V. E. DUNCANSON.

CLOCK.

APPLICATION FILED MAY 25, 1908.

916,123. Patented Mar. 23, 1909.

Fig. 1.

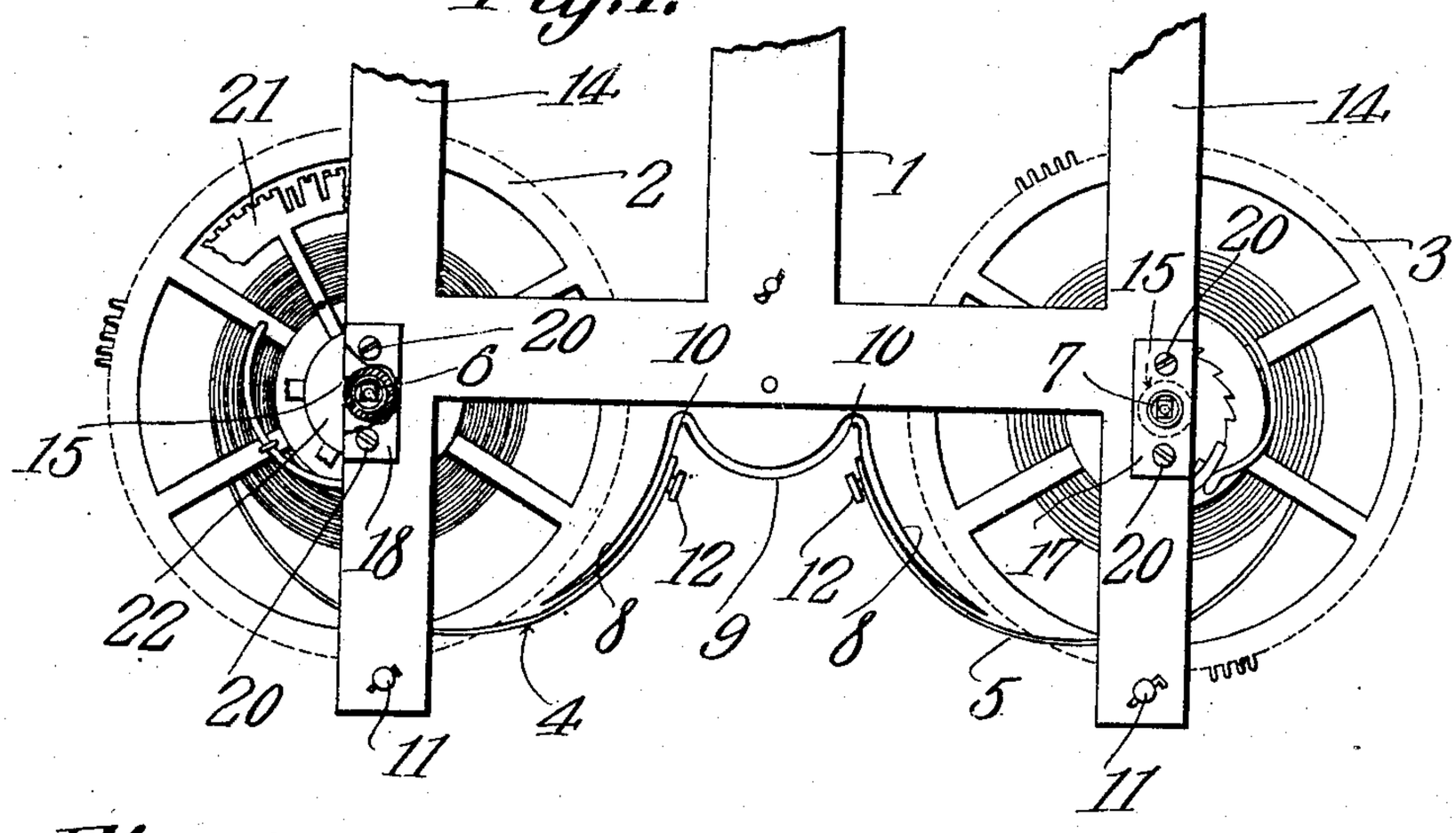

Fig. 4.

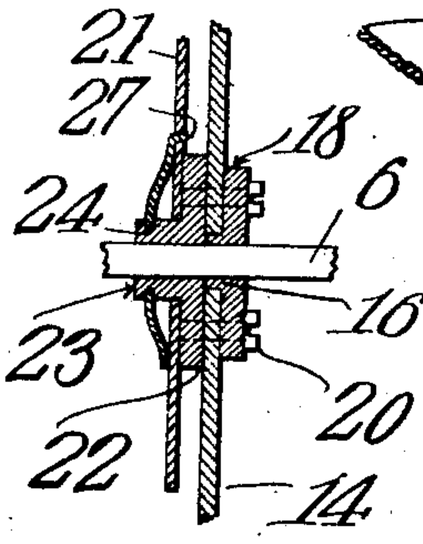

Fig. 2.

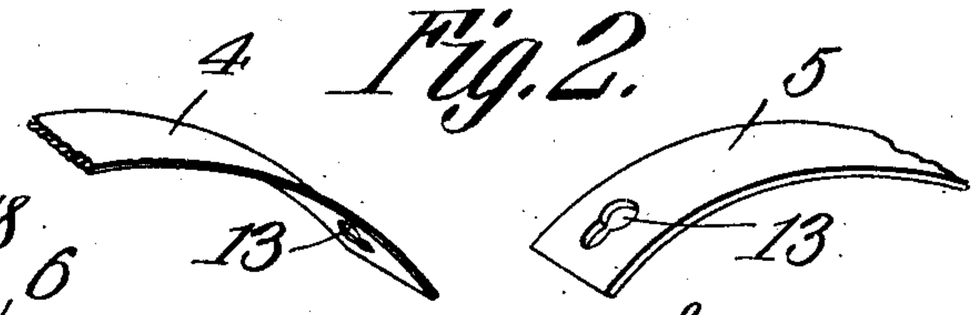

Fig. 3.

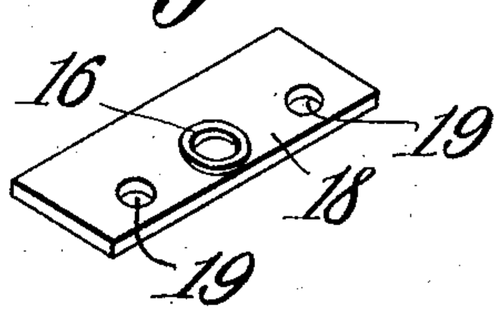

Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

VINCENT E. DUNCANSON, OF LYNCHBURG, OHIO.

CLOCK.

No. 916,123. Specification of Letters Patent. Patented March 23, 1909.

Application filed May 25, 1908. Serial No. 434,861.

To all whom it may concern:

Be it known that I, VINCENT E. DUNCANSON, a citizen of the United States, residing at Lynchburg, in the county of Highland and State of Ohio, have invented a new and useful Clock, of which the following is a specification.

This invention relates generally to clocks, and more particularly to that class employing duplex driving springs.

The object of the invention is to assemble the springs in such manner as to give a more equal action and to prevent them from bunching or sticking as they do when attached in the ordinary way.

A further object is to facilitate the removal of either the spring wheels without detaching the plates of the frame for the purpose.

A further object is to connect the ends of the main springs in such manner as that if one breaks the other will be positively prevented from unwinding.

With the above and other objects in view as will appear as the nature of the invention is better understood, the same consists in the various novel details of construction of a striking clock as will be hereinafter fully described and claimed.

In the accompanying drawings forming a part of this specification and in which like characters of reference indicate corresponding parts—Figure 1 is a view in side elevation, partly in section, displaying so much of a clock frame and the train as is necessary to an understanding of the invention. Fig. 2 is a collective detail view in perspective showing the spring connector and also the two ends of the main springs, the position of the parts being inverted. Fig. 3 is a perspective detail view of one of a pair of retainer plates that is employed in conjunction with the arbors of the spring wheels. Fig. 4 is a vertical transverse sectional view through one of the frame members and the striking wheel, showing more particularly the manner in which the latter is held in operative position. Fig. 5 is a detail view of a spring that is used to hold the striking wheel assembled with the part with which it coacts.

Referring to the drawings, 1 designates a portion of the front plate of a clock frame, 2 the spring wheel of the going train, 3 the spring wheel of the striking train and 4 and 5 two main springs, the former of which is carried by the arbor 6 of the wheel 2 and the latter by the arbor 7 of the wheel 3. The free terminals of the springs 4 and 5 are operatively joined by the connector shown in detail in Fig. 2, which consists of a length of metal of any character suited to the purpose, and embodies two oppositely-curved arms 8 and an intermediate longitudinally-bowed member 9. The points of junction between these arms and the member 9 form crotches 10, which by interlocking with the posts 11 of the frame, prevents one of the springs from unwinding when the other breaks or is disconnected from the connector for any purpose. As will be observed by reference to Fig. 1 the arms are longitudinally and transversely thinned or reduced toward their outer terminals, the object of this arrangement being to render such parts yielding to prevent any possible injury to the springs, as by buckling the same, which might result if the said terminals were as thick as the intermediate portion of the arms. Each of the arms has rigidly secured to it adjacent to the crotch, a headed stud or pin 12, the two pins being engaged by key-hole shaped openings 13 located adjacent to the outer terminals of the springs 4 and 5. As the slots of the openings are disposed nearest the ends of the springs, it follows that, owing to the pull of the latter, there will be no danger of accidental disconnection of the springs from the studs.

With the arrangement described, should it be desired to detach either of the springs for any purpose, it will only be necessary to draw the end of the spring that is to be removed toward the eye of the opening 13, and then disengage it from the stud.

As above stated, it is one of the objects of the invention to facilitate removal of either of the spring wheels without dismantling the frame, and this is effected by providing each of the frame members or bars 14 with an open sided orifice 15, and through the two orifices the arbors 6 and 7 project. These orifices are of greater diameter than the arbors in order to receive the bosses 16 of a pair of retainer plates 17 and 18, the orifices in the bosses being of a size to fit the arbors in the proper manner.

Each retainer plate is provided at each end with an opening 19, and the two openings are engaged by screws 20 that are threaded into the frame members 14. The screws 20 of the retainer plate 18 also serve to hold the strik-

ing wheel 21 in operative position, to secure which result there is a disk 22 employed which is engaged by the said screws. This disk is provided with a centrally-disposed sleeve 23 that projects through the opening in the striking wheel and is furnished with a circumferential groove 24 that is engaged by two arms 25 of a three-armed dished spring, the third arm 26 of which is provided with a toe 27 to engage with an orifice in one of the spokes of the striking wheel. It will be seen from this arrangement that should it be desired to remove either of the spring wheels it will only be necessary to disconnect the terminal of the spring, remove the required retainer plate and then lift the wheel sufficiently to cause its arbor to be freed from engagement with the bearing in the back plate of the frame.

From the foregoing description, it will be seen that while the improvements herein defined are simple in character, they will be thoroughly effective for the purposes designed, and may be embodied with clock movements already in use without requiring any extended change in their structural arrangement.

What is claimed is:—

1. A clock employing two main springs the ends of which are spaced apart, and a connecting means extending from the outer end of one spring to the outer end of the other and supported thereby.

2. A clock employing two main springs, the terminals of which are slotted, and means for connecting the springs embodying a plate having oppositely curved members provided with studs to engage the orifices in the springs.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

VINCENT E. DUNCANSON.

Witnesses:

W. G. Ross,

Jas. Fields.