H. P. ARMS.

ALARM CLOCK.

APPLICATION FILED JUNE 1, 1907. RENEWED NOV. 4, 1908.

924,127. Patented June 8, 1909.

2 SHEETS—SHEET 1.

Fig. 1

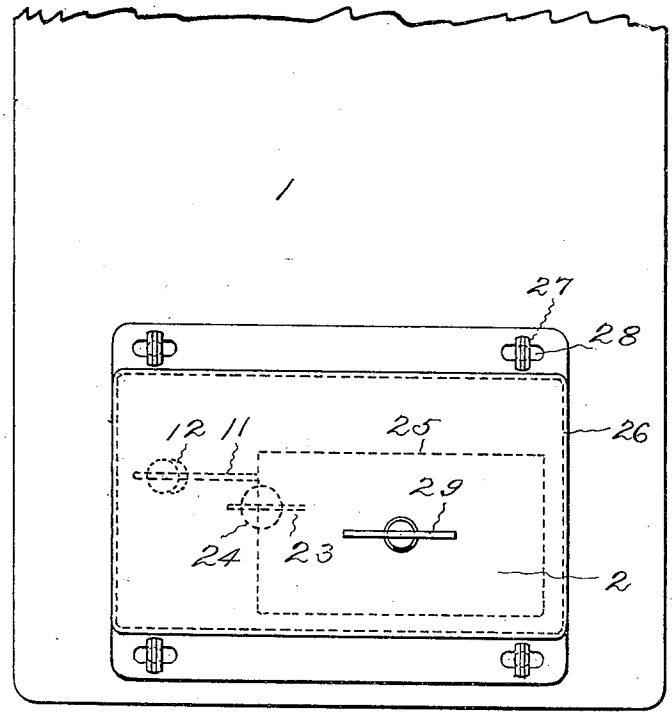
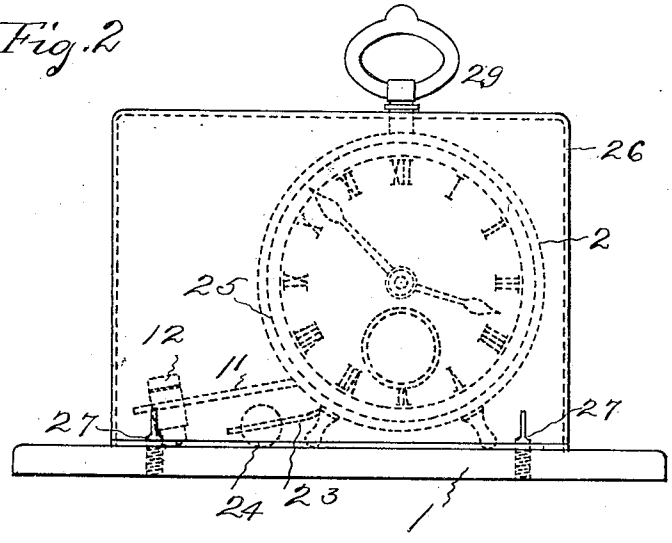


Fig. 2



Witnesses.

Lena C. Berry.

Charles C. Russ.

Inventor.

Hiram Phelps Arms by

Harry P. Williams atty.

THE NORRIS PETERS CO., WASHINGTON, D. C.

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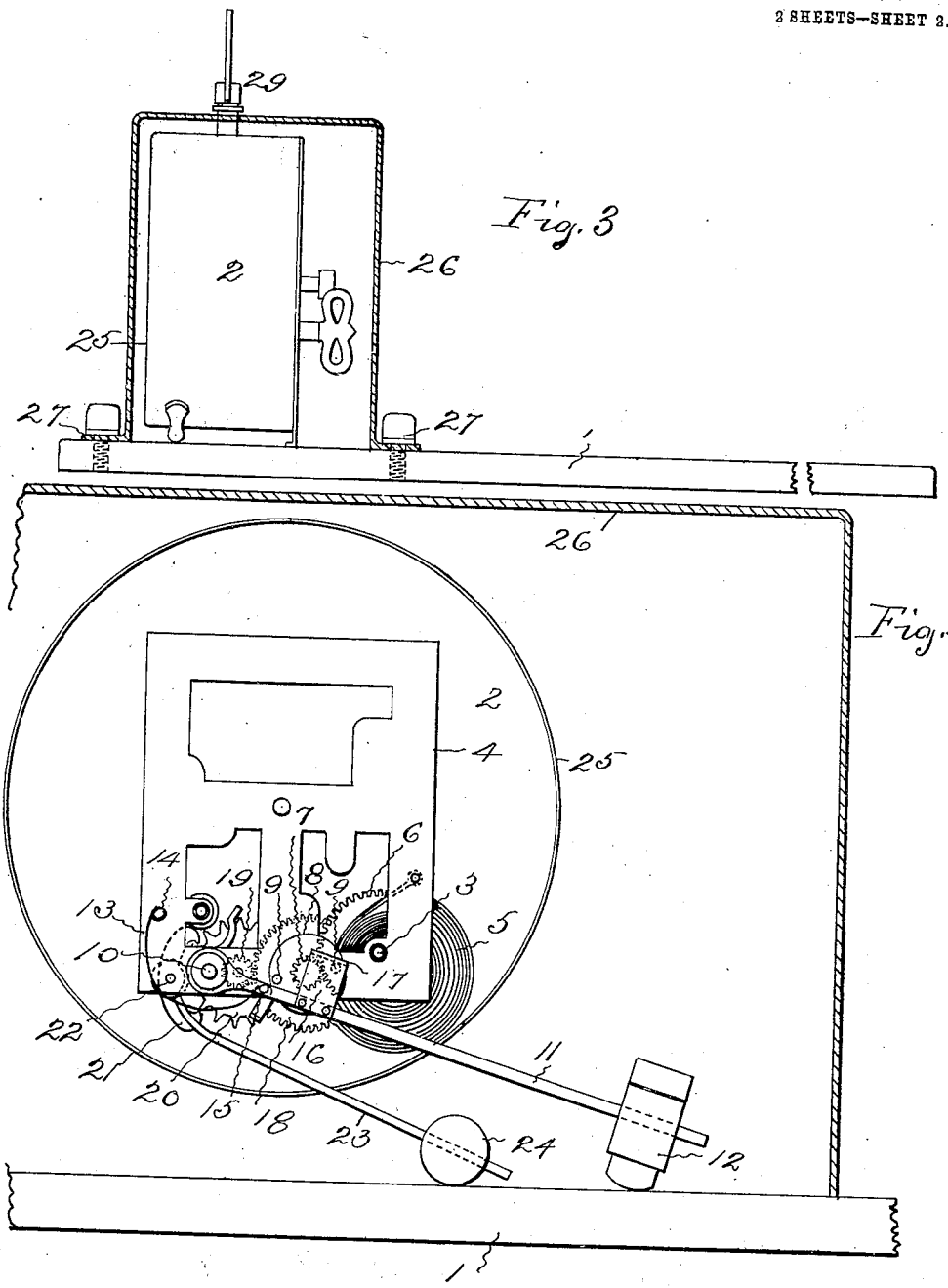


Fig. 3

Fig. 4

Witnesses

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by Harry R. Williams atty.

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UNITED STATES PATENT OFFICE.

HIRAM PHELPS ARMS, OF WEST HARTFORD, CONNECTICUT.

ALARM-CLOCK.

No. 924,127. Specification of Letters Patent. Patented June 8, 1909.

Application filed June 1, 1907, Serial No. 376,797. Renewed November 4, 1908. Serial No. 461,089.

To all whom it may concern:

Be it known that I, HIRAM PHELPS ARMS, a citizen of the United States, residing at West Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Alarm-Clock, of which the following is a specification.

The invention relates to an alarm clock which is designed to awaken persons who are wholly or partially deaf.

The object of the invention is to provide a simple and cheap alarm clock which may be placed beneath the pillow of a bed occupied by a person that is hard of hearing and which will effectively awaken such person without disturbing others in the apartment. This object is attained by constructing a clock which can be set to let off the alarm at the desired hour, with a percussion board and a hammer which, when the alarm is freed, will produce a concussive effect sufficient to awaken the deaf sleeper, and with a shield which so covers the clock and the hammer as to deaden the sound waves and protect the mechanism from interference and disarrangement by the pillow and clothing of the bed or its occupant.

Figure 1 of the accompanying drawings shows a plan of the device with a portion of the percussion board broken away. Fig. 2 shows an end elevation of the device. Fig. 3 shows a side elevation with the shield in section. And Fig. 4 shows a view on larger scale of the alarm operating mechanism, together with the quick-acting vibratory hammer and the slow-acting concussion hammer.

The percussion board 1 may be formed of any suitable material but it is preferably made of maple, approximately a little smaller than the size of an ordinary pillow. Mounted on this board desirably near one end is a clock 2 having a common time train. The time train is not illustrated because it is of ordinary construction and forms no feature of the present invention.

Mounted on an arbor 3 and having one end fastened to the back-plate 4 and the other end attached to the arbor, is a spring 5 which is designed to be wound in the usual manner by a common key. Fastened to the arbor 3 is a gear 6 which meshes with a pinion 7 secured to which is a disk 8 with two backwardly projecting pins 9. Pivoted on a stud 10 that is fastened to the back-plate is an arm 11 bearing a rather heavy hammer 12. This arm with the hammer is thrown downwardly by a spring 13 that is fastened to a post 14 mounted on the back-plate and passes around a pin 15 on the arm. Attached to the arm 11 is a plate 16 having an inwardly extending flange 17. When the disk 8 is rotated the pins 9 engage the flange 17 and lift the arm and the hammer against the tension of the spring 13 until the pins slide off from the flange and allow the arm to be thrown down by the spring and by gravity so that the hammer 12 will strike the percussion board a heavy blow. The movement of this hammer is rather slow so that the blows are heavy and there is quite an interval between them.

On the arbor bearing the pinion 7 and the disk 8 is a gear 18. This gear meshes with a pinion 19 on an arbor bearing a star-wheel 20, the teeth of which, as the wheel is rotated, engage and oscillate the anchor or pallet 21. This pallet is mounted on an arbor 22 to which is secured an arm 23 bearing a light hammer 24. When the mechanism is released the hammer 24 is given a rapid vibratory motion by the star-wheel and pallet so as to strike the percussion board and also the metal case 25 of the clock rapidly.

Over the clock is arranged a shell 26 which is designed to shield the clock and protect the hammers. This shield is desirably held in place by thumb screws 27 that pass through slots 28. When the handles of the thumb screws are turned so as to extend transversely of the slots the shield is held firmly in position, but when the screw handles are turned parallel with the slots the shield can, after the clock handle 29 is unscrewed, be lifted off.

It will be seen that with this mechanism the concussion hammer 12 moves rather slowly and at intervals strikes a heavy percussive blow on the percussion board, while the vibratory hammer 24 moves very rapidly and gives a lighter blow at shorter intervals to both the metal clock case and wood percussion board.

This device is placed in bed with the percussion board under the pillow on which the head of the deaf person is to rest and when it goes off the vibrations produced by the light hammer tend to awaken the sleeper, which awakening process is surely completed by the percussion produced by the pound on the percussion board of the heavy hammer.

The invention claimed is:—

1. An alarm clock having a hammer adapted to strike percussive blows, means for mov-

ing the hammer at intervals, and a percussive board extending beyond the clock case and forming a pillow rest, adapted to be struck by the hammer and throw off waves that affect the sense of feeling, substantially as specified.

2. An alarm clock having a hammer adapted to strike percussive blows, means for moving the hammer at intervals, a percussive board extending beyond the clock case and forming a pillow rest, adapted to be struck by the hammer and throw off waves that affect the sense of feeling, and a shield inclosing the clock and the hammer, substantially as specified.

3. An alarm clock having a percussion wave transmitting board extending beyond the clock case and forming a pillow rest, a concussion hammer, a vibratory hammer, and a train of mechanism which causes the concussion hammer to strike the board heavy blows at considerable intervals, and which causes the vibratory hammer to strike the board more rapidly than the concussion hammer, substantially as specified.

HIRAM PHELPS ARMS.

Witnesses:
HARRY R. WILLIAMS,
LENA C. BERRY.