

J. SAMPERE & D. I. TWITCHELL.

FOLDING PEDAL.

APPLICATION FILED MAY 27, 1904.

2 SHEETS—SHEET 1.

FIG. 1.

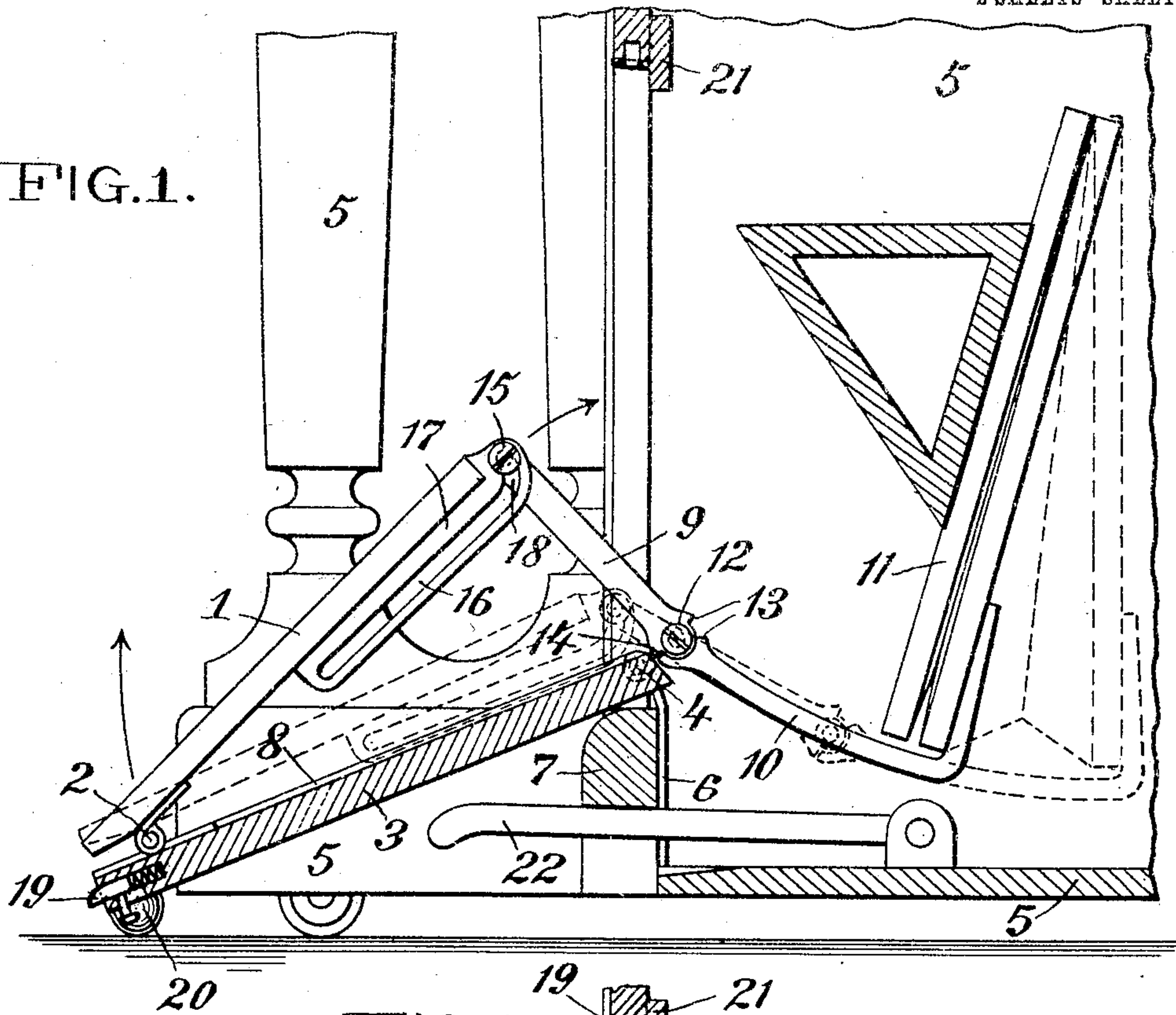


FIG. 2.

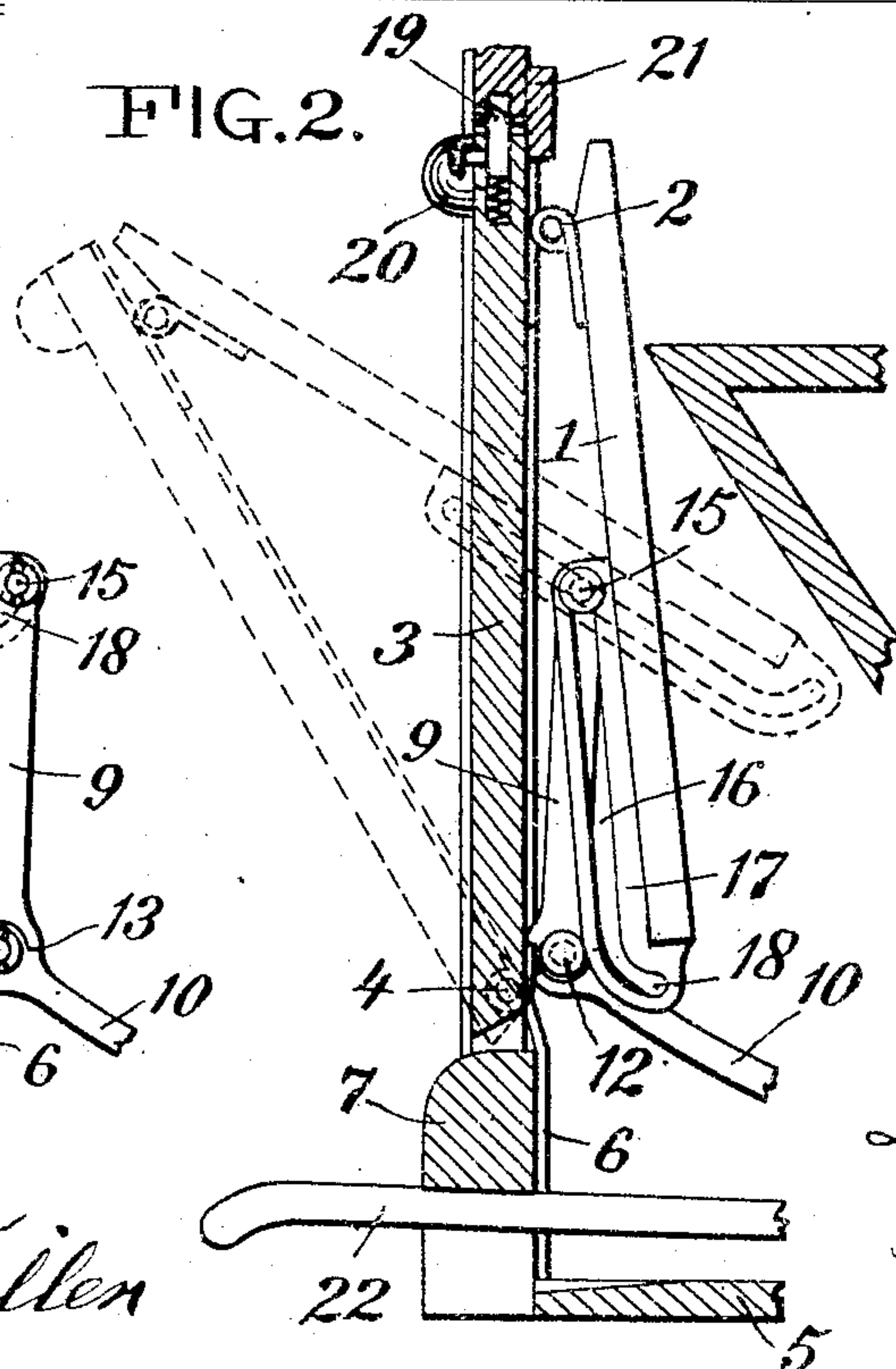
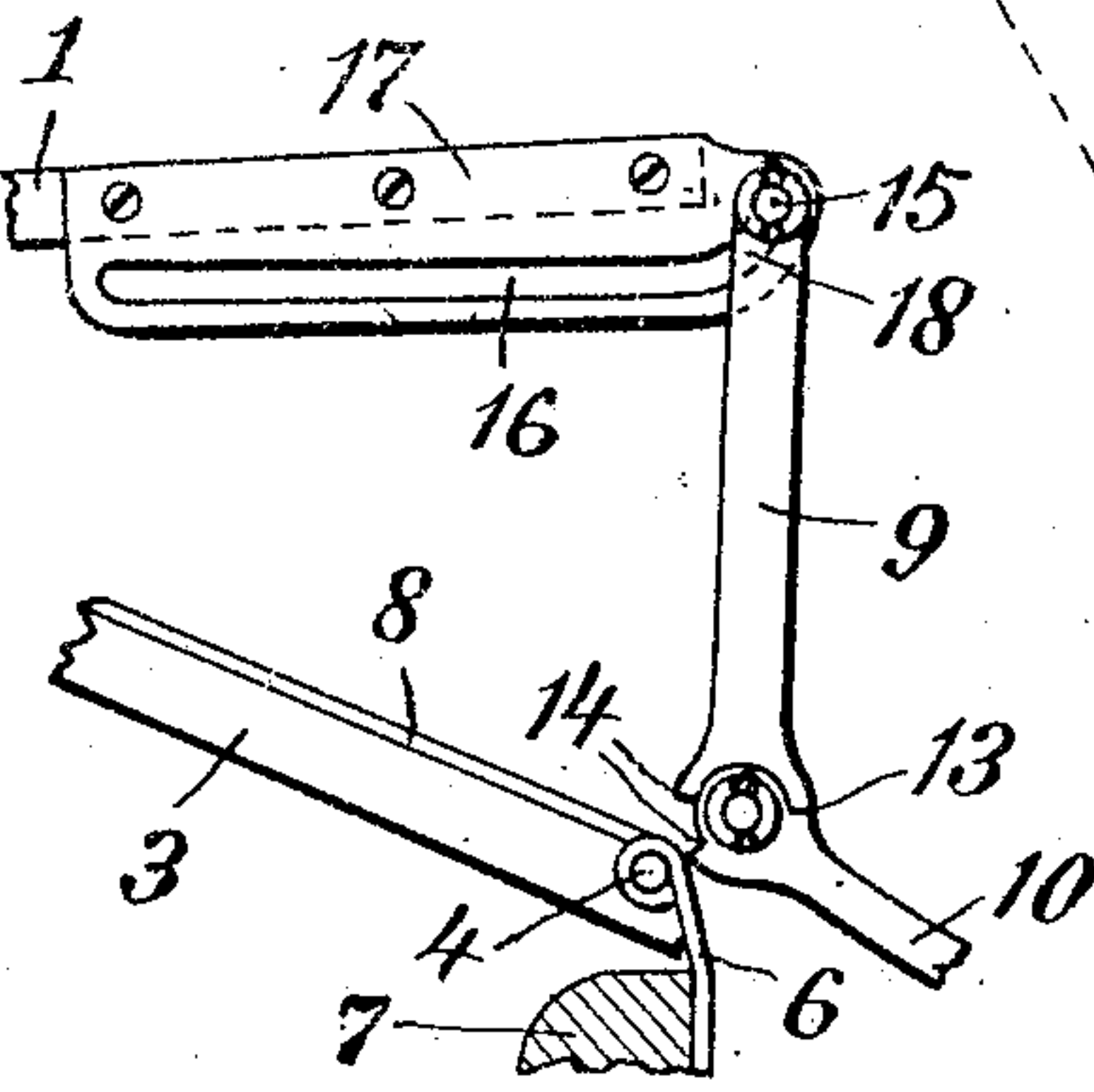


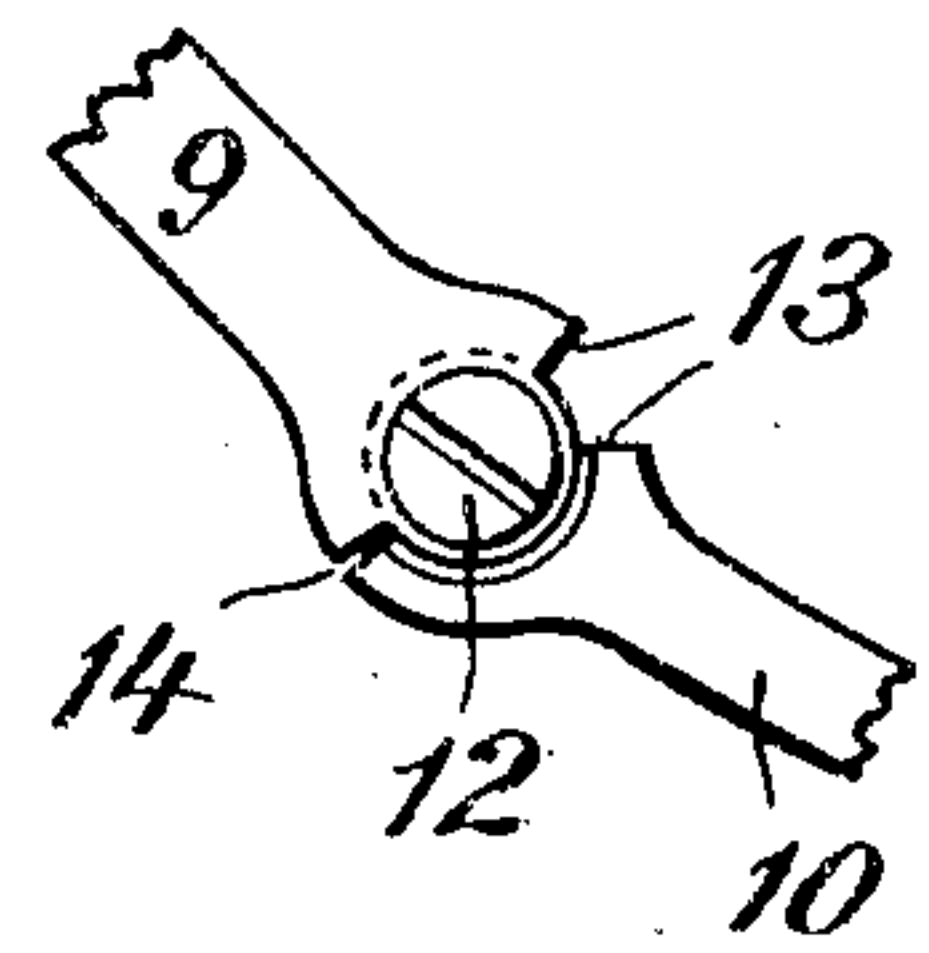
FIG. 3.



WITNESSES:

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FIG. 4.



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2 SHEETS—SHEET 2.

FIG. 5.

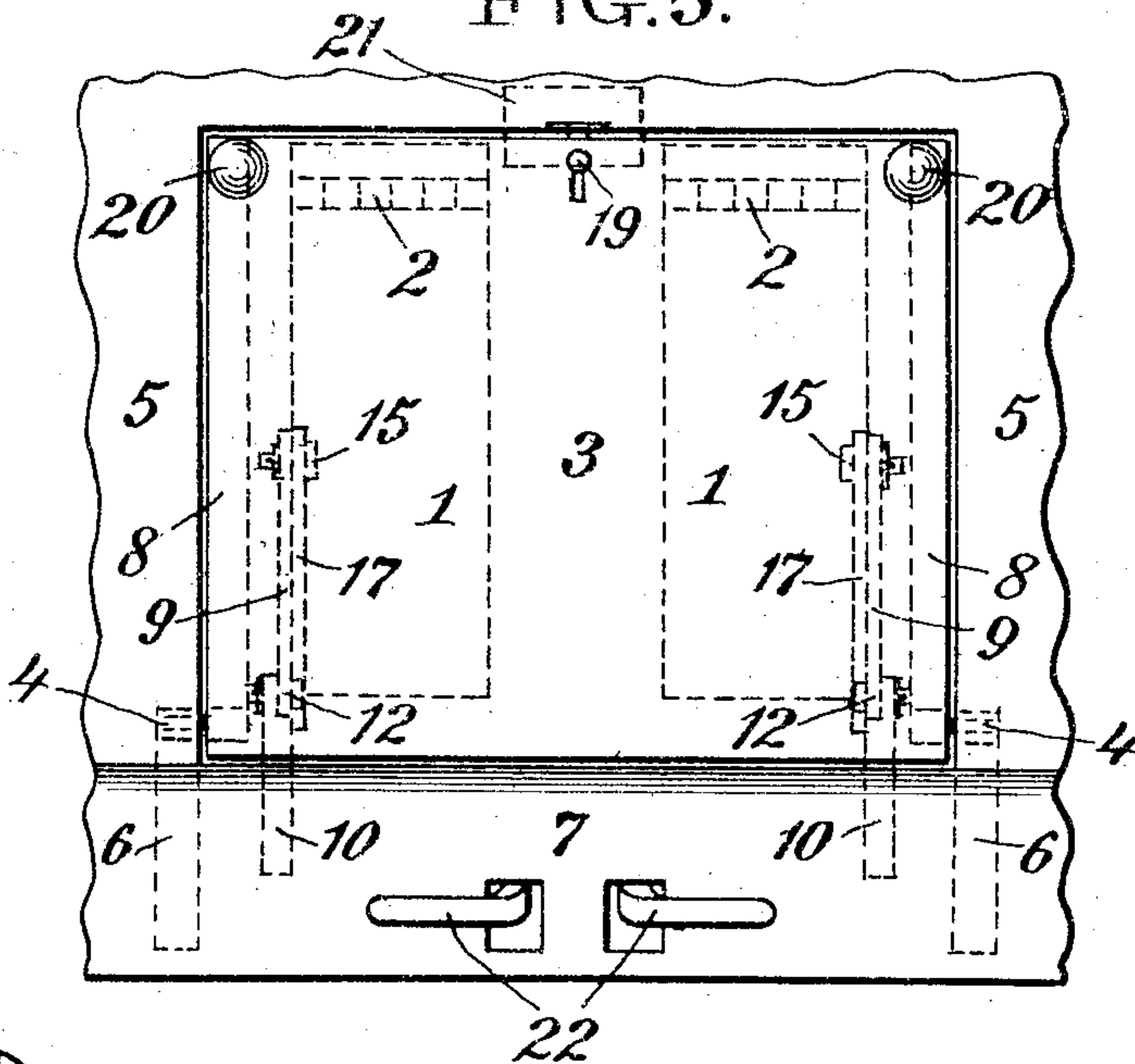


FIG. 6.

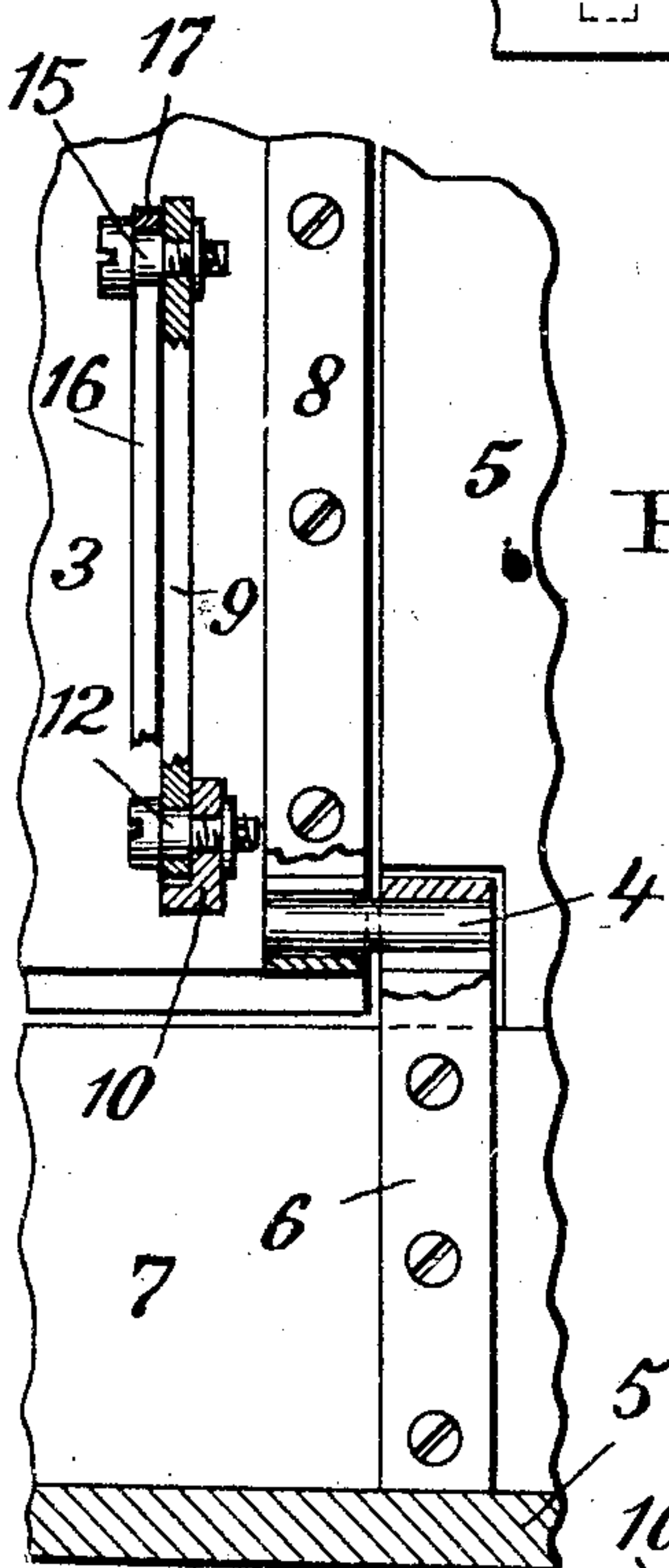


FIG. 7.

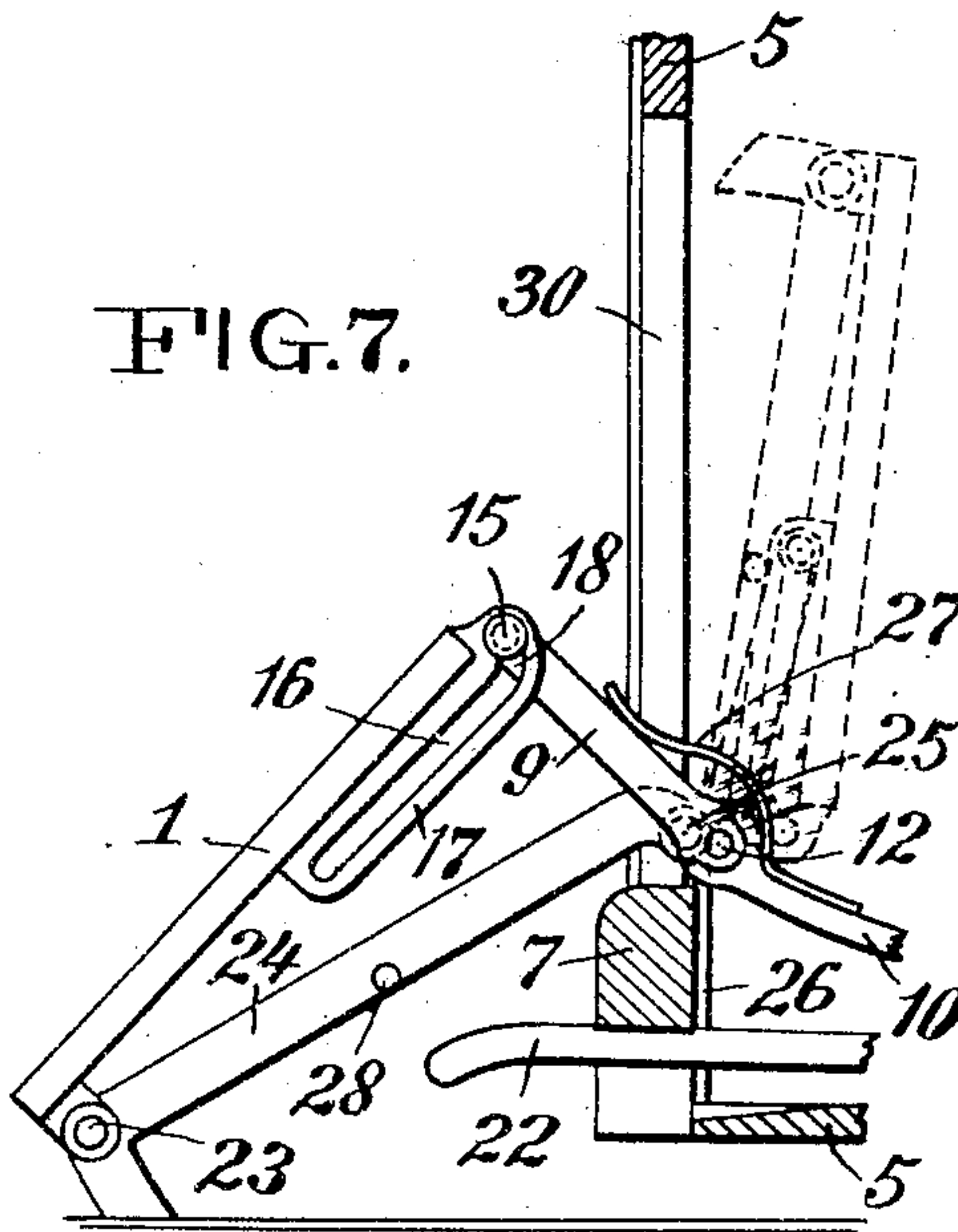
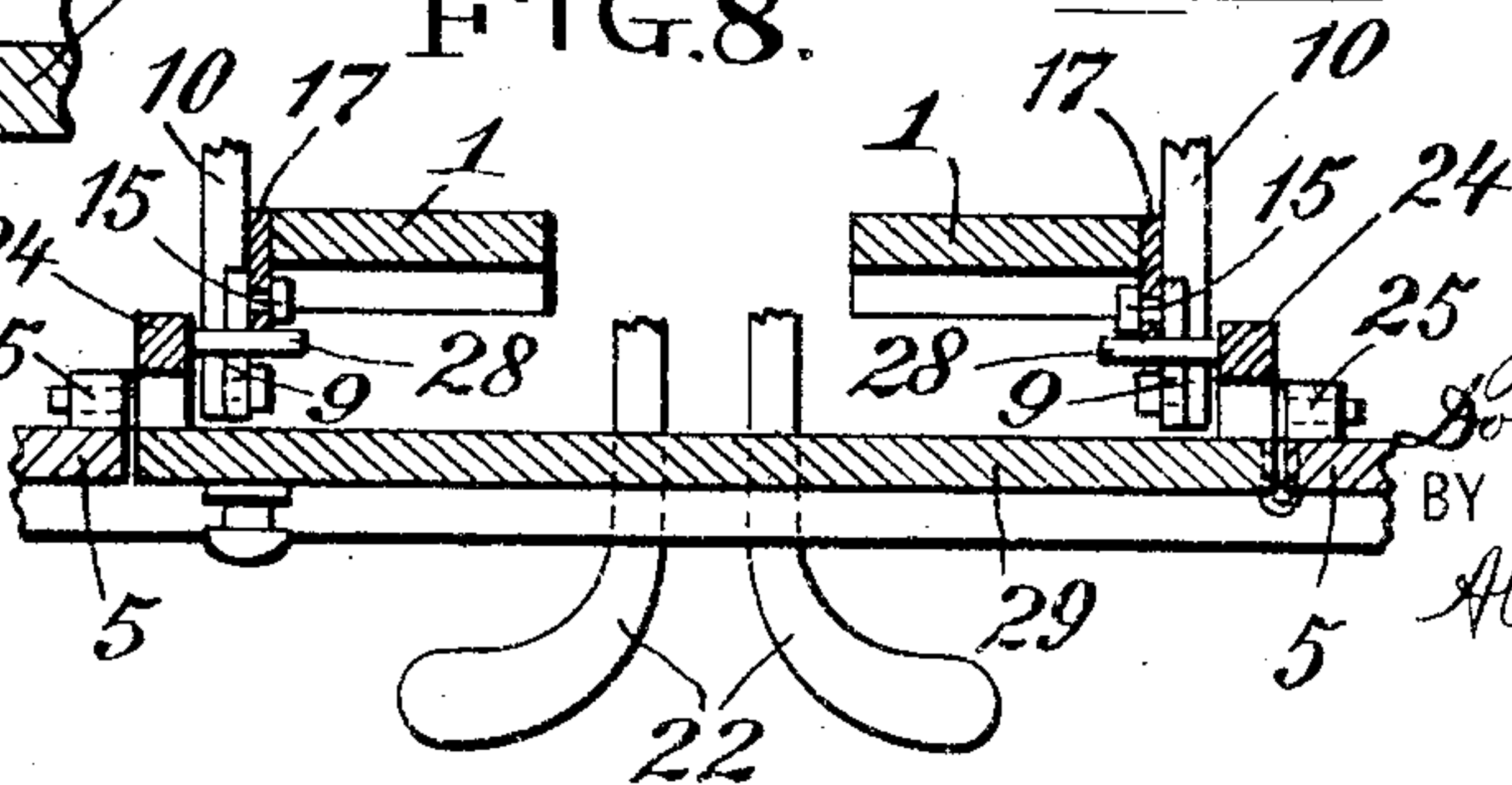


FIG. 8.



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UNITED STATES PATENT OFFICE.

JOSE SAMPERE AND DONN IRVING TWITCHELL, OF NEW YORK, N. Y.,
ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO THE REGINA
COMPANY, OF RAHWAY, NEW JERSEY, A CORPORATION OF NEW
JERSEY.

FOLDING PEDAL.

SPECIFICATION forming part of Letters Patent No. 780,131, dated January 17, 1905.

Application filed May 27, 1904. Serial No. 210,096.

To all whom it may concern:

Be it known that we, JOSE SAMPERE, a subject of the King of Spain, and DONN IRVING TWITCHELL, a citizen of the United States of America, both residing in the city, county, and State of New York, have jointly invented certain new and useful Improvements in Folding Pedals, of which the following is a specification.

10 This invention relates to pedals adapted more especially for operating the wind-inducing bellows of self-playing pianos or of piano-players or of reed or pipe organs, but useful in other pedal-operated structures.

15 The invention has for its object to provide simple, inexpensive, and efficient pedals of this character adapted to fold readily into small space when not in use, the more particular object being to adapt folding pedals to a self-playing piano or piano-player or organ in manner permitting concealment of the unused pedals within the instrument-case and allowing almost instant and easy unfolding and infolding of the pedals as the conditions of use
25 of the instrument may require.

The invention will first be described and then will be particularly defined in claims hereinafter set forth.

30 Reference is made to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a vertical sectional view of the lower front portion of a self-playing piano having the preferred pedals shown in out-
35 folded operative adjustment. Fig. 2 is a sectional view showing in full lines these pedals folded within the piano-case and indicating by dotted lines an intermediate stage of the pedal-folding movement. Fig. 3 is a detail side
40 view illustrating the first stage of the pedal-folding movement. Fig. 4 is an enlarged detail side view of the joint between the main bellows connecting-rod and the pedal-link. Fig. 5 is a smaller scale front view with the pedals
45 folded within the piano-case. Fig. 6 is an enlarged partly sectional rear view specially illustrating one hinge of the pedal-supporting

panel and the pedal-link connections. Fig. 7 is a vertical sectional view of modified pedals shown operatively outfolded in full lines and 50 infolded by dotted lines; and Fig. 8 is a sectional plan view of these modified pedals infolded behind an independent door or panel of the piano-case.

The preferred pedals (shown in Figs. 1 to 6 55 of the drawings) will first be described. In this construction the two pedals 1 1 are fulcrumed at 2 2 to a panel or plate 3, which is hinged on pins 4 to the case 5 of a piano, organ, or other structure. Each panel hinge-
60 joint preferably comprises a metal plate or strap 6, fixed to the inner face of the lower front bar or pedal-rail 7 of the case 5 and having an eye tightly clamping one end of the hinge-pin 4 and a metal plate or strap 8 65 fixed to and along the inner face of the panel 3 and strongly reinforcing it and having an eye adapted to turn upon the other end of the hinge-pin. These hinge-joints at the pins 4 are preferably sunken in the rear face of the panel 70 3, but lie entirely within its outer face, so that when the panel is closed upward it effectually conceals its hinge-joints and all the infolded pedal mechanism. One or more than two ped-
75 als may be used, as desired. Each pedal 1 is coupled by a link 9 to a connecting-rod 10, which is fixed to the wind-inducing bellows 11. The coupling of parts 9 10 is effected preferably by a special rule-joint comprising a pivot-pin 12 and opposing pairs of shoulders 13 14 on the 80 parts 9 10. These rule-joint shoulders form stops facilitating the operation of the pedal mechanism and its infolding and unfolding movements, as hereinafter more fully explained. The outer end of each pedal-link 9 85 carries a pin or roller 15, upon which moves a guide on the pedal. This guide preferably comprises a slot 16 in a metal plate 17, fixed, preferably, to the outer edge of the corresponding pedal 1. The guide-slot 16 of each 90 pedal-plate 17 preferably has an offset inner end portion 18, in which the link-pin 15 rests as the outfolded pedals are operated. Presuming that the pedals 1 are inoperatively

5 infolded, as shown in full lines in Fig. 2 of
 the drawings, to outfold them for use it only
 is necessary to release the latch or catch 19,
 preferably holding the panel 3 closed, and then
 10 swing said panel downward on the hinge-pins
 4. During this down-swinging of the panel
 3 and pedals 1 the link-pins 15 remain at the
 upper or outer part of the guide-slots 16 until
 the links 9 assume the full-line position of
 15 Fig. 1 of the drawings, and the guide-slots 16
 then slip along on the link-pins 15 as the pedal
 rises to operative position until the pins finally
 rest in the guide-slot offsets 18 about as the
 pedal-buffers 20 come to rest upon the floor.
 20 In this adjustment the opposing rule-joint
 shoulders 14 closely approach each other. The
 special office of these shoulders 14 is to prevent
 accidental falling of the outfolded links 9 far-
 25 ther forward than is necessary to maintain the
 pedals 1 at about the proper angle to assure
 positive inflation of the bellows 11 by means
 of the parts 9 10 as the pedals are depressed
 to the position indicated by the dotted lines
 in Fig. 1 of the drawings. The pedal-guide
 30 slots 16 need not have the offset forward ends
 18; but these offsets are preferred, as they as-
 sure more steady and practically noiseless op-
 eration of the bellows by the pedals. It is
 preferable to have the joint-shoulders 14
 35 slightly separated as the link-pins 15 rest in
 the pedal-guide offsets 18 in order to prevent
 overstrain of the rule-joints as the pedals are
 operated, while the panel-buffers 20 accommo-
 date themselves firmly to the floor. To infold
 40 the pedals 1, their panel-support 3 is swung
 upward on the hinge-pins 4, and after the
 pedal-links 9 assume their final infolded posi-
 tion (shown in full lines in Figs. 2 and 3 of
 the drawings and determined by contact of
 45 the opposing rule-joint shoulders 13) the link-
 pins 15 will slip from the guide-offsets 18 and
 along the pedal-guide slots 16, as indicated by
 the dotted lines in Fig. 2 of the drawings. As
 the panel and pedals swing fully upward the
 50 latch 19 or equivalent detent automatically
 locks the pedals in closed or inoperative ad-
 justment about at the time the panel 3 strikes
 a stop shoulder or block 21 on the piano-case
 5, and the link-pins 15 then rest at the rear
 55 or now uppermost parts of the pedal slots or
 guides 16. The pedals thus are held securely
 and invisibly folded within the piano or organ
 case, all as shown in full lines in Fig. 2 and
 in Fig. 5 of the drawings. When the pedals
 60 are folded within the piano-case, they do not
 furnish visible indication that the piano may
 be played mechanically, thus enhancing the
 pleasure of a skilful manual player fingering
 the keyboard. There is no interference by the
 65 mechanical playing pedals 1 with the usual
 soft and loud pedals 22, fitted at the front rail
 7 of the piano-case.

In the modification shown in Figs. 7 and 8
 of the drawings the pedals 1 instead of be-

ing hinged to a plate or panel 3, forming part 65
 of the piano-case front when the pedals are
 folded, are pivoted at 23 to a metal frame 24,
 which is hinged at 25 to plates 26, held to the
 front case-rail 7. The link, rod, and slotted-
 guide connections 9 to 18 between the bel- 70
 lows and pedals are substantially the same as
 those above described for the preferred pedal
 construction. It may be desirable to use
 springs 27, fixed to the bellows connecting-
 rod 10 and bearing on the pedal-links 9, to 75
 facilitate folding of these frame-supported
 pedals. Pins 28, projecting laterally inward
 from the sides of the open frame 24, may be
 used to prevent falling of the pedals 1 too far
 through the frame during folding of this 80
 modified pedal structure within the piano-
 case to the adjustment indicated by the dotted
 lines in Fig. 7 of the drawings. With these
 modified pedals any suitable hinged or sliding
 door 29 will be used to close the opening 30 85
 of the piano-case front and conceal the in-
 folded pedals from view during manual play-
 ing of the instrument or when the instrument
 is not in use.

Various modifications of this invention may 90
 be made by the skilled mechanic within the
 scope of the appended claims.

We claim as our invention—

1. Folding pedals comprising a support
 hinged to a piano-case or other structure, one 95
 or more pedals having a guide and hinged to
 said support, and a link coupled to a movable
 part of a bellows or other device to be oper-
 ated and also having sliding engagement with
 the pedal-guide during folding and unfolding 100
 of the pedals.

2. Folding pedals comprising a support
 hinged to a piano-case or other structure, one
 or more pedals having a guide and hinged to
 said support, and a link coupled to a movable 105
 part of a bellows or other device to be oper-
 ated and also having sliding engagement with
 the pedal-guide during folding and unfolding
 of the pedal; said guide having an offset por-
 tion at which the link rests when the pedal is 110
 operatively adjusted.

3. Folding pedals comprising a support
 hinged to a piano-case or other structure, one
 or more pedals having a guide and hinged to
 said support, and a link coupled by a joint 115
 having opposing stop-shoulders to a movable
 part of a bellows or other device to be oper-
 ated and also having sliding engagement with
 the pedal-guide during folding and unfolding
 of the pedals. 120

4. Folding pedals comprising a support
 hinged to a piano-case or other structure, one
 or more pedals having a guide and hinged to
 said support, and a link coupled by a joint 125
 having opposing stop-shoulders to a movable
 part of a bellows or other device to be oper-
 ated and also having sliding engagement with
 the pedal-guide during folding and unfolding

of the pedal; said guide having an offset portion at which the link rests when the pedal is operatively adjusted.

5. Folding pedals comprising a support hinged to a piano-case or other structure, one or more pedals having a slot or guide and hinged to said support, and a link coupled by a joint having two opposing pairs of stop-shoulders to a movable part of a bellows or other device to be operated and also having sliding engagement with the pedal-guide during folding and unfolding of the pedals.

6. Folding pedals comprising a support hinged to a piano-case or other structure, one or more pedals having a slot or guide and hinged to said support, and a link coupled by a joint having two opposing pairs of stop-shoulders to a movable part of a bellows or other device to be operated and also having sliding engagement with the pedal-guide during folding and unfolding of the pedal; said guide having an offset portion at which the link rests when the pedal is operatively adjusted.

7. Folding pedals comprising a support hinged to a piano-case or other structure and forming when closed a portion of the wall thereof, one or more pedals having a slot or guide and hinged at the inner part of said support, and a link coupled to a movable part of a bellows or other device to be operated and also having sliding engagement with the pedal-guide during infolding and unfolding of the pedal, said pedal and its coupling-link being sustained within the piano-case or structure when the hinged support is closed.

8. Folding pedals comprising a support hinged to a piano-case or other structure and forming when closed a portion of the wall thereof, one or more pedals having a slot or guide and hinged to the inner part of said support; said guide having an offset portion at which the link rests when the pedal is operatively adjusted, and a link coupled to a movable part of a bellows or other device to be operated and also having sliding engagement with the pedal-guide during infolding and unfolding of the pedal; said pedal and its coupling-link being sustained within the piano-case or structure when the hinged support is closed.

9. Folding pedals comprising a support hinged to a piano-case or other structure and forming when closed a portion of the wall thereof, one or more pedals having a slot or guide and hinged at the inner part of said support, and a link coupled by a joint having opposing stop-shoulders to a movable part of a bellows or other device to be operated and also having sliding engagement with the pedal-guide; said pedal and its coupling-link being sustained within the piano-case or structure when the hinged support is closed.

10. Folding pedals comprising a support

hinged to a piano-case or other structure and forming when closed a portion of the wall thereof, one or more pedals having a slot or guide and hinged at the inner part of said support; said guide being formed with an offset portion at which the link rests when the pedal is operatively adjusted, and a link coupled by a joint having opposing stop-shoulders to a movable part of a bellows or other device to be operated and also having sliding engagement with the pedal-guide; said pedal and its coupling-link being sustained within the piano-case or structure when the hinged support is closed.

11. Folding pedals comprising a support hinged to a piano-case or other structure and forming when closed a portion of the wall thereof, one or more pedals having a slot or guide and hinged at the inner part of said support, and a link coupled by a joint having two opposing pairs of stop-shoulders to a movable part of a bellows or other device to be operated and also having sliding engagement with the pedal-guide; said pedal and its coupling-link being sustained within the piano-case or structure when the hinged support is closed.

12. Folding pedals comprising a support hinged to a piano-case or other structure and forming when closed a portion of the wall thereof, one or more pedals having a slot or guide and hinged at the inner part of said support; said guide being formed with an offset portion at which the link rests when the pedal is operatively adjusted, and a link coupled by a joint having two opposing pairs of stop-shoulders to a movable part of a bellows or other device to be operated and also having sliding engagement with the pedal-guide; said pedal and its coupling-link being sustained within the piano-case or structure when the hinged support is closed.

13. The combination in folding pedals, of a hinged panel or support, one or more pedals 1 hinged at 2 to said support and having a guide-slot 16, a rod 10 connected to a bellows or other part to be operated, and a link 9 coupled to the rod 10 and having a pin or part 15 movable in the guide-slot 16, substantially as described.

14. The combination in folding pedals, of a hinged panel or support, one or more pedals 1 hinged at 2 to said support and having a guide-slot 16 including an offset portion 18, a rod 10 connected to a bellows or other part to be operated, and a link 9 coupled to the rod 10 and having a pin or part 15 movable in the pedal guide-slot 16 18, substantially as described.

15. The combination in folding pedals, of a hinged panel or support, one or more pedals 1 hinged at 2 to said support and having a guide-slot 16, a rod 10 connected to a bellows or other part to be operated, and a link 9 coupled to the rod 10 by a joint having op-

posing stop-shoulders 13 and having a pin or part 15 movable in the pedal guide-slot 16, substantially as described.

16. The combination in folding pedals, of a
5 hinged panel or support, one or more pedals 1 hinged at 2 to said support and having a guide-slot 16, a rod 10 connected to a bellows or other part to be operated, and a link 9 coupled to the rod 10 by a joint having opposing

stop-shoulders 14 and having a pin or part 15 10 movable in the pedal guide-slot 16, substantially as described.

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Witnesses:

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