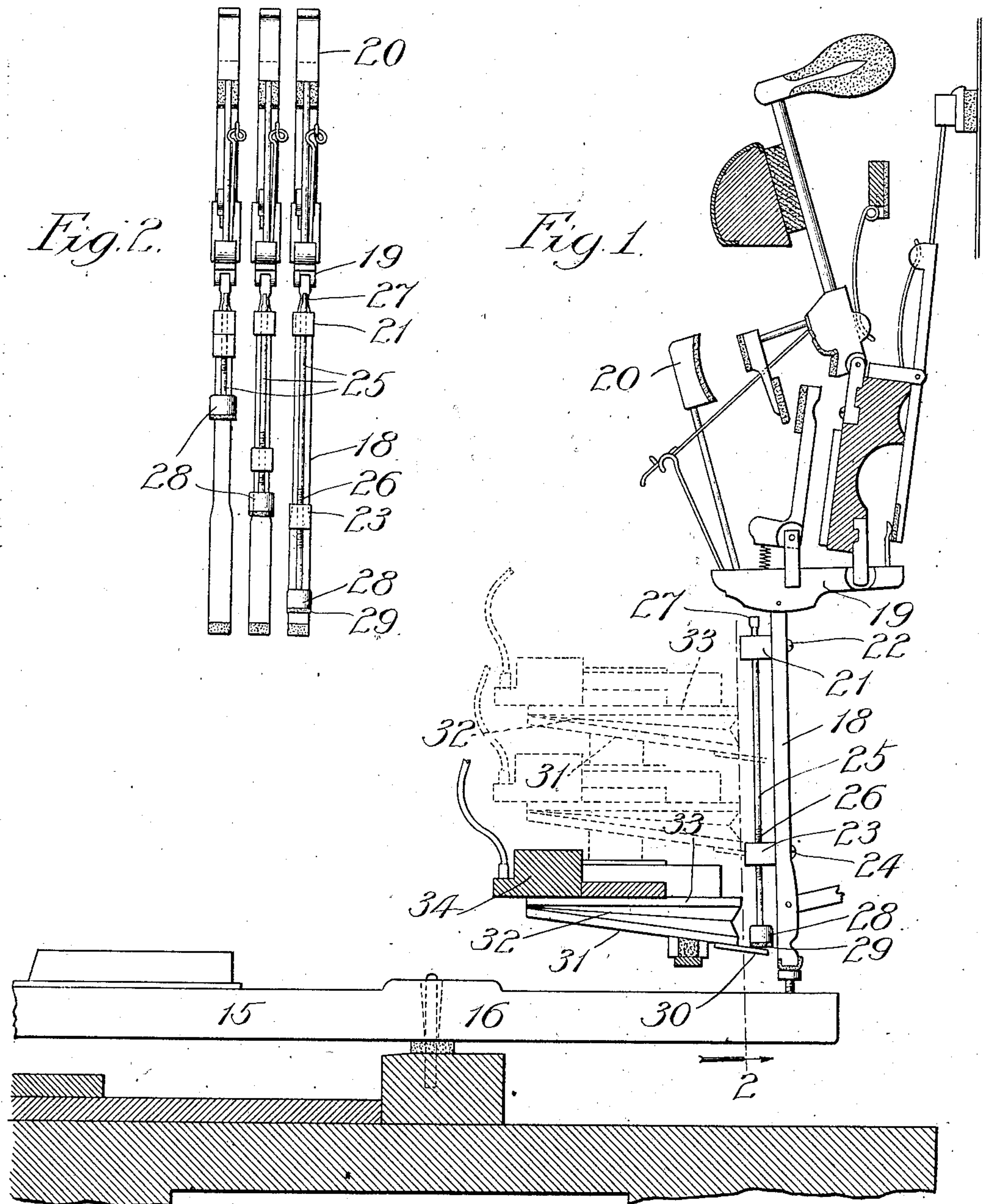


T. E. DOUGHERTY.
SELF PLAYING MUSICAL INSTRUMENT.

APPLICATION FILED JULY 6, 1908. RENEWED JUNE 23, 1909.

929,755.

Patented Aug. 3, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

THOMAS E. DOUGHERTY, OF CHICAGO, ILLINOIS

SELF-PLAYING MUSICAL INSTRUMENT.

No. 929,755.

Specification of Letters Patent.

Patented Aug. 3, 1909.

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To all whom it may concern:

Be it known that I, THOMAS E. DOUGHERTY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Self-Playing Musical Instruments, of which the following is a specification.

The object of my invention is to provide an improvement in a detail of self-playing musical instruments such as pneumatic piano players.

More specifically my object is to provide an improved adjustable connection between the "pneumatics" and the piano or organ action.

These objects and others will be made apparent in the following specification and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of my improved mechanism; and Fig. 2 is a front elevation of a plurality of the usual abstracts showing my improvement applied thereto.

The usual manual playing key 15 is pivoted at 16 and the screw 17 at the end thereof strikes against the vertical abstract or sticker rod 18, which actuates the usual wippen 19 at its top end and through it the hammer 20 and the other parts of the piano action. The abstracts 18 are arranged in a row extending across the piano and thus they occupy a vertical plane running across the piano. On the front face of each abstract there is attached an upper guiding sleeve 21 by means of a screw 22 and a lower internally screw-threaded guiding sleeve 23 by means of a screw 24. Through these two guides 21 and 23 extends a rod 25, the portion thereof which extends through the lower screw-threaded block 23 being screw-threaded as indicated by the reference numeral 26, so as to engage therewith. The upper end of the rod 25 is flattened on the sides, as indicated by the reference numeral 27 so that it can readily be engaged by a wrench or pliers. The lower end of the rod 25 carries a block 28 having a felt 29 on its lower surface. This is engaged by the forwardly projecting arm 30, which is attached to the under member 31 of the "pneumatic" 32. The upper member 33 of this pneumatic is rigidly attached to the transverse frame member 34. Inasmuch as it is desirable to make the "pneumatics" wider than the space occupied by the single ab-

stract 18, they are arranged in superposed staggered horizontal rows, the intermediate and uppermost pneumatics being indicated by dotted lines in Fig. 1. The rods 25 are made of different lengths, as shown in Fig. 2 so as to bring the blocks 28 at different heights corresponding to the different rows of pneumatics.

The proper adjustment between the keys 15 and the abstracts 18 having been made, it is desirable to adjust the connection between the pneumatics and the abstracts correspondingly. It is obvious that this can be done by rotating the rod 25 so as to screw it up or down in the guide 23. This can readily be done by engaging the top end 27 which reaches up above the pneumatics and is therefore easily accessible. It can either be engaged by a wrench or pliers or even by the fingers of the operator. Thus the height of the block 28, which is the part engaged by the member 30 on the pneumatic, can be changed relatively to the abstract 18.

I claim:

1. In a musical instrument, a key, a piano action comprising an abstract and adapted to be actuated by said key through the medium of said abstract, two guides fixed on the front face of said abstract, the lower guide being internally screw-threaded, a vertical rod extending through said guides and having screw-threaded engagement with the lower guide, a plurality of horizontal rows of pneumatics at different heights, said rod extending above said pneumatics, and means on one of the pneumatics engaging the lower end of said rod.

2. In a musical instrument, a manually operated playing key, a piano action comprising an abstract standing above the end of said key, an upper block attached to the front face of the abstract and having a vertical hole therethrough, a lower block also attached to the front face of the abstract and having a vertical hole therethrough with internal screw-threads therein, a vertical rod extending through said holes and having screw-threaded engagement with the lower block, a plurality of horizontal rows of pneumatics in front of the abstract, said rod extending above said pneumatics, and a member attached to one of the pneumatics engaging the lower end of said vertical rod, the upper end of said rod being adapted to be engaged by an implement for the purpose of rotating it.

3. In a musical instrument, a series of
playing keys in a horizontal plane, a piano
action comprising a series of abstracts in a
vertical plane above the ends of the playing
5 keys, pneumatics in front of the abstracts in
staggered horizontal rows, upper and lower
guides affixed to the front faces of the sev-
eral abstracts, the lower guides on the dif-
ferent abstracts being fixed at different
10 heights to correspond to the respective pneu-
matics, rotatable rods extending vertically

through the pairs of guides on the abstracts
and having screw-threaded engagement with
the lower guides on the abstracts, and means
attached to the pneumatics to engage the 15
lower ends of said vertical rods.

In testimony whereof, I have subscribed
my name.

THOMAS E. DOUGHERTY.

Witnesses:

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