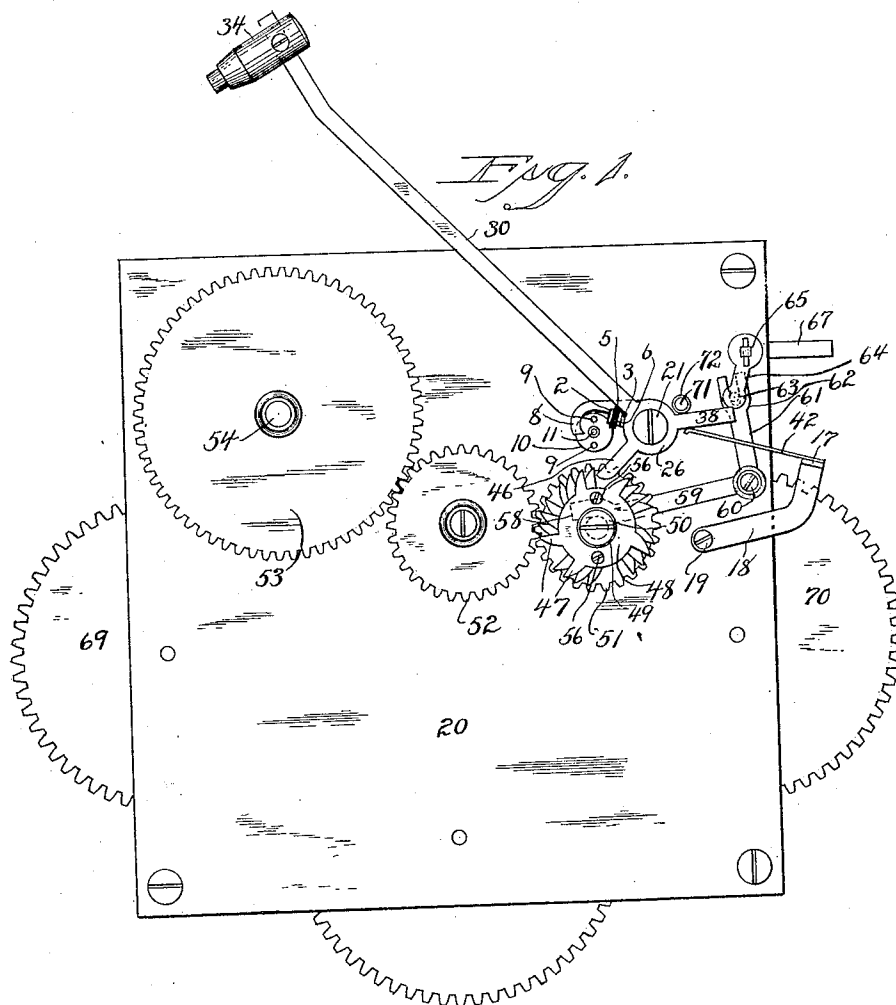


F. WEHINGER.  
STRIKE AND CHIME CLOCK.  
APPLICATION FILED MAY 25, 1914.

1,110,732.

Patented Sept. 15, 1914.

2 SHEETS—SHEET 1.



Witnesses  
M. P. Nichols  
C. L. Reed

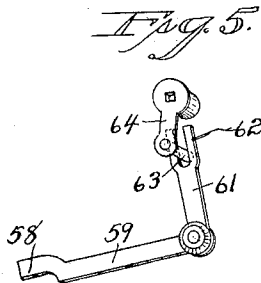
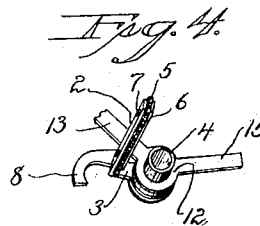
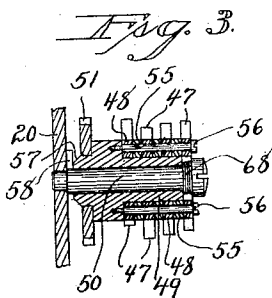
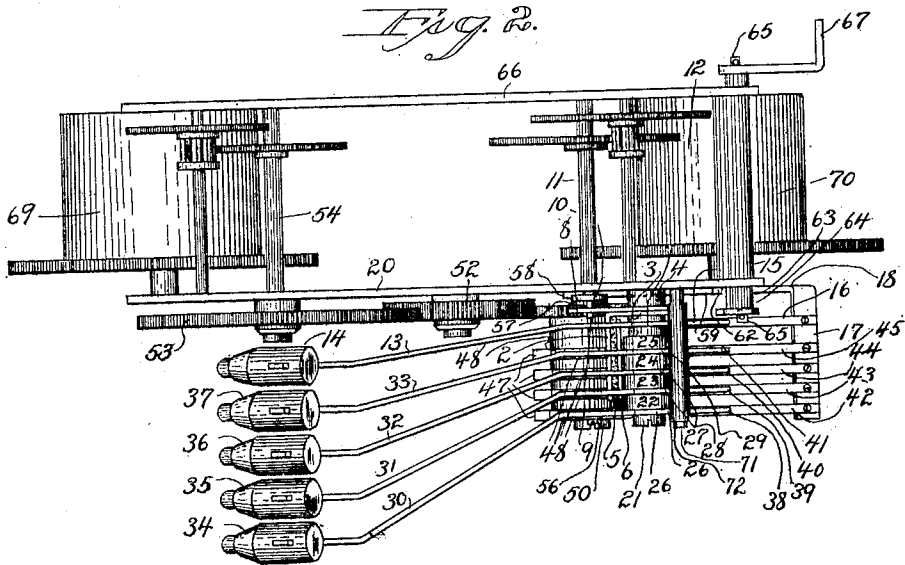
Inventor  
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

FREDERICK WEHINGER, OF WATERBURY, CONNECTICUT, ASSIGNOR TO WATERBURY CLOCK CO., OF WATERBURY, CONNECTICUT, A CORPORATION.

## STRIKE AND CHIME CLOCK.

1,110,732.

Specification of Letters Patent.

Patented Sept. 15, 1914.

Application filed May 25, 1914. Serial No. 840,852.

*To all whom it may concern:*

Be it known that I, FREDERICK WEHINGER, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Strike and Chime Clocks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1 a view in rear elevation of a chime-clock movement constructed in accordance with my invention. Fig. 2 a plan view thereof. Fig. 3 a view in vertical section on the line *a—b* of Fig. 1. Fig. 4 a broken perspective view of the hour-strike hammer. Fig. 5 a detached perspective view of the chime cut-out mechanism.

My invention relates to an improvement in strike and chime clocks, the object being to utilize one or more of the chime-hammers in striking a chord on the hour in addition to their chiming function.

With these ends in view, my invention consists in a strike and chime clock having certain details of construction as will be hereinafter described and pointed out in the claims.

For the illustration of my invention I have chosen to show and describe a strike and chime clock of the general construction of that disclosed in my pending application filed April 20, 1914, Serial No. 833,090.

In carrying out my present invention, I employ a coupling-arm 2 (Fig. 4) forming an extension of an eye-plate 3 mounted upon the sleeve 4 of the hour-strike hammer, the said arm 2 being furnished with a cushioning strip 5 of fibrous material, such as leather, applied to its outer face and held in place by a retaining-plate 6 fastened by screws 7. The said sleeve 4 also mounts a plate-like, hooked hammer-lifting arm 8 the end of which co-acts in the usual manner with gathering-pins 9 mounted in a gathering-hub 10 upon the projecting rear end of the strike third-wheel arbor 11. The said sleeve 4 also carries an eye-plate 12 having a hammer-bar 13 carrying an hour-strike hammer 14, and a hammer-tail 15 which co-acts with an hour-strike hammer spring 16 mounted upon the inner end of the arm 17

of a spring-carrier 18 attached by a screw 19 to the rear face of the rear movement-plate 20. The said sleeve 4 is mounted so as to turn loosely upon the inner end of a screw stud 21 projecting from the rear face of the said plate 20. The stud 21 also carries the hubs 22, 23, 24 and 25 of the eye-plates 26, 27, 28 and 29 of chiming-hammer bars 30, 31, 32 and 33 carrying the respective chiming-hammers 34, 35, 36 and 37. The said hubs 22, 23, 24 and 25 oscillate upon the stud 21 independently of each other as well as independently of the hour-strike hammer sleeve 4. The said plates 26, 27, 28 and 29 are formed with operating arms 38, 39, 40 and 41 respectively engaging with springs 42, 43, 44 and 45 attached to the arm 17 aforesaid. The said eye-plates 26, 27, 28 and 29 are also respectively furnished with operating fingers 46 of which only one is shown, but they are all alike. These fingers 46 co-act with the beveled fingers 47 of four chime-wheels 48 mounted upon the reduced forward end of a hub 49 turning upon a chime-wheel stud 50 mounted in the plate 20 as shown in Fig. 3. The said hub 49 carries a chime-driving wheel 51 driven by an intermediate chim-wheel 52 which is driven by a large chime-wheel or gear 53 mounted upon the projecting rear end of the chime third wheel arbor 54 of the chime train which may be of any construction and arrangement. The several chime-wheels 48 are spaced apart by means of washers 55 and bound together by means of screws 56, 56, passing through them and through the said washers 55 and entered into the shouldered rear portion of the hub 49.

It will be observed that the coupling-arm 7 of the hour-strike hammer, already described, extends under the inner ends of the chime-hammer bars 31, 32, and 33 so that when the hour-strike hammer-bar 13 is lifted for lifting the hour-strike hammer 14, the said chime-hammer bars 31, 32 and 33 will be simultaneously lifted for raising the chime-hammers 35, 36 and 37 without however disturbing the chime-hammer bar 30 and the chime-hammer 34.

To provide for cutting all of the chime-hammers 34, 35, 36 and 37 out of play, I form the extreme inner end of the hub 49 with a bevel 57 which is engaged by an operating-finger 58 (Figs. 3 and 5) formed upon the inner end of the lower arm 59

of a bell-crank lever hung upon a stud 60 in the plate 20, the upper arm 61 of the said lever having a fork 62 for the reception of an operating-pin 63 in the lower end of a crank-arm 64 secure to the projecting rear end of a rock-shaft 65 projecting at its forward end through the front movement-plate 66 and provided with an operating lever 67 or some equivalent thereof. A spring 68 encircling the extreme forward end of the stud 50 engages with the forward edge of the hub 49 and exerts a constant effort to push the same rearward. Normally, however, the finger 58 acting as a wedge, holds the hub 49 at the limit of its forward excursion in which position the fingers 46 aforesaid are registered with the fingers 47 of the chime-wheels 48. When it is desired to cut out the chime-hammers, it is only necessary to lift the lever 67, whereby the finger 58 is lifted and the spring 68 permitted to assert itself to shove the hub 49 inward on the stud 50 so as to carry all of the arms 46 out of line with the fingers 47 of the chime-wheels 48 after which the said chime-wheels, though continuing to rotate as before, will not effect the lifting of the chime-hammers. Then by depressing the lever 67, the finger 58 is crowded down over the cone 57 and the hub 49 pushed forward to the limit of its forward excursion against the spring 68 which is compressed, this forward movement of the hub 49 registering the operating-fingers 48 with the fingers 47.

The chime train and the strike train of my improved clock may be of any suitable construction and arrangement. As herein shown the chime train is sufficiently indicated by 69 and the strike train by 70. A stud 71 is mounted in the plate 20 just above the arms 38 in position to limit the downward movement of all the hammers. This stud is by preference provided with a rubber tube 72, constituting a buffer.

The effect of the coupling-arm 2, which is operated by the power of the strike train, is to lift one or more of the chime-hammers concurrently with the hour-strike hammer. The number of chime-hammers so lifted will, of course, depend upon the length of the coupling-arm 2 and that upon the character of the cord to be struck. As shown, the clock is designed to sound the hour upon a chord produced by the concurrent action of the chime-hammers 35, 36 and 37, and the hour-strike hammer 14. The action of the chime-hammers 35, 36 and 37 in conjunction with the hour-strike hammer 14, in no wise interferes, however, with their chiming action in which they operate independently of the hour-strike hammer 14. In cooperating with the hour-strike hammer 14 is sounded a cord upon the hour, the chime-hammers 35, 36 and 37 are operated,

as described, by power communicated to them from the strike train through the coupling-arm 2. However, when the hammers 35, 36 and 37 are used for ringing a chime, the power for their operation is derived entirely from the chime train and communicated to them through the chime-wheels 48.

It is not essential to employ any hour-strike hammer, as such, since if the hour-strike hammer-bar 13 were cut away and the hour-strike hammer 14 eliminated, the coupling-arm 2 would still remain to lift the chime-hammers 35, 36 and 37 for sounding a chord for striking the hour. The fundamental idea of my invention is thus seen to be the independent operation of the chiming hammers by the hour-strike train and by the chime train.

I claim:—

1. In a strike and chime clock, the combination with the chime-hammers thereof, of a chime-train for operating the same, an hour-strike train, and means for operating the chime-hammers thereby independently of their operation by the chime-train.

2. In a strike and chime clock, the combination with the chime-hammers thereof, of a chime-train for operating the same, an hour-strike train, and a coupling-arm hourly operated by the hour-strike train and extending under one or more of the chime-hammers for operating the same independently of their operation by the chime-train.

3. In a strike and chime clock, the combination with the chime-hammers thereof, of a chime-train for operating the same, an hour-strike hammer, an hour-strike train for operating the same, and a coupling-arm combined with the hour-strike hammer and extending under one or more of the chime-hammers for operating the same from the hour-strike train independently of the operation by the chime-train.

4. In a strike and chime clock, the combination with the chime-hammers thereof, of a chime-train for operating the same, an hour-strike train, an hour-strike hammer, a stud upon which the several chime-hammers and hour-strike hammer are mounted in series for independent operation thereupon, and coupling-means combined with the hour-strike hammer for hourly coupling therewith one or more of the chime-hammers to cause their operation by the hour-strike train independently of their operation by the chime-train.

5. In a strike and chime clock, the combination with the chime-hammers thereof, of a chime-train for operating the same, an hour-strike hammer, an hour-strike train for operating the same, a coupling-arm carried by the hour-strike hammer and arranged to lift one or more of the chime-hammers concurrently with the lifting of the hour-strike

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hammer, and a stud upon which all of the said hammers are mounted for oscillation and which extends parallel with the said coupling-arm.

- 5 6. In a strike and chime clock, the combination with the strike- and chime-trains thereof, of a bank of chime-hammers operated by the chime-train, an hour-strike hammer operated by the strike-train, a coupling-  
10 arm carried by the hour-strike hammer and arranged to lift one or more of the chime-hammers concurrently with the lifting of the hour-strike hammer, a hammer-stud upon which all of the said hammers are  
15 mounted for oscillation, a chime-wheel stud extending parallel with the said hammer-stud, a chime-wheel hub mounted upon the

chime-wheel stud and driven by the chime-train, a cone located upon the inner end of the said hub, a spring co-acting with the hub for moving the same in one direction, and manually operable means co-acting with the cone for moving the hub in opposition to the said spring so as to register the chime-wheels with the chime-hammers for the operation of the latter. 20 25

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

FREDERICK WEHINGER.

Witnesses:

J. R. PUTNAM,  
C. W. SHADER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."