

No. 620,958.

Patented Mar. 14, 1899.

A. N. PIERMAN.  
ALARM.

(Application filed Aug. 18, 1898.)

(No Model.)

Fig. 1.

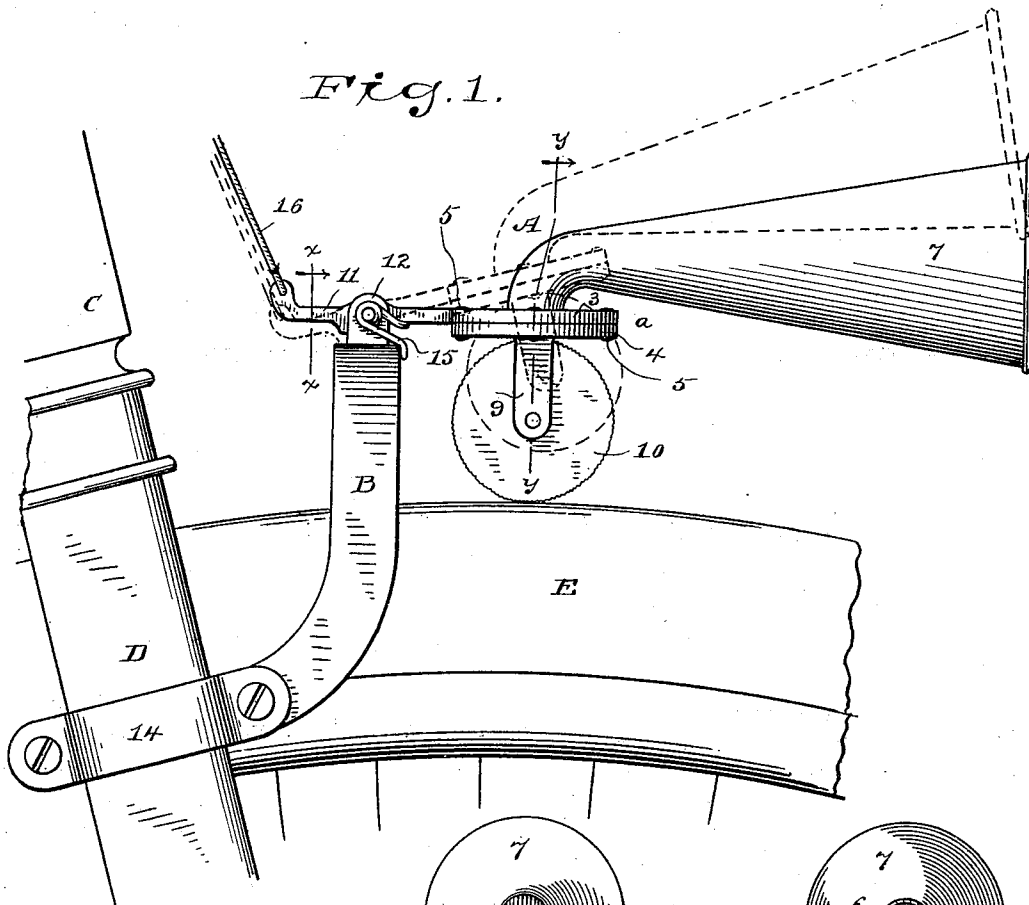
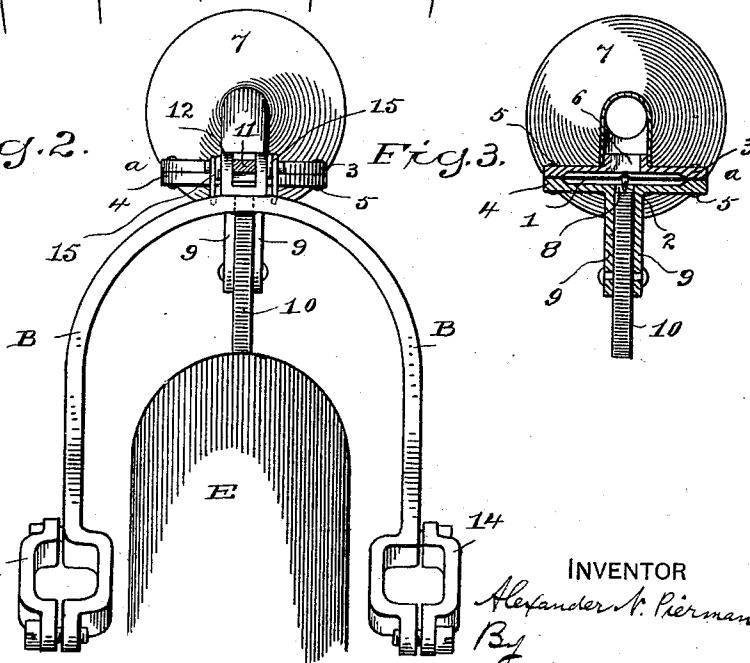


Fig. 2.

Fig. 3.



WITNESSES

H. F. Lawley  
A. M. Withnell

INVENTOR

Alexander N. Pierman  
By  
J. M. Wooster  
Atty.

# UNITED STATES PATENT OFFICE.

ALEXANDER N. PIERMAN, OF BRIDGEPORT, CONNECTICUT.

## ALARM.

SPECIFICATION forming part of Letters Patent No. 620,958, dated March 14, 1899.

Application filed August 18, 1898. Serial No. 688,864. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER N. PIERMAN, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented a new and useful Alarm, of which the following is a specification.

My invention has for its object to provide a simple, inexpensive, easily attached, and loud-sounding alarm adapted for general use, but more especially for vehicles, as bicycles; and my invention consists, essentially, in the combination, with a point or button carried by a resonant diaphragm, of a transversely-corrugated wheel whose periphery engages the point or button.

In the accompanying drawings, forming part of this specification, in which reference characters are used to designate the several parts, Figure 1 is an elevation illustrating the application of my novel alarm to a bicycle, the operative position being indicated by full lines and the normal or inoperative position being indicated by dotted lines; Fig. 2, a section on the line  $x x$  in Fig. 1, and Fig. 3 a section on the line  $y y$  in Fig. 1.

It is a matter of no consequence, so far as the essence of my invention is concerned, whether the alarm is applied to the front wheel or the rear wheel or the special manner in which it is applied. In the present instance I have shown it as applied to the front wheel and as attached to the fork.

A denotes my novel alarm as a whole; B, a bracket by which it is carried, and C the head; D, the front fork, and E the front wheel, of a bicycle.

As before stated, an essential feature of my novel bicycle-alarm is a resonant diaphragm 1, which may be made of metal or of any suitable material and which carries at its center a hard point or button 2. This diaphragm is rigidly secured in a case  $a$ , which may be made in any suitable manner. In the present instance I have shown the case as comprising plates 3 and 4, which clamp the diaphragm firmly between them and are secured together by rivets 5, the opening in the center of the case being of course large enough to permit ample vibration of the diaphragm.

6 denotes a sound-opening in the case—in the present instance in the top at the center—

over which a horn 7 may be placed when it is desired to throw the sound-waves formed by the diaphragm in one general direction. 55

8 denotes an opening in the case—in the present instance in the bottom—through which the point or button 2 projects.

9 denotes ears formed integral with or rigidly secured to the case, between which is pivoted a wheel 10, having a roughened or transversely-corrugated surface which is engaged by the point or button and which wheel is adapted to be placed in engagement with the bicycle-wheel and receive motion therefrom. 65

The case and the other parts just described are shown as carried by a lever 11, which is pivoted between ears 12 on bracket B, which is itself provided with clamps 14, by which it is secured to the fork, it being of course apparent that the shape of the bracket and the clamps are not of the essence of my invention, but may be adapted to any special use to which it is contemplated placing the alarm.

A spring 15 of any suitable construction is arranged to normally throw the alarm out of operative position, as indicated by dotted lines in Fig. 1. 75

16 denotes an operating device—as a cord, wire, or rod—by which the alarm is thrown into operative position against the power of the spring. This operating device may be carried to any suitable position, as the center of the handle-bar or either of the grips. 80

When it is desired to sound the alarm, the operator—in the present instance the rider of the bicycle—by means of the operating device, places the roughened wheel in engagement with the bicycle-wheel. The roughened wheel receives motion from the bicycle-wheel, and the corrugations of the wheel are engaged by the point or button carried by the diaphragm, thereby imparting vibration to the diaphragm and producing the alarm, which I find in practice will be heard at a much greater distance than bells and other alarms commonly in use. 95

Having thus described my invention, I claim—

1. An alarm comprising a resonant diaphragm having at its center a hard point or button, a transversely corrugated or roughened wheel adapted to be engaged by the said point or button to produce vibration of the diaphragm, and a movable case in which said 100

diaphragm is mounted and with which said wheel is connected so as to be movable with said case when the alarm is moved into or out of operative position.

- 5 2. An alarm comprising a resonant diaphragm having at its center a hard point or  
button, a transversely-corrugated wheel  
adapted to be engaged by the said point or  
button to produce vibration of the diaphragm,  
10 a movable case in which the diaphragm is in-  
closed and with which said wheel is connected  
so as to be movable therewith, and means for  
placing the alarm in operative position and  
for returning it to its normal position.
- 15 3. The combination with a case having an  
opening 6 for the escape of sound and an open-  
ing 8, of a diaphragm rigidly secured within  
the case and having at its center a point or  
button which projects through opening 8, a  
20 corrugated wheel carried by the case and en-  
gaged by the point or button and means for  
placing the toothed wheel in engagement with  
a moving object, for example a bicycle-wheel,  
whereby vibration of the diaphragm is pro-  
25 duced and means for returning the parts to  
their normal position.
4. The combination with a case having open-

ings 6 and 8 and a lever by which it is carried,  
of a diaphragm secured within the case and  
carrying a point or button extending through 30  
one of the openings, a corrugated wheel car-  
ried by the case and engaged by the point or  
button, a bracket to which the lever is piv-  
oted and which is provided with means for  
attachment in place, an operating device as 35  
a cord by which the device is placed in opera-  
tive position and a spring by which it is re-  
turned to its normal position.

5. The combination with a case having open-  
ings 6 and 8 and a lever by which it is carried, 40  
of a diaphragm rigidly secured within the case  
and carrying a point or button extending  
through one of the openings, a corrugated  
wheel carried by the case and engaged by the  
point or button, a horn secured over the other 45  
opening, a bracket to which the lever is piv-  
oted and means for throwing the alarm into  
and out of operative position.

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

ALEXANDER N. PIERMAN.

Witnesses:

A. M. WOOSTER,  
A. M. WITHERELL.