No. 867,204. PATENTED SEPT. 24, 1907.

F. MEYER.

PLAYER PIANO ACTION.

APPLICATION FILED FEB. 5, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

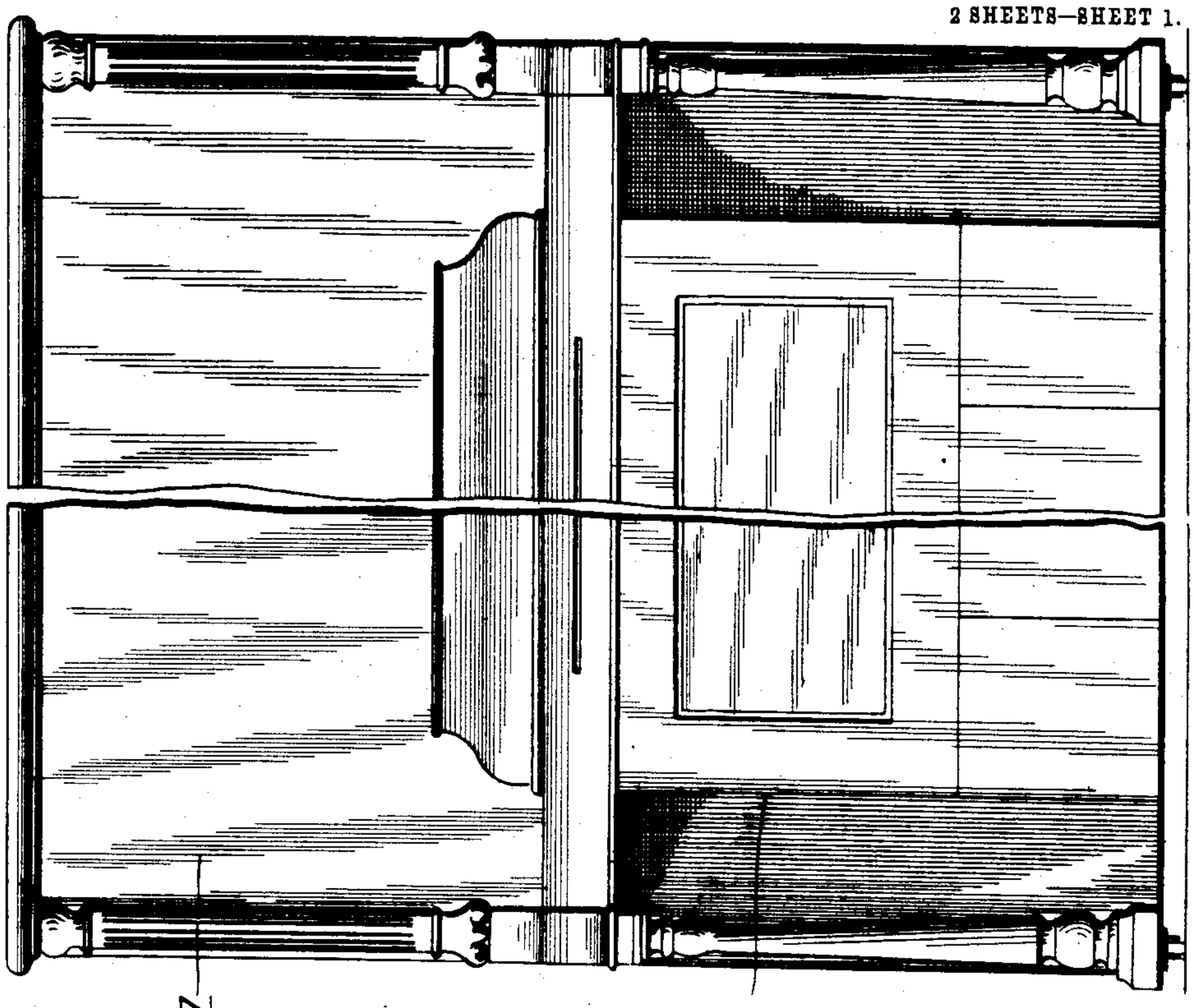
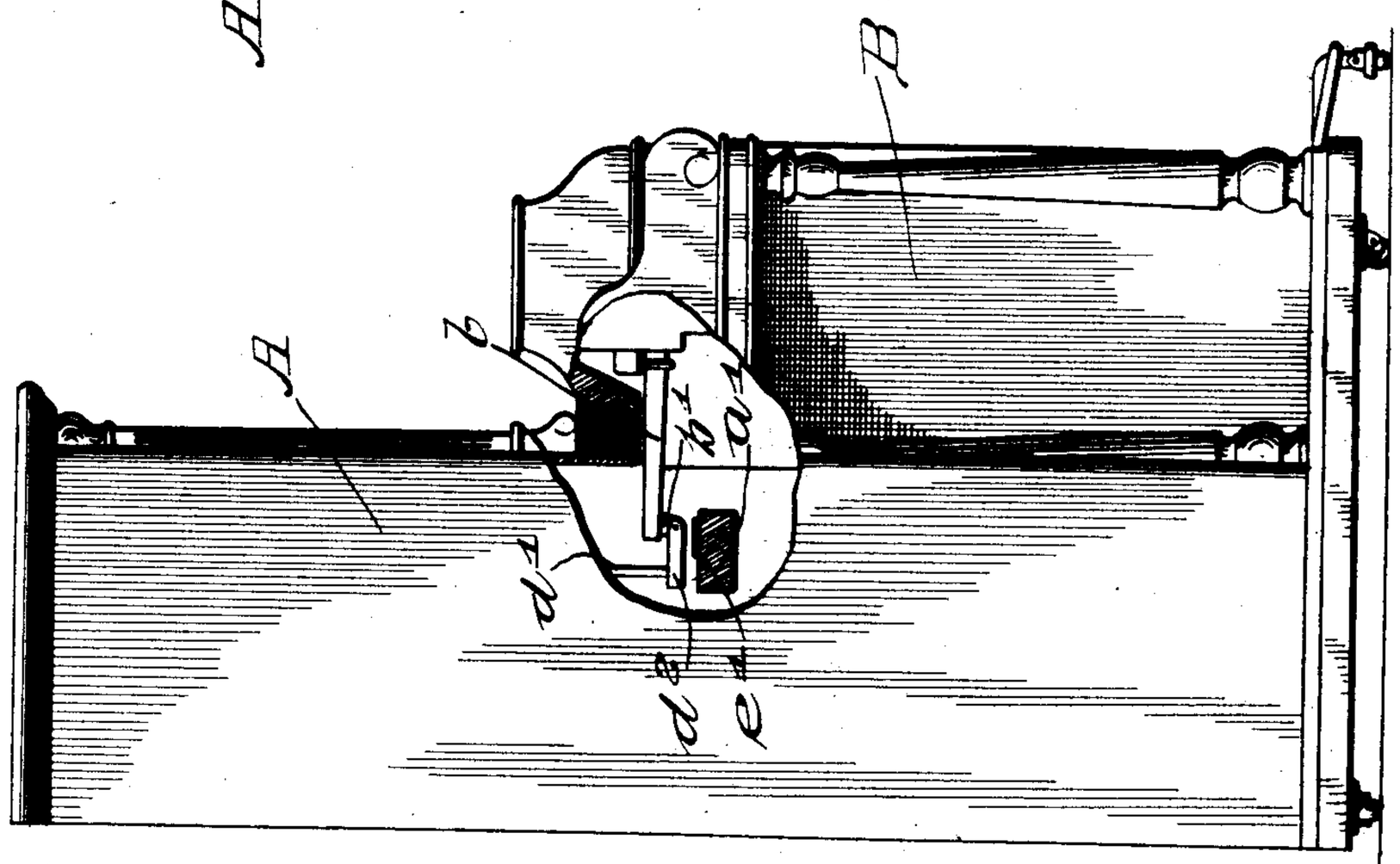


Fig. 2.



Witnesses:
Ira D. Perry
J. B. Weir

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2 SHEETS—SHEET 2.

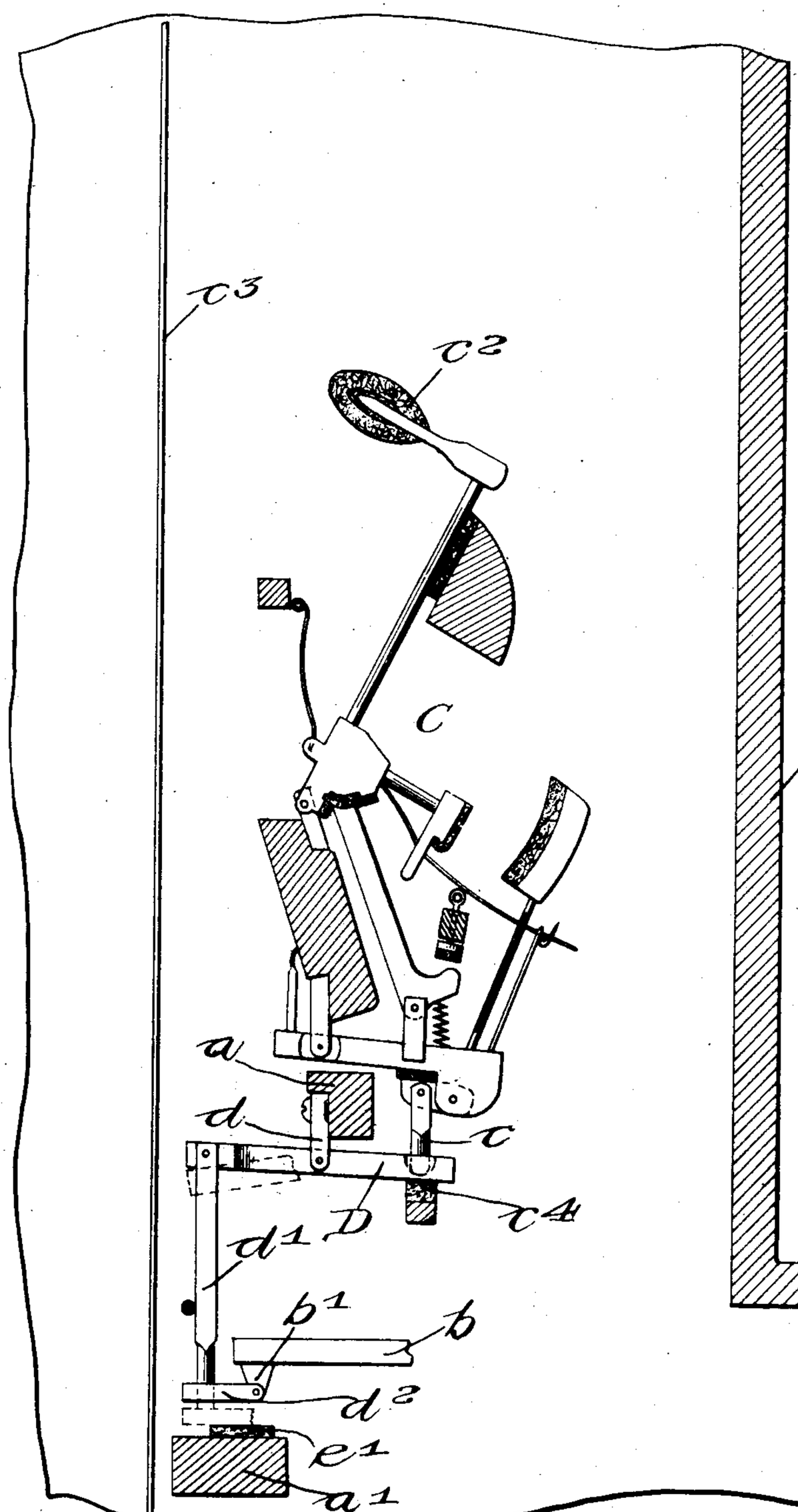

Fig. 3.

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UNITED STATES PATENT OFFICE.

FRANZ MEYER, OF OAK PARK, ILLINOIS, ASSIGNOR TO GEORGE A. BAKER, JR., OF CHICAGO, ILLINOIS.

PLAYER-PIANO ACTION.

No. 867,204. Specification of Letters Patent. Patented Sept. 24, 1907.

Application filed February 5, 1906. Serial No. 299,649.

To all whom it may concern:

Be it known that I, FRANZ MEYER, a citizen of the United States of America, and a resident of Oak Park, Illinois, have invented a certain new and useful Improvement in Player-Piano Actions, of which the following is a specification.

My invention contemplates a new action for the so-called player pianos. By player piano I mean the type of self-playing piano invented by George A. Baker, Jr., and described in his application Serial Number 303,879, filed March 2, 1906.

In a self-playing piano of this character, the ordinary or usual keyboard of the piano is displaced by the regular and well-known piano player of any suitable character, and the two elements—namely the player and the piano—are organized into a single unitary structure, there being, of course, no piano keys, and the fingers of the player consequently having direct connection with the piano action, but the player mechanism being removable as a unit.

Generally stated, the object of my invention is the provision of an improved and highly efficient player piano; and a special object is the provision of improved connections between the fingers of the player and the piano actions; and it is also an object, of course, to provide certain details and features of improvement tending to increase the general efficiency of a player piano action of this particular character.

To the foregoing and other useful ends, my invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a front elevation of a player piano embodying the principles of my invention. Fig. 2 is a side elevation of the same, a portion of the casing thereof being broken away to expose to view my improved connections between the player fingers and the piano actions. Fig. 3 is an enlarged side elevation of one of the piano actions, showing my improved connection between the same and one of the player fingers.

As thus illustrated, the piano A and the player B may, of course, be of any suitable known or approved construction, it being essential, however, that the two be combined and organized into a single unitary structure, and that the player be so located as to displace the usual or well-known key-board of the ordinary piano. In other words, it will be seen that the usual and well-known fingers *b* of the player occupy very nearly the position usually occupied by the ordinary piano keys, and that the said player is embodied as a unit, by means of any suitable structure, the player mechanism being all together in front and apart from the piano proper, but the piano having a special casing in the front of which the player is disposed as a unit.

The piano action C, shown more clearly in Fig. 3, may also be of any suitable known or approved construction—that is to say, throughout its construction at all points above the vertically disposed push-rod *c*—the said action may be of any ordinary old or well-known construction. The piano action shown will be readily recognized as the well-known piano action and one which is well balanced and adapted for use in an upright piano of the character shown and described. According to my invention, however, the said push-rod *c* is shortened considerably, and has its lower end adapted to rest in a socket or hollow formed in the top of the forward end-portion of the lever D. This lever is, it will be seen, pivoted substantially at its center by a hanger *d*, which latter is secured to one of the cross-bars *a* of the piano construction. At its rear end, the said lever D is pivoted to a vertically disposed pull-rod d'. This second rod has secured to its lower end a connecting piece d^2 adapted to engage the stop or cushion-like buffer-piece e^1, which latter is secured upon the top of the cross-bar or rail a'. With this arrangement, the finger *b* of the player is pivotally secured to the connecting piece d^2 by an ear b'. In this way, the usual and well understood depression of the player finger *b* produces a down-pull on the rod d', and an up-push on the rod *c*, the motion being communicated from one rod to the other through the medium of the balanced lever D. This, of course, produces the usual and well-known forward movement of the hammer c^2 against the string c^3, with the result that the string is properly struck by the hammer and by motion communicated from the player finger directly to the piano action, for with the arrangement shown, the lever D and the pull-rod d' practically constitute a part of the piano action.

Ordinarily, as is well known, the rod *c* of the piano action shown is engaged directly with the inner end of the piano key lever, so that pressure of the finger on the key produces an up-push on the rod *c* and the consequent movement of the hammer toward the string. With my improved arrangement, however, the keys and connecting levers are dispensed with, and the fingers of the player are, in an improved and highly efficient manner, connected directly with the piano action, since the lever D and the rod d' are, as I say, practically a part of the action, and together with the upper or well-known part of the action, constitute a new or novel or special piano action adapted for use in a player piano wherein the usual keyboard of the piano is displaced by the player.

In my improved arrangement, I preserve the balance of the piano action, and at the same time accomplish the desired connection of the player fingers directly with the actions.

When down, the rod *c* holds the forward end of the lever D upon the cushion or buffer c^4. In this way, and with the improved connections consisting of the lever D and the pull-rod *d'* secured directly to the player finger, I accomplish the direct connection between the player fingers and the action without disturbing the balance and delicacy of movement of the piano action. This is done, furthermore, without displacing the fingers *b* from the single level in which they are disposed.

What I claim as my invention is:

In a player-piano, the combination of a suitable piano action, a row of levers having their forward ends adapted to strike upward to operate the piano-action, rods hung on the depressible rear ends of said levers, player mechanism having fingers projecting rearwardly within the player-piano, said fingers all disposed in one level, each finger having its rear end adapted to strike downward from its normal position in the said level, the player-piano having a casing in which the player mechanism is disposed as a unit, and means for communicating the downward strokes of said fingers to said rods to actuate the said levers and the piano-action.

Signed by me at Chicago, Cook county, Ill., this 26th day of Jan. 1906.

FRANZ MEYER.

Witnesses:

S. LEWIS,

ALBERT JOHN SAUSER.