

G. H. DAVIS.
TEMPO INDICATOR FOR MECHANICAL MUSICAL INSTRUMENTS.
APPLICATION FILED APR. 15, 1907.

Fig. 1.

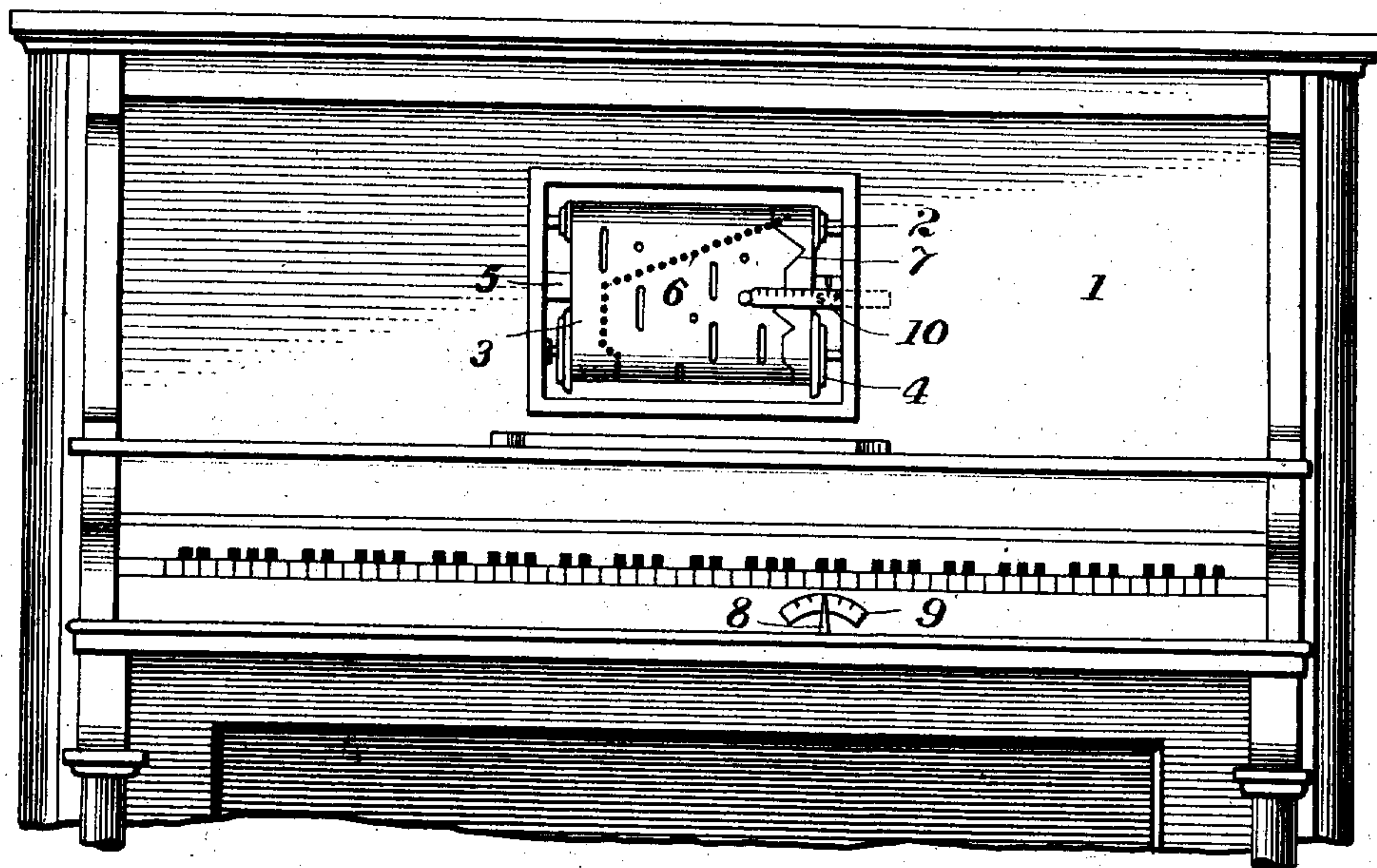


Fig. 2.

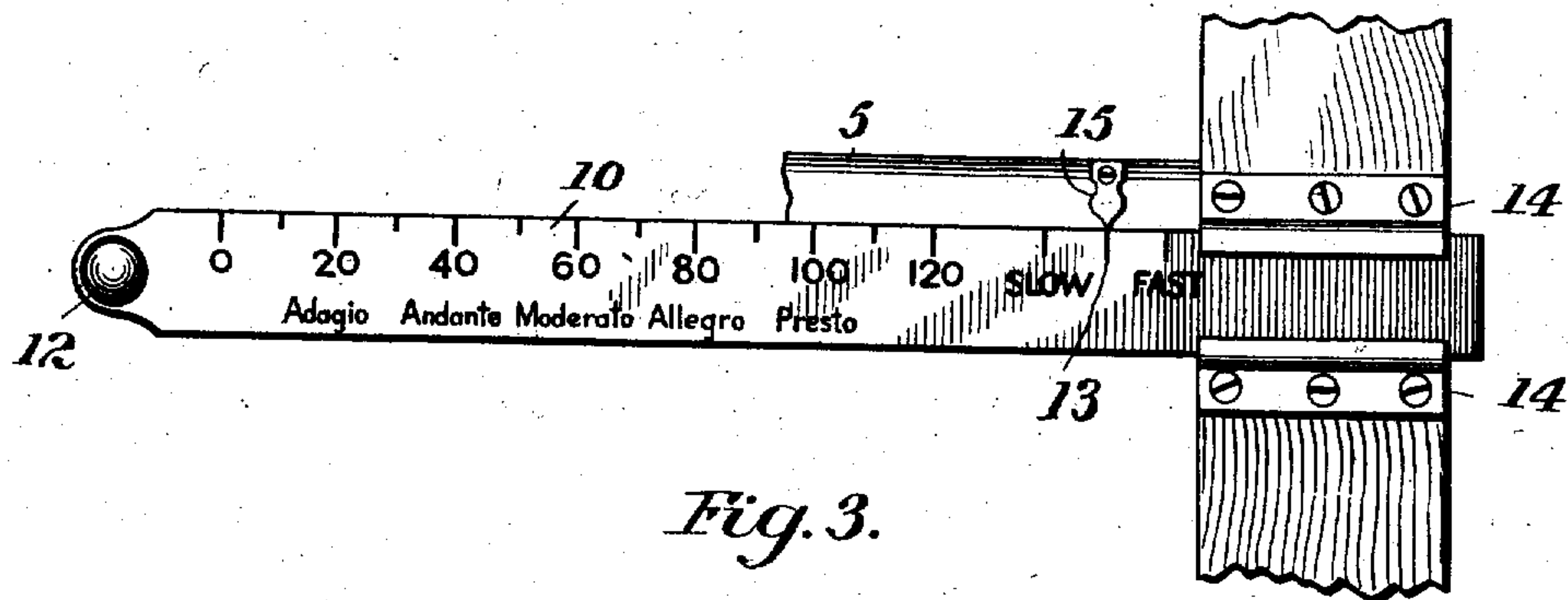
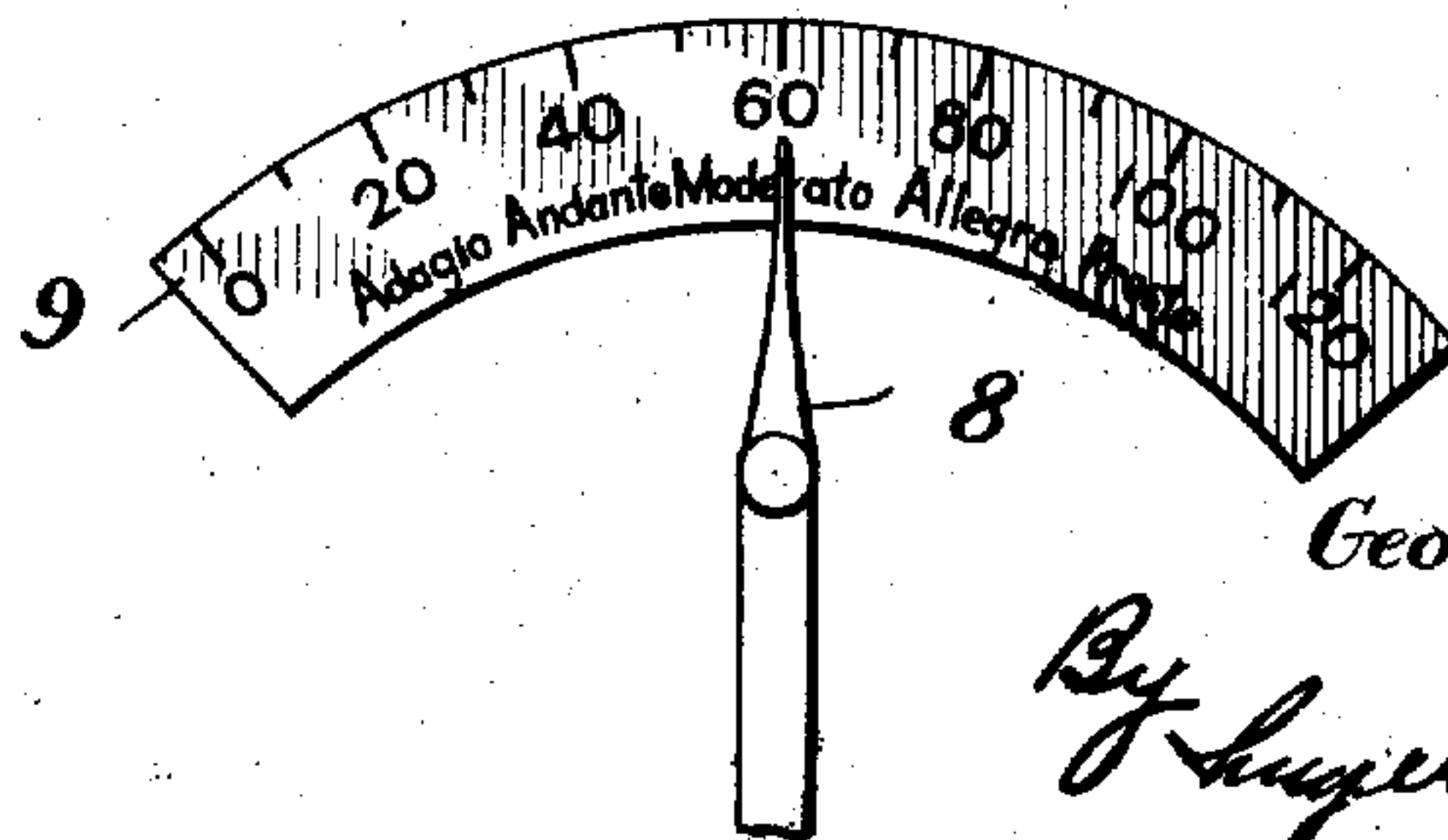


Fig. 3.



Witnesses
J. G. Stinkel
J. M. Stucker

Inventor
George Howlett Davis
By *L. J. Cushman & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE HOWLETT DAVIS, OF WEST ORANGE, NEW JERSEY.

TEMPO-INDICATOR FOR MECHANICAL MUSICAL INSTRUMENTS.

No. 858,708.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed April 15, 1907. Serial No. 368,299.

To all whom it may concern:

Be it known that I, GEORGE HOWLETT DAVIS, a citizen of the United States, residing at West Orange, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Tempo-Indicators for Mechanical Musical Instruments, of which the following is a specification.

My present invention relates to tempo indicators for self playing musical instruments such as piano players or player pianos, of the type that employ perforated music sheets as their controlling medium for the actuating devices and is in the nature of an improvement upon my prior patent #748,266, dated December 29, 1903.

The object of the invention is to provide a simple and inexpensive attachment for instruments of the type referred to, constructed to co-operate with the tempo lever and its scale and with special tempo markings on the music sheet in order to enable a novice to accurately play any musical composition with all the fine gradations of tempo intended by the original composer, arranger or interpreter.

A further object of the invention is to provide means whereby the tempo may be accurately followed in exact accordance with the specially arranged tempo line, or whereby the interpretation of the tempo line may be followed, but to a relatively faster or slower degree.

By way of example I have illustrated the invention as applied to a player piano, but it will be obvious that the same may be applied to piano players or other forms of self-playing musical instruments.

The invention is illustrated in the accompanying drawing wherein—

Figure 1 is a front elevation of a player piano showing the attachment applied in position for use. Fig. 2, is an enlarged plan view of the attachment. Fig. 3, is a similar view of the tempo scale with which the tempo lever co-operates.

Referring to the drawing, the reference numeral 1, designates the removable front board of a player piano; 2, the delivery spool on which the perforated music sheet 3 is wound; 4, the take up roll for the music sheet; and 5, the tracker over which the sheet travels. The music sheet is shown as provided with the usual zig zag dotted line 6 and is also shown as provided along one edge with a zig zag line 7 constituting the special tempo marking representing the tempo of the musical composition as interpreted by a master, composer, or other duly qualified musician.

The reference numeral 8, designates the usual tempo lever, and 9, the graduated dial over which it is moved. These tempo levers and dials are now commonly employed in self-playing musical instruments and operate to control the tempo mechanism of the instrument.

My improved attachment comprises a movably mounted scale 10, which may be made of any suitable

material but preferably of metal or celluloid, either transparent or opaque, said scale having graduated marks or divisions on the upper face thereof, as well as the usual tempo indicating words "adagio", "moderato", "allegro", and "presto", these words being properly arranged relative to the scale markings and corresponding to the like characters and divisions on the dial 8. The scale is also provided at its outer or free end with a handle 12 by which it may be readily moved into and out of operative position, and adjacent the opposite end are the words "slow" and "fast", above each of which is a line or mark and intermediate the said lines or marks is another line lettered 13, to designate the normal position of the scale, as will be presently explained.

The scale 10, is mounted in any suitable manner so as to be adjusted across or transversely to the path of travel of the perforated music sheet 3, and is preferably disposed directly above the tracker 5. For the purpose of illustration, I have shown the scale as mounted to slide in a way formed by the two plates 14, attached by means of screws to a part of the instrument, but it will be obvious that the scale may be otherwise mounted, the showing here being only by way of example.

A fixed pointer 15, is attached to the tracker 5, or to any other suitable part of the instrument, which pointer is designed to co-operate with either of the three lines indicating "fast", "slow", or "normal" position of the scale. Instead of a fixed pointer 15, attached as described, a simple mark may be employed in lieu thereof.

The mode of operation of the attachment is as follows:—Assuming it is desired to interpret the musical composition exactly according to the interpretation indicated by the special tempo-line marking 7, the scale 10, is drawn out over the music sheet 3, until the "normal" mark 13, on the scale is directly opposite or in line with the pointer 15. If now the music sheet is caused to travel, it will be apparent that the special tempo-line 7, will move under one or the other of the divisions on the scale 10, according to the designated changes in tempo as indicated by the sinuosity of the line, and in order that the tempo mechanism of the instrument may be made to respond accurately according to this special tempo-line, it is only necessary for the performer to manipulate the tempo lever 8, to bring the pointer thereof to register with the divisions on its dial 9, to correspond with the position of the special line 9, with reference to the divisions on the scale 10, as often as the changes take place. The tempo lever 8 may be moved merely by one's sense of location as suggested by the passing of the line 7 under the scale 10, without actually looking at the dial 9.

In some instances it may be desirable to secure the general interpretation of the master or composer, as

indicated by the special tempo-line 7, but to a relatively faster or slower degree, and to accomplish this I have mounted the scale 10 so that it may be adjusted or moved outward or inward to a greater or less extent transversely to the path of travel of the music sheet and have provided suitable lines or marks opposite the words "fast" and "slow" on the scale 10, which may be brought into exact register with the fixed pointer 15. By this means it will be seen that if the scale 10, is adjusted so as to bring the mark located above the word "slow" in register with the fixed pointer 15, then all the indications will be five degrees slower than when the scale is in normal position; and if moved or adjusted to bring the mark located above the word "fast" in register with the fixed pointer 15, then all the indications will be five degrees faster than normal. It will thus be seen that with my improved scale the tempo may be readily transposed, so to speak.

It will be obvious that owing to the simplicity of the scale the same may be readily attached to any of the ordinary players or player pianos now on the market and at small cost.

What I claim is:—

1. In indicator mechanism for mechanical musical instruments, the combination with a perforated music-sheet bearing suitable marks or characters indicating effects to be produced in playing and a controller by which said effects are governed, of a scale bearing characters indicating to the operator at what point to set the controller to obtain the desired musical effects represented by the marks or characters on the sheet, said scale being adjustable transversely to the path of movement of the sheet and located in such position that the characters thereon will register with those on the sheet during the movement of the latter.

2. In tempo indicating mechanism for mechanical musical instruments, the combination of a perforated music-sheet bearing a tempo-line and a controller by which the tempo is governed, a dial over which the controller is movable, and a scale adjustable transversely to the path of movement of the music sheet.

3. In combination with the tempo controller of a musical instrument, a dial bearing suitable tempo characters,

a music sheet having a tempo line, and a scale bearing corresponding characters, said scale being adjustable transversely to the path of movement of the music sheet.

4. In a mechanical musical instrument operated through the medium of a music sheet, the combination with a tempo controller, of a dial having characters to indicate each position of the controller, a music sheet having a tempo line, and a scale arranged over the music sheet and adjustable transversely to the path of movement thereof, said scale bearing characters corresponding to those on the dial.

5. In a mechanical musical instrument operated through the medium of a music sheet, the combination with the tracker thereof and a scale arranged above and adjustable longitudinally thereof, said scale bearing tempo characters.

6. In a self playing musical instrument the combination with the tracker, of a scale arranged adjacent thereto and adjustable longitudinally thereof, said scale bearing suitable tempo characters.

7. In a self playing musical instrument, the combination with the tracker, of a scale arranged adjacent thereto and adjustable longitudinally thereof, said scale bearing tempo characters, and a music sheet mounted to travel beneath said scale, the said sheet having a tempo line thereon which co-operates with the tempo characters on the scale.

8. In a mechanical musical instrument, the combination of the tracker, and a slidable scale adjustable longitudinally thereof.

9. In a mechanical musical instrument, operated through the medium of a music-sheet, the combination of the tracker thereof, a scale adjustable longitudinally of the tracker, and an index to determine the proper position of the scale.

10. In a mechanical musical instrument, the combination of the tracker thereof, a scale adjustable longitudinally of the tracker, and a fixed index co-operating with suitable marks on the scale to determine the proper positions thereof.

11. In a mechanical musical instrument, the combination of the tracker thereof, a scale adjustable longitudinally of the tracker, and a fixed index co-operating with separate marks on the scale and determining the proper positions thereof to transpose the tempo.

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

G. HOWLETT DAVIS.

Witnesses:

MARGARET A. JACOBS.

EDWARD L. DAVIS.