

(No Model.)

F. G. McPHERSON.  
AUTOHARP.

No. 596,906.

Patented Jan. 4, 1898.

Fig. 1.

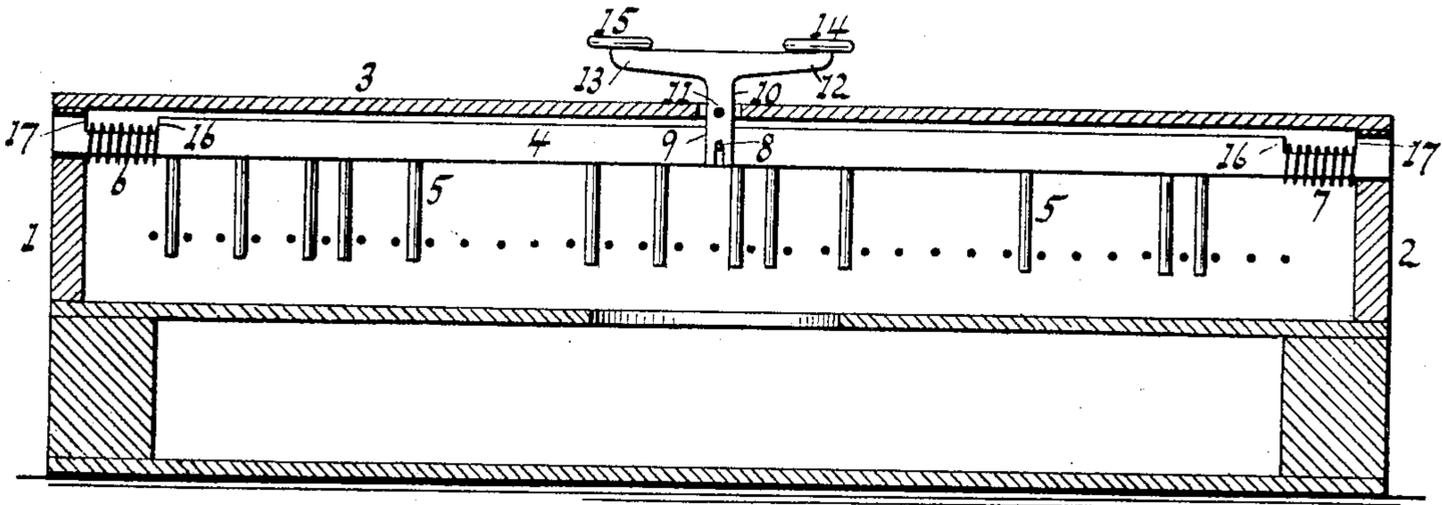
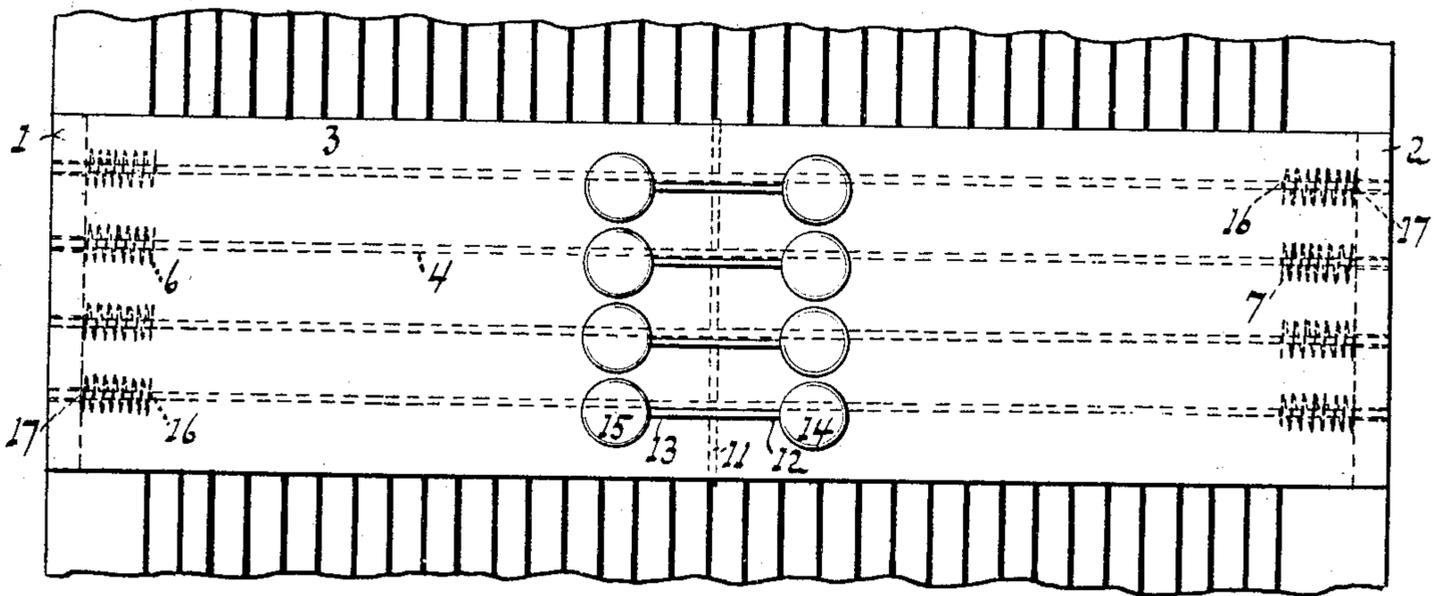


Fig. 2.



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# UNITED STATES PATENT OFFICE.

FRANK G. MCPHERSON, OF BEAVER FALLS, PENNSYLVANIA, ASSIGNOR TO  
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## AUTOHARP.

SPECIFICATION forming part of Letters Patent No. 596,906, dated January 4, 1898.

Application filed September 23, 1897. Serial No. 652,767. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK G. MCPHERSON, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented new and useful Improvements in Autoharps or Musical Instruments, of which the following is a specification.

By this invention a musical instrument, such as an autoharp or the like, can be made of compact form, as also easy of manipulation; and the invention resides in the novel features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a sectional side elevation of an autoharp or musical instrument. Fig. 2 is a plan view of Fig. 1.

Suitable guides or risers 1 and 2 carry a cross or top piece 3. One or more bars or manuals 4 are slidable or longitudinally reciprocating in either direction and are suitably guided or passed through slits or ways in guides 1 and 2. The manual 4 carries contactors or dampers 5. As the manual shifts in one direction or another a compression of one or another of the oppositely-located or oppositely-acting returning-springs 6 and 7 results. The tendency of the springs 6 and 7 is to keep the manual 4 out of active position.

The manual is jointed or pinned at 8 to a lever 9 and 10, fulcrumed at 11. The lever-arm 10 has the oppositely-extending arms or branches 12 and 13, each provided with a finger button or rest 14 and 15. Each arm 12 or 13, with its button 14 or 15, may be considered as forming a key. A depression of button 14 will shift the manual in one direction to compress spring 6 and bring the fingers or contactors 5 to act on one chord or one set of strings. A depression of button 15 will shift the manual to compress spring 7 and bring the contactors 5 to act on a different set of strings. By making the contactors 5 thus do double duty or adapted to act on two sets of strings an increased variety of effects is obtainable even with a limited number of manuals, so that compactness of structure can be secured. As the keys 14 and 15 can be placed within easy reach of the fingers, the actuation

of the keys can be readily effected, so as to secure ease of manipulation.

The manual 4 is shown with two pairs of shoulders 16 and 17, each shoulder pair confining a spring 6 or 7. By having the parts so arranged that by the shifting of the manual one or another of the shoulders 17 is carried past or outside of a guide 1 or 2 or past the inner edge or face of such guide such shifting of the manual will cause a compression of one spring or another between a shoulder 16 and a guide 1 or 2. Such compressed spring on the release of the manual returns the latter to normal or inactive position. The manual when in normal position can practically have the shoulders 17 flush with the inner faces of the guides 1 and 2, and if the manual shifts to compress a spring—as, for example, 6—the shoulder 17, confining spring 7, is moved from guide 2 or some distance toward guide 1, so as to carry the spring 7 away from such guide 2. A shift of the manual in the opposite direction will of course cause spring 6 to be carried away from contact with guide 1 while spring 7 is compressed.

The fingers 5 may serve various purposes—as, for example, picking or damping—or, in other words, the shift of the manual can be made to leave certain strings free or accessible or sounded.

What I claim as new, and desire to secure by Letters Patent, is—

1. A longitudinally - reciprocating bar or manual combined with a double-acting key for positively moving the manual in both directions and means operating to automatically return the reciprocating bar or manual to normal position substantially as described.

2. A longitudinally - reciprocating bar or manual combined with a double-acting key for positively moving the manual in both directions, and oppositely-acting returning-springs for the manual substantially as described.

3. A longitudinally - reciprocating bar or manual combined with an actuating - lever having oppositely-extended branches or keys substantially as described.

4. A longitudinally - reciprocating bar or manual combined with a double-acting key for positively moving the manual in both di-

rections, and oppositely-acting returning-  
springs for the manual, said manual having  
shoulder pairs for confining the springs, and  
manual-guides past one of which a shoulder  
5 is made to pass to leave a spring free to con-  
tact with such guide as the manual is shifted  
in one direction or another substantially as  
described.

10 5. A longitudinally - reciprocating bar or  
manual combined with a double-acting key  
for positively moving the manual in both di-  
rections, and oppositely-acting returning-  
springs for the manual, said manual having  
shoulder pairs for confining the inner and

outer ends of each spring, and manual-guides 15  
past one of which an outer shoulder is made  
to pass to leave a spring free to contact with  
such guide as the manual is shifted in one di-  
rection or another, said outer shoulders being  
normally flush with the inner faces of the 20  
guides substantially as described.

In testimony whereof I have hereunto set  
my hand in the presence of two subscribing  
witnesses.

FRANK G. MCPHERSON.

Witnesses:

G. L. EBERHART,  
FRANK H. HOON.