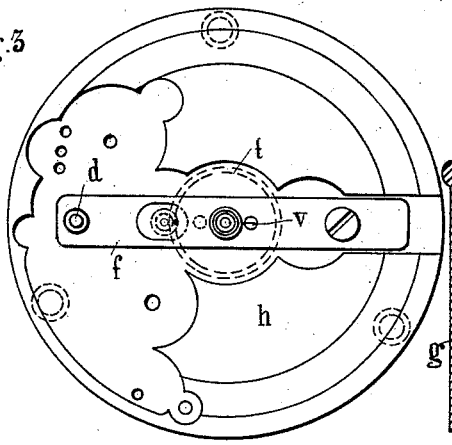


Fig.4

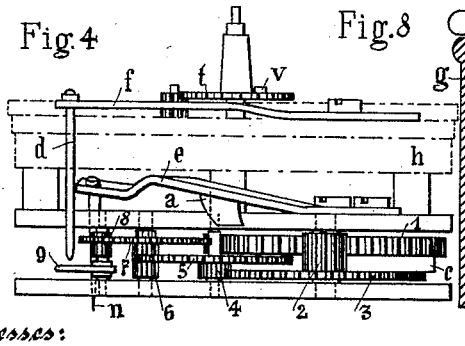


Fig.5

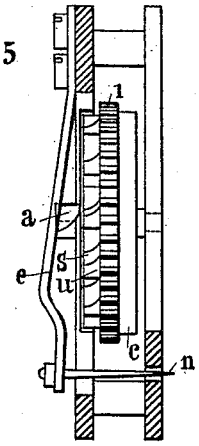
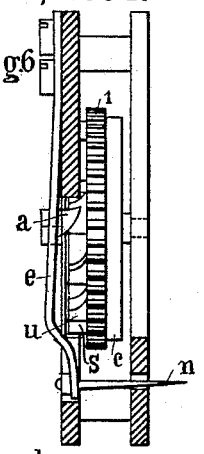


Fig.6



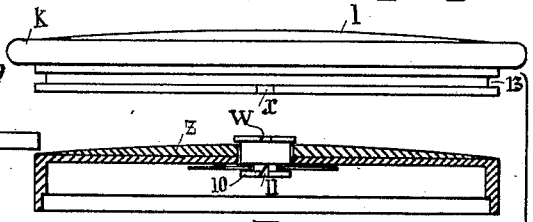


Fig.7

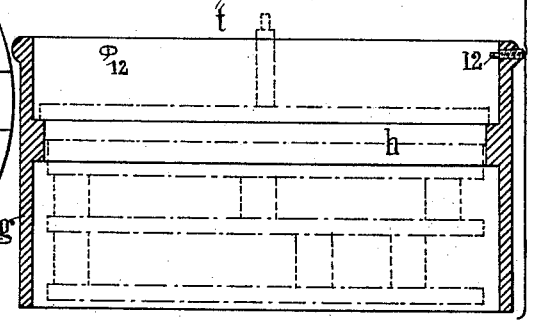
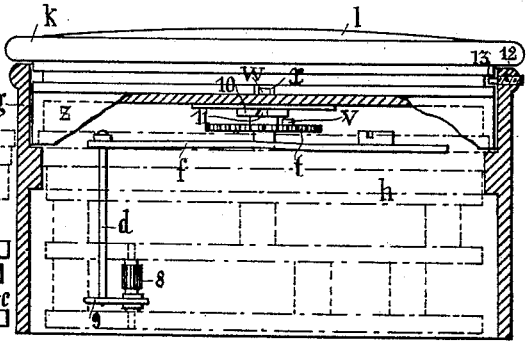


Fig.8



Witnesses:
Fred May
Charlie Schafer.

Carl Otto Major. Inventor.
pr. B. Reichelt & Geo Otto
Attys.

(No Model.) 2 Sheets—Sheet 2.

C. O. MAJOR.

TIME ALARM.

No. 524,026. Patented Aug. 7, 1894.

Fig. 11

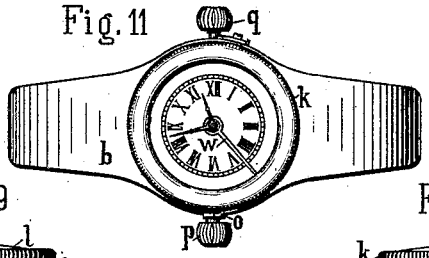


Fig. 9

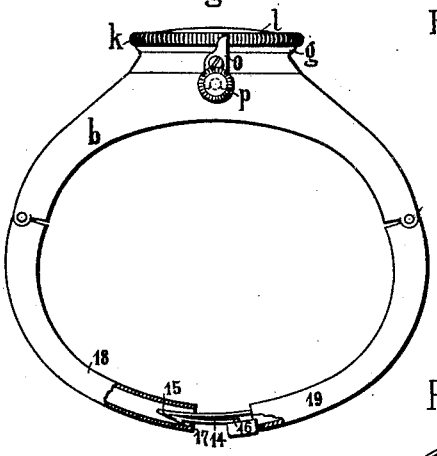


Fig. 10

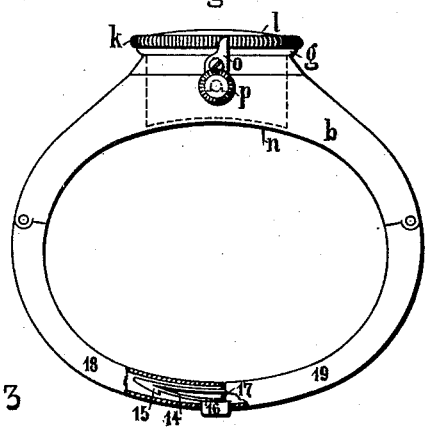


Fig. 13

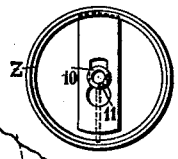


Fig. 12

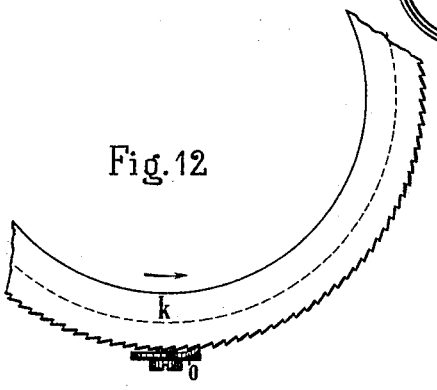
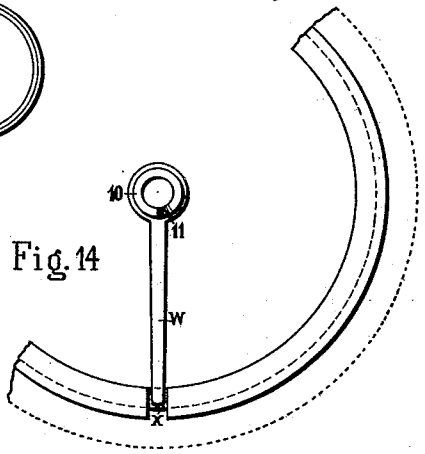


Fig. 14



Witnesses:
Fred May
Charlie Shafer

Inventor
Carl Otto Major.
pr. B. Reichelt & Geo. Otto.
Attys.

UNITED STATES PATENT OFFICE.

CARL OTTO MAJOR, OF DRESDEN, GERMANY.

TIME-ALARM.

SPECIFICATION forming part of Letters Patent No. 524,026, dated August 7, 1894.

Application filed December 3, 1892. Serial No. 453,988. (No model.)

To all whom it may concern:

Be it known that I, CARL OTTO MAJOR, a subject of the King of Saxony, residing at Dresden, in the Kingdom of Saxony and German Empire, have invented certain new and useful Improvements in Alarm and Watch Bracelets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to construct a bracelet, having a watch and alarm mechanism mounted on the same; the bracelet being adapted to be worn on the wrist; thus the person wearing the same, can easily and quickly find out the time of day; the watch and the alarm mechanism, although consisting of separate works, are connected together in such a manner that the alarm mechanism is caused to operate at any desired time by setting the alarm hand, which is on the face of the watch, accordingly.

It will be readily seen from the above description that a watch and alarm bracelet of this kind, has many advantages, particularly as the same can be worn on the wrist while sleeping or at any other time, regulated to awake the person wearing the same, at any desired time, or to cause a person to think of some important business, or engagement set for a certain time, by regulating the alarm accordingly.

The objects and advantages of my invention will be more fully understood from the following description, when taken in connection with the annexed drawings, in which—

Figure 1, is a top view of alarm mechanism. Fig. 2, is a side view of the same. Fig. 3, is a bottom view of the frame of the watch movement. Fig. 4, is a side view of alarm mechanism and part of watch mechanism. Figs. 5 and 6 show the different positions of alarm needle at different periods, when the alarm mechanism is in operation. Figs. 7, are details showing bezel or collar; cross section of watch dial showing socket piece to which the alarm hand is attached; the cannon pinion on the arbor of which the socket piece revolves; and a cross section of watch and alarm case. Fig. 8, is a cross section of watch and alarm case, showing part of the watch and alarm mechanism. Figs. 9 and 10, show the manner in which the case containing the watch and alarm mechanism, can be mounted on a bracelet to be worn upon the wrist. Fig. 11, is a top view of the same. Fig. 12, is a view of the watch bezel or collar having ratchet teeth on its periphery and a spring click to engage with the same. Fig. 13, is a bottom view of the watch dial showing a plate for holding socket piece in position. Fig. 14, is a detail view of revolving bezel or collar.

Like numerals and letters of reference indicate like parts in all the figures of the drawings.

The alarm mechanism is composed of a vertical needle or hammer *n*, which is secured to one end of a horizontal plate spring *e*, fastened on the opposite end to the frame of alarm mechanism, and between the watch and alarm mechanism.

a, is a nose or projection on the under side of the spring *e*, and comes in contact with a crown ratchet wheel *s*, the teeth *u*, thereof having an intermediate space of a size large enough to allow the nose *a*, to drop between the same; said nose *a*, being raised by the teeth *u*, and caused to drop by its own force, into the space between the teeth *u*, alternately, when the crown ratchet wheel is in motion; thereby giving the needle or hammer *n*, and the plate spring *e*, to which the nose *a*, is centrally affixed, a reciprocating motion. (See Figs. 5 and 6.) As soon as the nose *a*, slides off of one of the teeth *u*, of the crown ratchet wheel, it causes the needle or hammer *n*, to have a downward motion, thereby pricking or striking the arm of the person wearing the same. The spring from which the alarm mechanism receives its power, is independent of the watch work, and is lodged in a main spring barrel *c* and is wound by a key *p* by means of the ratchet wheels *i r*, and a spring click, as shown in Figs. 1 and 2.

In order that the needle or hammer *n* will not strike or operate until the desired time, it is prevented from doing so, by a projecting wire *d* which is attached to one end of a plate spring *f*, said wire being held down so as to come in contact with a flying arm 9, on the arbor of the pinion 8; said pinion being connected to the crown ratchet wheel which operates the alarm needle or hammer, by a train

of gear wheels. Thus it will be seen that the alarm mechanism cannot operate until the pinion 8, is allowed to revolve.

The needle *d*, which prevents the alarm mechanism from operating until the desired time, or allows the alarm to operate at the desired time, is vertically attached to the end of a plate spring *f*, which is at right angles to the same; the spring *f*, is secured to watch frame on one end, and in a position immediately under the hour wheel *t*, against which a nose or notch on the upper side of spring *d*, rests, said hour wheel also having a small right-angle triangle shaped nose *v*, on its upper side, which is caused to rest against the bottom of socket piece 10, by the spring *f*, forcing the hour wheel *t* upon which the notch is upward; said socket piece 10 being also provided with a right angled triangle shaped notch 11, and is also connected with the alarm hand, the notch 11 being directly under the same. Thus it will be seen that as soon as the nose *v*, which moves with the hour wheel *t*, reaches the notch 11, of the socket piece 10, it will allow the hour wheel *t*, which works loose upon the center pinion, to be raised by the spring *f*, thereby allowing the projecting needle *d*, also to be raised by means of the spring, and thus releasing the flying arm 9, which will allow the alarm mechanism to operate.

In order to set the alarm or to stop the same from operating, all that is necessary is to turn the alarm hand to the right, which causes the notch 11 in socket piece 10, to force the nose *v*, on the hour wheel, out of the notch; thus causing the hour wheel and the spring *f*, to which the needle *d* is secured, to be lowered, causing the projecting wire *d* to come in contact with the flying arm 9, and preventing the same from rotating; thereby also preventing the alarm mechanism from operating again until the nose *v*, on the hour wheel *t*, has reached the notch 11, in the socket piece 10. The socket piece 10 works on a cannon pinion, and to the same is affixed the alarm hand *w*, said alarm hand being directly over the notch 11. Thus it will be seen that by turning the alarm hand to four o'clock, the notch 11 would be also turned in that direction, and as soon as the hour hand reached four o'clock, the nose *v*, on the hour wheel will also reach the notch 11, thereby allowing the spring to which the projecting wire *d*, is affixed, to be raised, and allowing the alarm mechanism to operate as heretofore described.

The means by which the alarm hand *w*, which is placed below the minute and hour hands is set, is composed of a collar or bezel *k*, having a lug with an annular groove 13; said collar being held in place and turned upon several small screws 12, which are screwed through the watch case so as to project into the annular groove; thus allowing the collar or bezel which has a notch *x*, on the lug of the same, and into which the end of the alarm hand is placed, to be turned, and by means of which the alarm hand can be set to the desired time, by simply turning the collar to the right.

In order that the collar cannot be turned in the same direction in which the hour wheel revolves, the same is provided with ratchet teeth on its periphery, which, together with a spring click O, prevents the same from being turned in the wrong direction.

The button *p*, as shown in the drawings, is for the purpose of winding the watch, and the button *q*, for winding the alarm mechanism. As will be seen the bracelet is constructed like any ordinary bracelet, excepting the lower part thereof, which consists of two arms 18 and 19 mounted on hinges; on the arm 19 of which there is a long plate spring 14, provided with a nose 15, which, together with the shoulder 17, prevents the same from becoming unfastened; the long plate spring thereof allowing the bracelet to be worn by a person with a large or small wrist.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In an alarm watch, the combination with the case, the watch mechanism mounted in the upper part thereof, the alarm mechanism occupying the lower part thereof, of a plate spring having a needle rigidly secured to the end thereof, and a nose centrally affixed to the under side of the same, of a crown ratchet wheel, the spaces between the teeth thereof being of sufficient size to permit the nose on the plate spring to enter the same, of a pinion having a flying arm on the arbor thereof, a train of gear wheels connecting said pinion with the crown ratchet wheel, and means for regulating and operating the same, said alarm watch and its parts being adapted to be worn or carried in a bracelet, substantially as herein shown and described.

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

CARL OTTO MAJOR.

Witnesses:
CARL FR. REICHLET,
PAUL ARRAS.