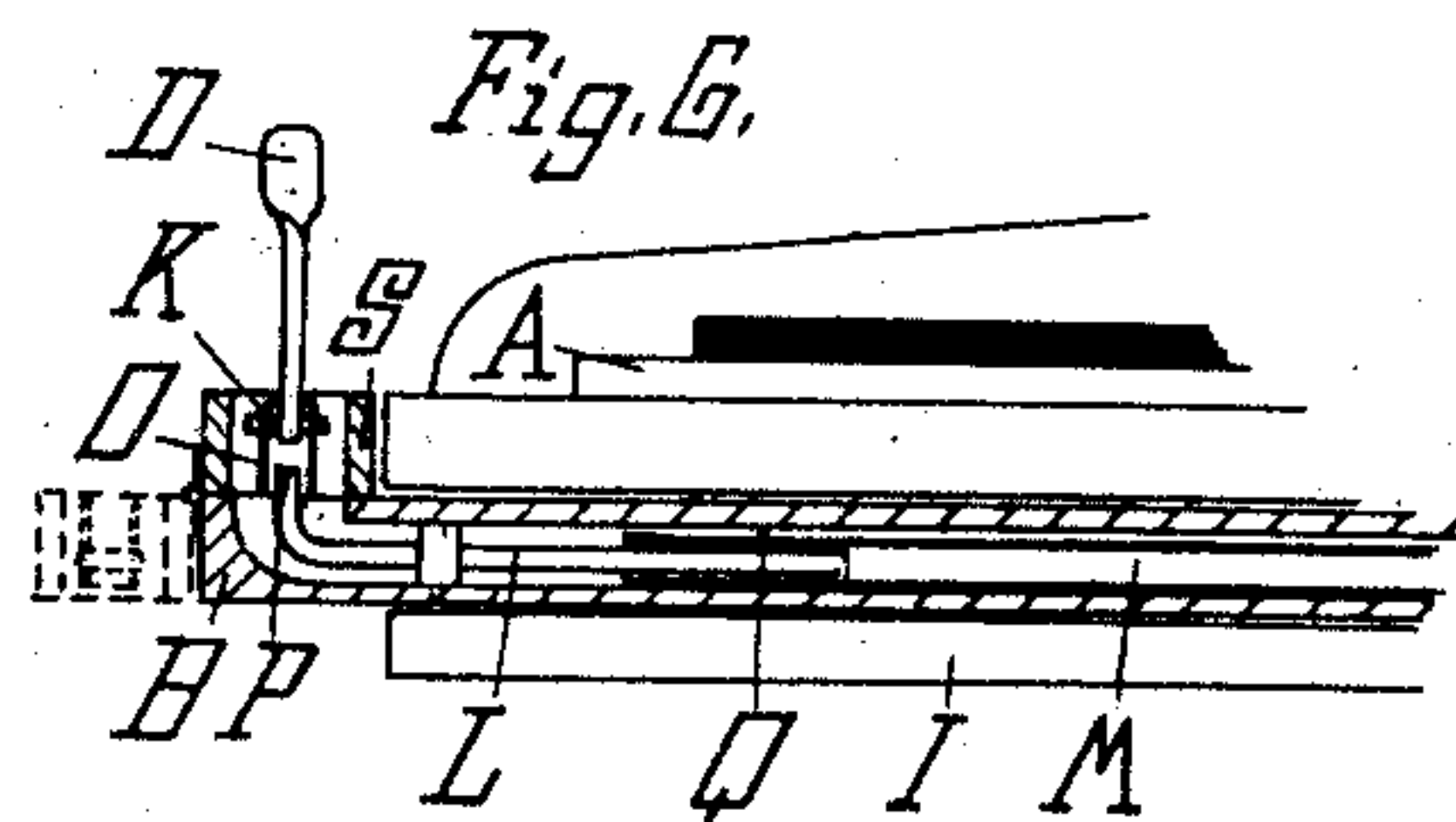
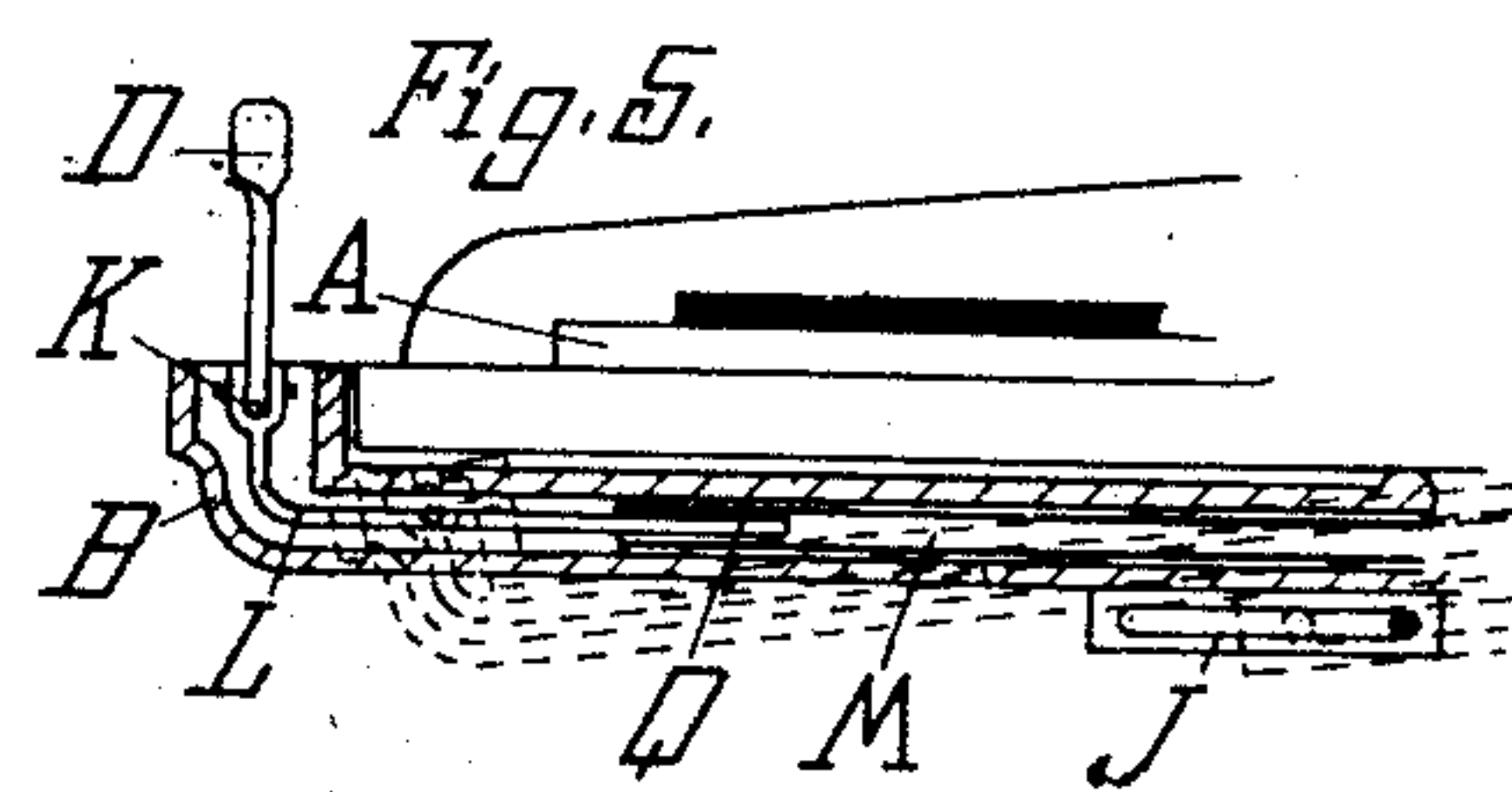
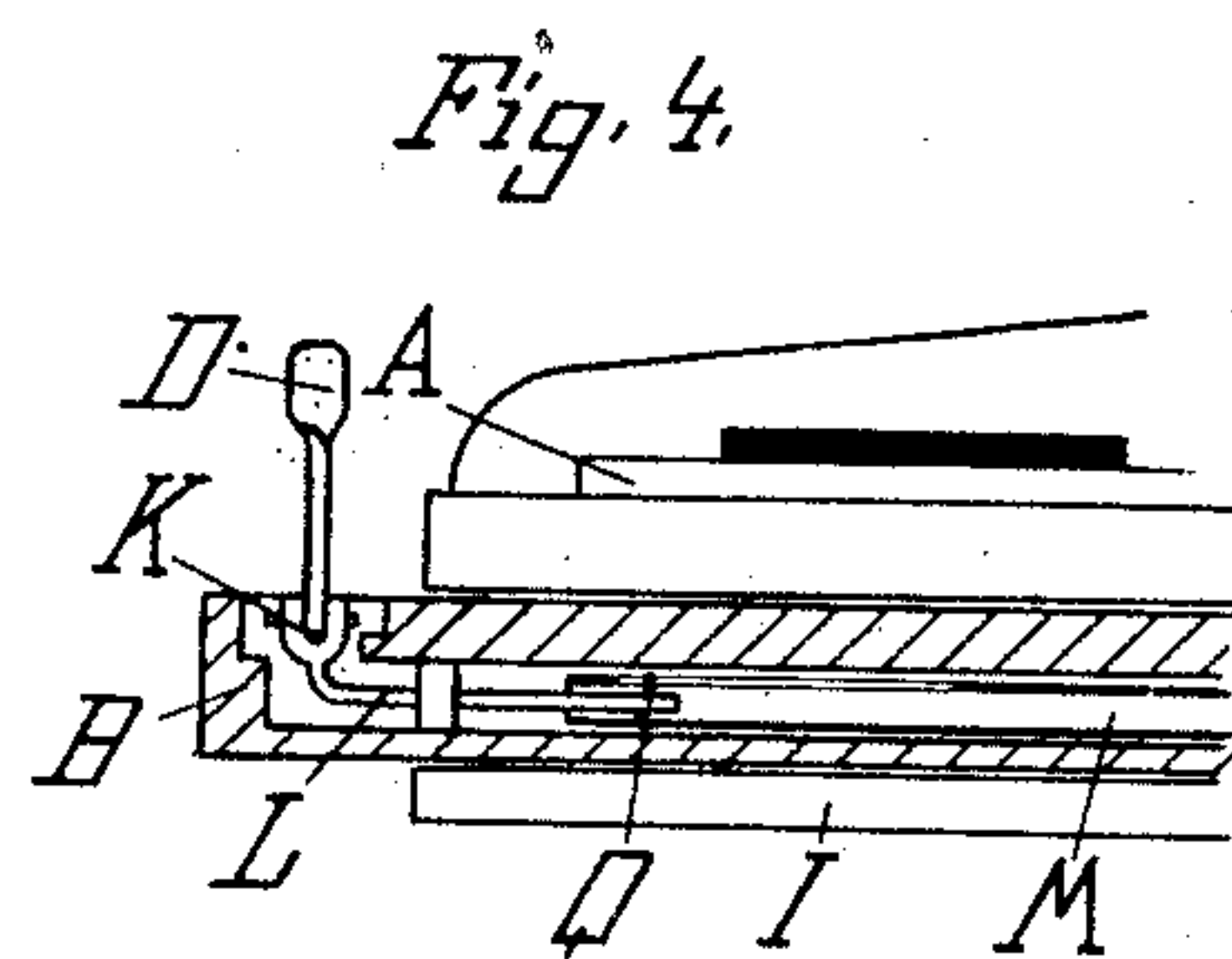
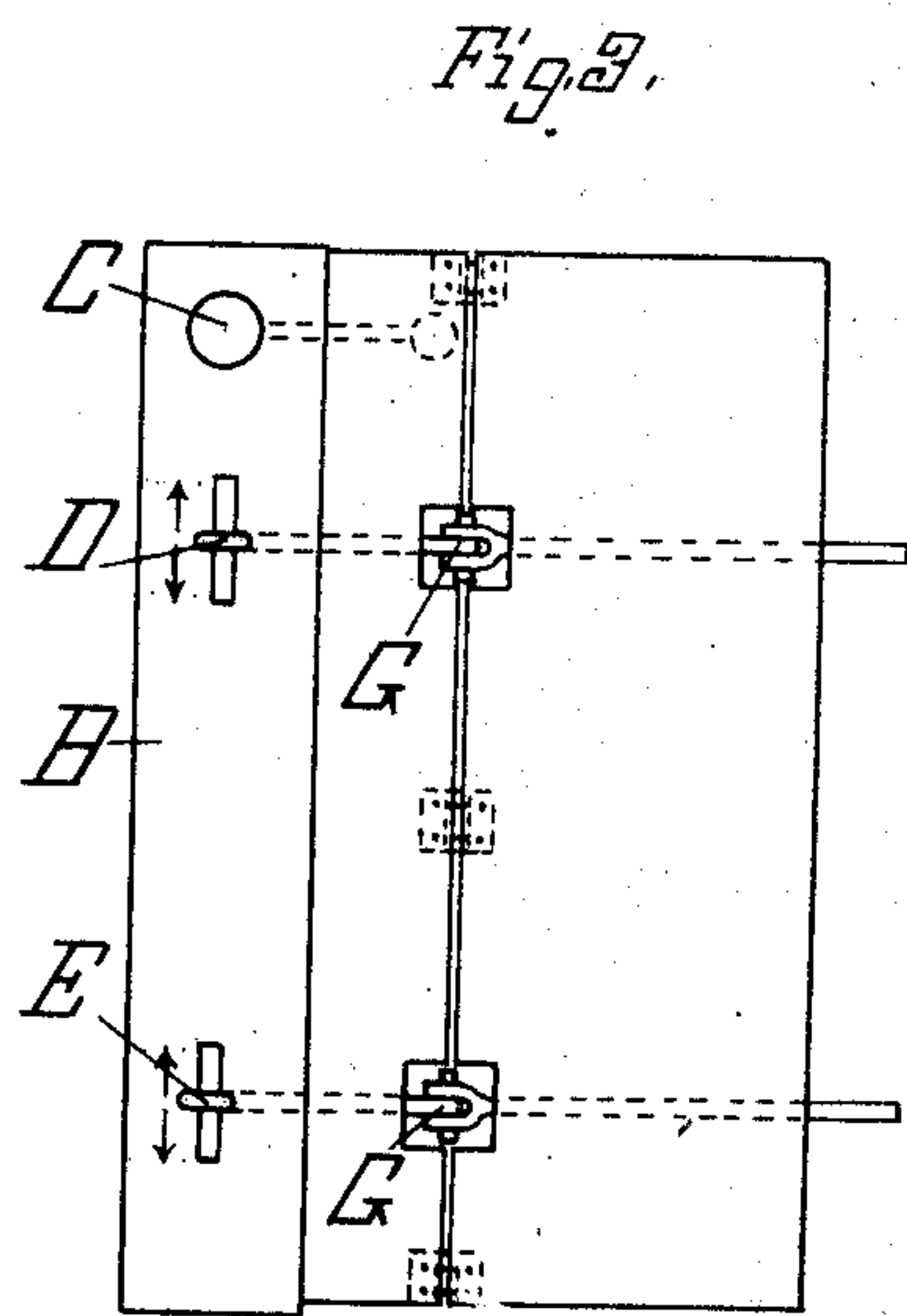
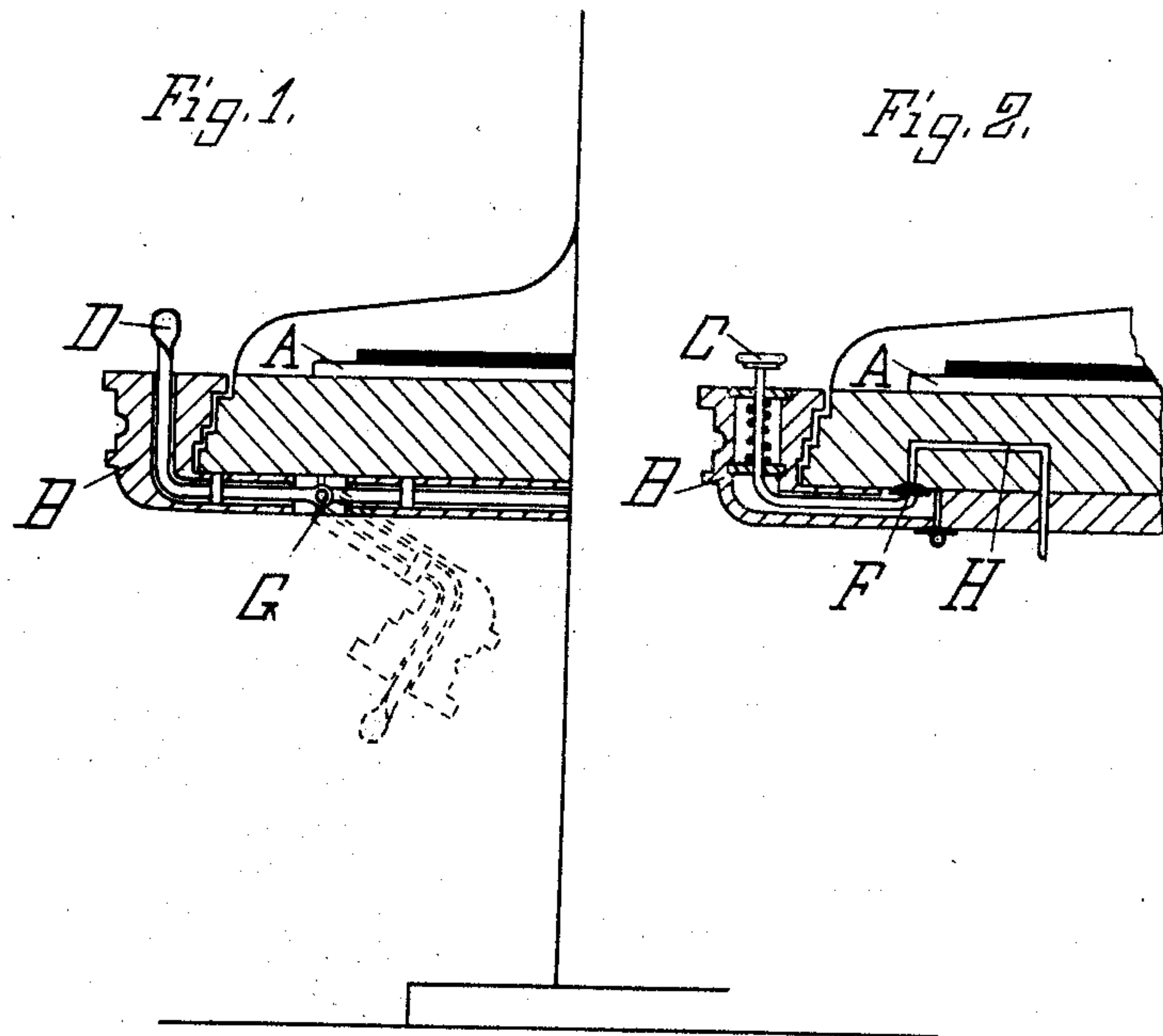


No. 876,535.

PATENTED JAN. 14, 1908.

R. FRÖMSDORF.
PIANO.

APPLICATION FILED MAR. 26, 1907.



Witnesses:-

S. Brashear,
Geo. H. Guo corrlr.

Inventor:- Robert Frömsdorf
by Paul E. Schilling his attorney

UNITED STATES PATENT OFFICE.

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PIANO.

No. 876,535.

Specification of Letters Patent.

Patented Jan. 14, 1908.

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To all whom it may concern:

Be it known that I, ROBERT FRÖMSDORF, a subject of the King of Saxony, residing at Leipzig, Saxony, German Empire, have invented certain new and useful Improvements in Pianos, of which the following is a specification.

In pianos provided with an automatic player it is important that the operating levers for the expression and tempo and for the back rolling motion, as also the pedal and other levers, be so arranged on the instrument that they can be readily actuated by the performer, without, however, being in the way when the piano is to be played by hand. The ordinary appearance of the piano, moreover, should not be altered by the presence of the various levers; or the latter should be capable of being brought entirely out of view for manual play on the keyboard. According to my invention I meet these requirements by providing a board for the operating levers at the front of the piano, in such manner that the lever ends can either be brought before the keyboard or below the same, as may be desired. For this purpose the lever board may, for instance, be hinged below the keyboard, so that it may be turned back out of the way. Or it may be arranged to slide forward and backward under the keyboard. Or it may have both a turning and sliding motion, so that the front of the board may be first depressed and then pushed back under the keyboard. Or the board may have a hinged front piece, capable of being turned down, in order to admit of the board being shoved below the keyboard.

My invention is illustrated in the accompanying drawing, in which

Figures 1 and 2 are cross sectional views showing a portion of a piano fitted with a hinged board for the levers. Fig. 3 is a plan of Fig. 1, with keyboard removed. Fig. 4 is a cross sectional view illustrating a modification in which the lever board has a sliding motion. Fig. 5 is a like view illustrating a modified construction in which the lever board can be depressed before being pushed back. Fig. 6 is a like view illustrating a modification in which the sliding lever board has a hinged front.

Referring more particularly to Figs. 1-3, A is the keyboard of the piano and B is the lever board, hinged below to the keyboard in

such manner that it can be brought into the full-line position in front of the keyboard when required for use and can be fixed in this position by well-known means. When not in use, it can be turned back into the dotted-line position, so as not to obstruct the performer.

The board B carries all the operating levers. In the particular form of construction which is illustrated a pedal lever C, an expression lever D and a tempo lever E are shown. Naturally there may be any desired number of such levers. The motion of the free ends of these levers can be transmitted to the desired parts of the playing mechanism by any suitable means, whether mechanical, electrical or pneumatic. In the apparatus shown the transmission is mechanical for the two operating levers D and E and pneumatic for the pedal lever C (Fig. 2).

In order, when the transmission is mechanical, to admit of the lever board being turned down, the levers D and E are jointed at G. The joint may be of any suitable description, such as a knuckle joint, as shown, or a ball joint or other universal joint or the like.

With pneumatic transmission, such as is provided for the pedal lever (Fig. 2); the latter is held in its end position by means of a spring, its valve head F bearing against the mouth of the air duct H, which may be run to the pedal mechanism in any desired manner. On depression of the pedal lever C against the action of its spring, the valve head F will also be depressed and the air duct H opened.

Referring now to the modification shown in Fig. 4, the lever board B instead of being hinged, slides on guides I below the keyboard A. The levers D must naturally be capable of being shortened and lengthened. This may be done by constructing them telescopically, the front portion L sliding in a tubular rear portion M. The two parts may be connected by a pin and slot joint Q. In order that the sliding of the board may not be obstructed the outer extremity of the lever D is jointed to the part L at K, so that it may be turned down into a groove provided in the board B.

In the modification illustrated in Fig. 5, the front of the sliding lever board B lies flush with the keyboard A. To admit of its being slid inward, the board B must be

so arranged that its front can be depressed. This may be done by arranging the board to bear against the bottom of the keyboard A and by employing a slotted guide piece J to receive a guide pin. The board B is maintained in the normal elevated position by means of a weight, spring, or the like. In other respects the arrangement resembles that shown in Fig. 4. After the front of the board B has been depressed to bring it below the level of the keyboard A, it can be pushed back into the dotted-line position.

Fig. 6 shows a modification in which the sliding board B has a hinged extension S, which can be turned down into the dotted-line position and the board then slid back on its guide-fillets I. The outer ends of the operating levers D must in this construction necessarily admit of detachment from the body of the lever. This may be done by jointing the lever end to a tubular piece O, into which there takes the upturned end P of the portion L. Thus the lever end can be turned down with the extension S and returned to its erect position by turning up the extension again. The remaining details of the modification may be similar to those of the construction shown in Fig. 4 and the like parts are marked with the same reference-letters in both figures.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is—

1. In a piano provided with a player, in combination, a keyboard, a board serving as hand-rest, located at the front of the keyboard on a level therewith and capable of being brought below and slid under it, and expression and like levers which terminate at said hand-rest board, their ends being capable of being brought before the keyboard or below the same as desired, substantially as described.
2. In a piano provided with a player, in combination, a keyboard, a board serving as a hand rest, located at the front of the keyboard and capable of being turned down for the purpose of being brought below it, and expression levers which terminate at

and are carried by said hand rest board, their ends being capable of being brought before the keyboard or below the same as desired, substantially as described.

3. In a piano provided with a player, in combination, a keyboard, a board serving as hand-rest, located at the front of the keyboard and sliding below it, and expression and like levers which terminate at and are carried by said hand-rest board, their ends being capable of being brought before the keyboard or below the same as desired, substantially as described.

4. In a piano provided with a player, in combination, a keyboard, a board serving as a hand rest, located at the front of the keyboard and capable of being turned down and slid below it, and expression and like levers which terminate at and are carried by said hand-rest board, their ends being capable of being brought before the keyboard or below the same as desired, substantially as described.

5. In a piano provided with a player, in combination, a keyboard, a board serving as a hand-rest, located at the front of the keyboard, and capable of being brought below it, expression and like levers carried by the hand-rest board and having jointed extensions which terminate at said hand-rest board, the ends of said extensions being capable of being brought before the keyboard or turned back as desired, substantially as described.

6. In a piano provided with a player, in combination, a keyboard, a board serving as hand-rest, located at the front of the latter and capable of being brought below it, and telescoping expression and like levers carried by said hand-rest board and which terminate at said hand-rest board, their ends being capable of being brought before the keyboard or below the same as desired, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT FRÖMSDORF.

Witnesses:

RUDOLPH FRICKE,
SOUTHARD P. WARNER.