

C. S. WRIGHT.
FOLDING BELLOWS PEDAL.
APPLICATION FILED MAR. 7, 1908.

899,935.

Patented Sept. 29, 1908.

3 SHEETS—SHEET 1.

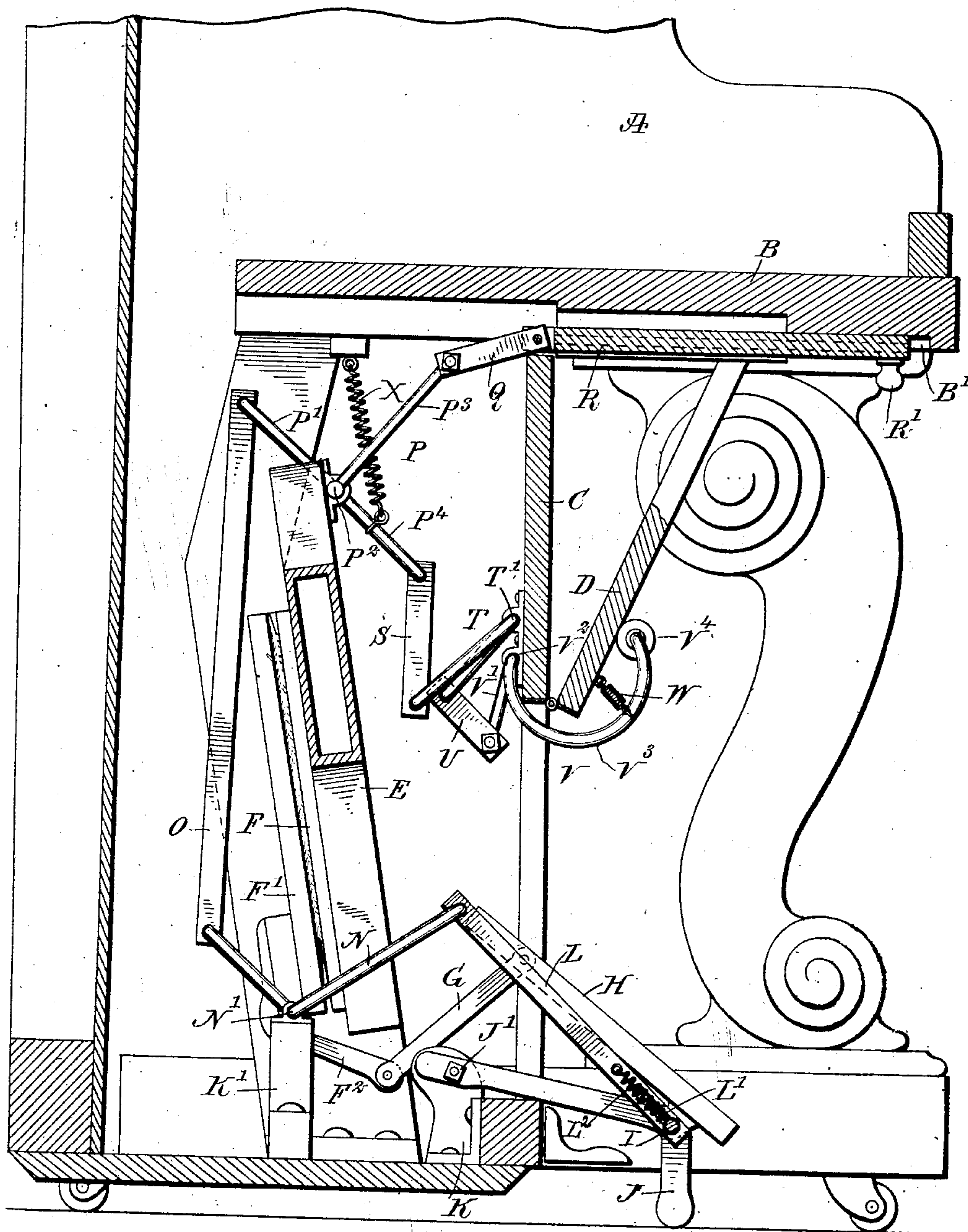


FIG. I.

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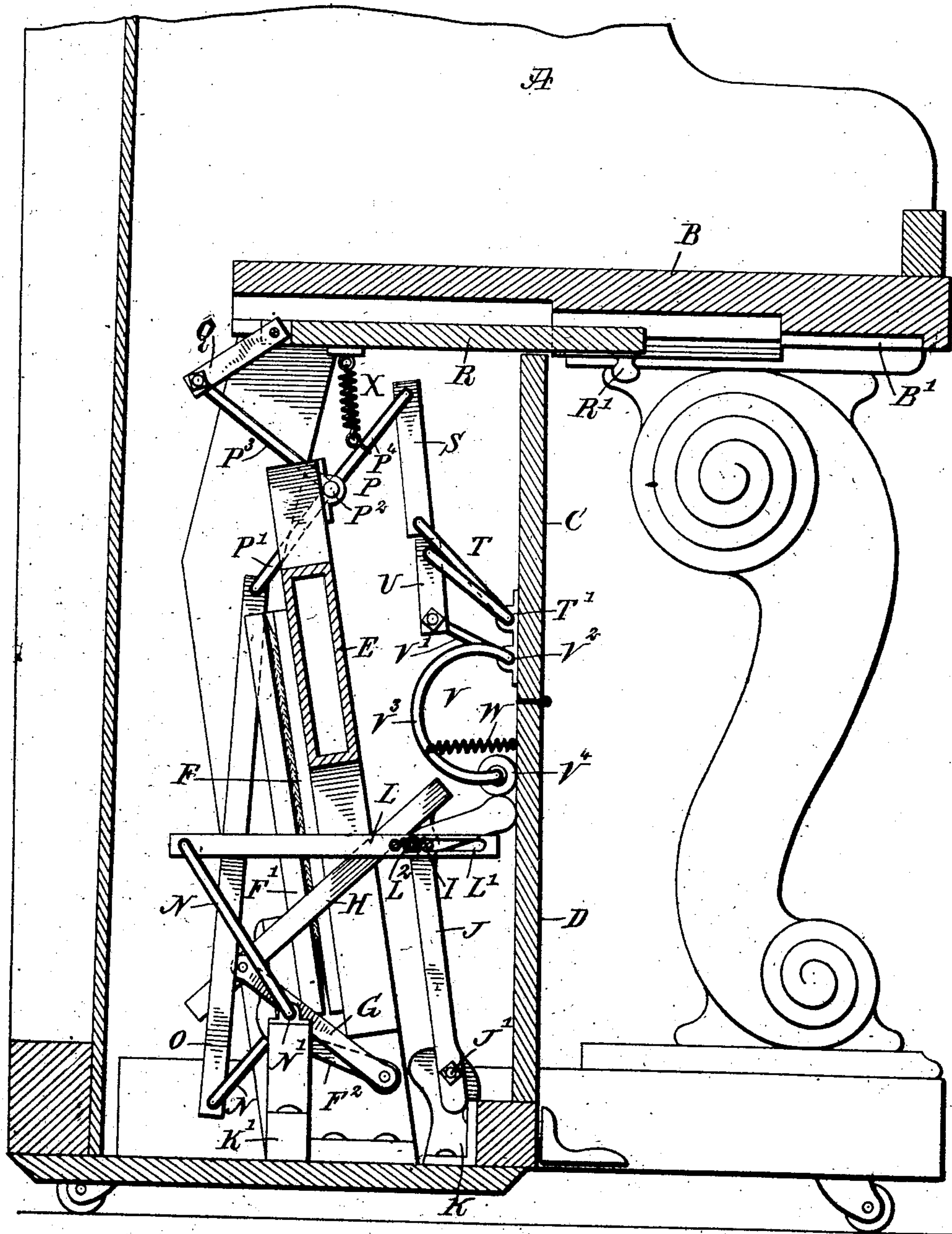
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3 SHEETS—SHEET 2



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FIG. 2.

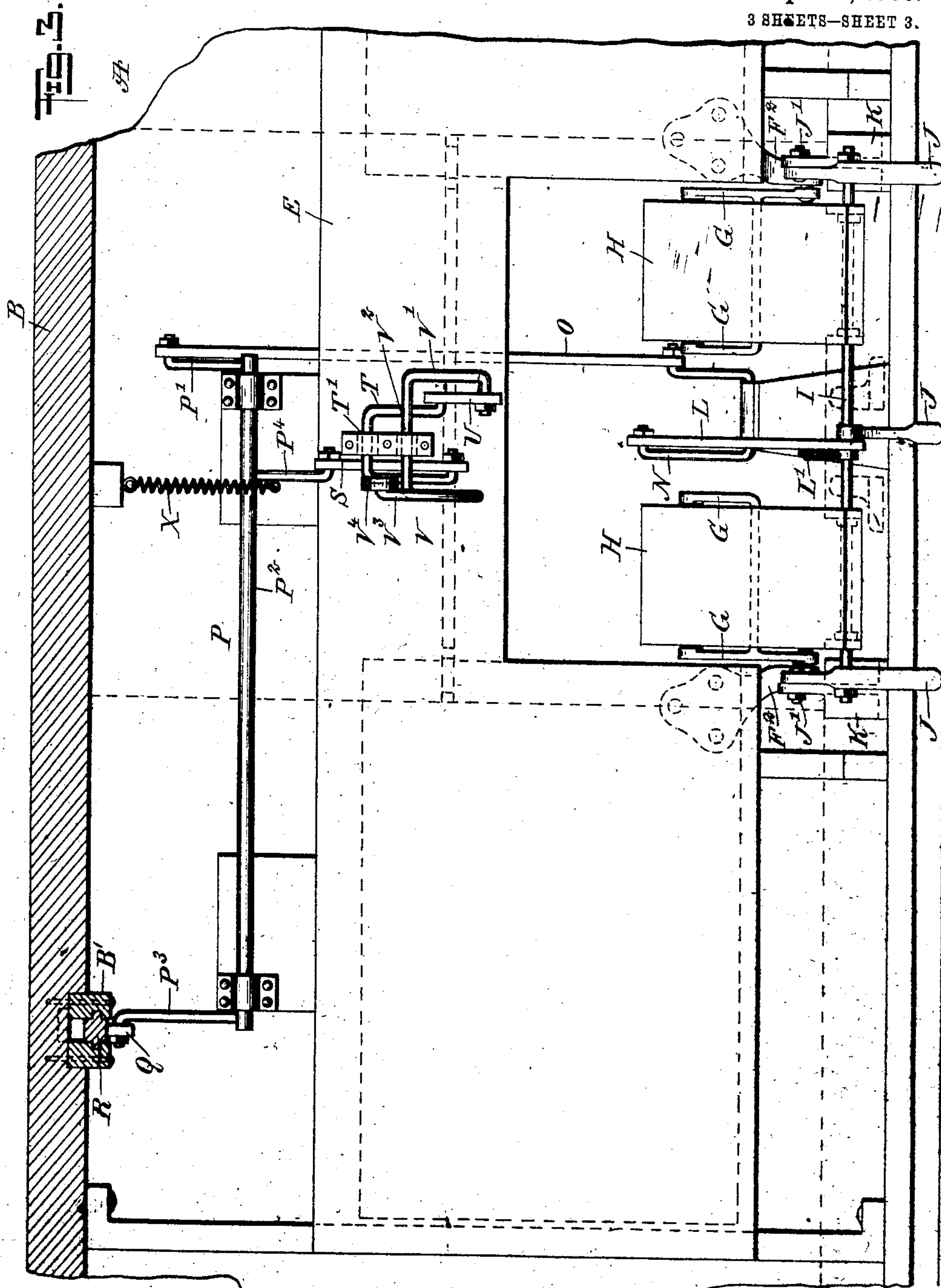
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CHARLES SAXON WRIGHT, OF GRAND HAVEN, MICHIGAN.

FOLDING BELLOWS-PEDAL.

No. 899,935.

Specification of Letters Patent.

Patented Sept. 29, 1908.

Application filed March 7, 1908. Serial No. 419,679.

To all whom it may concern:

Be it known that I, CHARLES S. WRIGHT, a citizen of the United States, and a resident of Grand Haven, in the county of Ottawa and State of Michigan, have invented new and Improved Folding Bellows-Pedals, of which the following is a full, clear, and exact description.

The invention relates to automatic player pianos, and its object is to provide new and improved folding bellows pedals, arranged to permit the user of the piano to conveniently and quickly move the bellows pedals into an extended active position or into a folded inactive position, to allow the player to make use of the action pedals when playing the piano by hand.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a transverse section of a player piano provided with the improvement and showing the bellows pedals in an extended or active position; Fig. 2 is a like view of the same, showing the bellows pedals in a folded position, and Fig. 3 is a front view of the same, the fixed front and door being removed and the key board being in section.

The casing A of the player piano supports the key board base B, below which is arranged a fixed front C, on the lower edge of which is mounted to swing a door D, in the rear of which and of the said fixed front C is located the suction chamber E from which the air is exhausted by suction bellows F having their movable members F' provided with forwardly-extending arms F² pivotally connected by links G with the pedals H, adapted to extend in the door opening of the door D when the latter is swung into an open position, as shown in Fig. 1, or to be folded in the rear of the said door D at the time the door is closed, as indicated in Fig. 2. The pedals H are pivoted on a longitudinally-extending rod I forming part of a frame J fulcrumed at J' on brackets K attached to the casing A at the bottom thereof, the free end of the frame J being adapted to rest on

the floor whenever the pedals H are extended, as indicated in Fig. 1.

The longitudinally-extending rod I is pivotally connected by a link L with a bell crank lever N, fulcrumed at N' on a bracket K' held on the bottom of the casing A, and the said bell crank lever N is pivotally connected by a link O with the arm P' of a three-armed lever P, fulcrumed at P² on the suction chamber E, as illustrated in the drawings. The arm P³ of the three-armed lever P is pivotally connected by a link Q with a slide R, mounted to slide transversely in bearings B' formed on the under side of the key board base B, preferably at the left-hand side thereof, as plainly indicated in Fig. 3. The slide R is provided near its forward end with a knob R', to permit the user of the player piano to impart a sliding motion transverse of the keyboard to the slide R.

The third arm P⁴ of the three-armed lever P is pivotally connected by a link S with a lever T fulcrumed at T' on the back of the fixed front C, and the said lever T is pivotally connected by a link U with the arm V' of a bell crank lever V fulcrumed at V² on the back of the fixed front C, adjacent to the upper or hinged end of the door D. The arm V³ of the lever V is curved and is provided at its free end with a friction roller V⁴, engaging the rear face of the door D, and the said arm V³ is connected by a spring W with the said door D to hold the latter in contact with the friction roller V⁴. A spring X attached to the under side of the key board base B connects with the arm P⁴ of the three-armed lever P, so as to counterbalance the pedals H and the operating mechanism connected therewith.

Now when the several parts are in the position illustrated in Fig. 2, the pedals H and the entire operating mechanism for the same are folded in the space in the rear of the front C and the closed door D, to be invisible from the outside of the casing. Now when it is desired to make use of the pedals for actuating the player piano mechanically, the operator takes hold of the knob R' and draws the slide R forward, so that a swinging motion is given by the link Q to the three-armed lever P, whereby the door D is swung forwardly and upwardly into an open position, as shown in Fig. 1, and at the same time the pedal frame J is swung forward and down-

ward, to bring the pedals H into the active position illustrated in Fig. 1, so that the operator can work the pedals with the feet, and in doing so cause the suction bellows F to exhaust air from the suction chamber E.

It is understood that when the slide R is drawn forward and a rocking motion is given to the three-armed lever P, then the link S imparts a swinging motion to the lever T which by the link U imparts a swinging motion to the lever V and the latter imparts a forward and upward swinging motion to the door D. The swinging motion given to the three-armed lever P causes the link O to impart a swinging motion to the bell crank lever N which by the link L imparts a swinging motion to the pedal frame J, to swing the same forward and downward until the free ends of the frame J rest on the floor and the pedals H are held in the usual inclined position for engagement by the operator's feet. When the player piano is not in use the operator imparts a rearward sliding motion to the slide R, so that the motion of the three-armed lever P is reversed and likewise the mechanisms for the pedals H and door D, to fold the pedals H and their supporting frame J into the space in the rear of the door D and the fixed front C, the door D swinging into a closed position, as indicated in Fig. 2.

The pedal frame J receives a faster return swinging movement than the one given to the door D, so that the pedal frame J and the pedals H are in a folded position immediately prior to the door D moving into a closed position. For the purpose mentioned the link L is preferably provided with an elongated slot I' into which extends the rod I, the rod being connected to a spring L² attached to the link L. When the pedal frame J is swung into the position shown in Fig. 1, the tension of the spring L² is overcome by the dead weight of the frame J and the rod I moves to the forward end of the slot L. When the frame J is caused to swing upward and rearward by the action of the link L, lever N, link O and three-armed lever P connected with the slide R, and the link L reaches a nearly horizontal position, the spring L² quickly draws the pedal frame J rearwardly, the rod I moving through the slot I' to the position shown in Fig. 2.

By having the slide R arranged in the manner described, it is evident that the user of the player piano can conveniently manipulate the slide, to move the door D into a closed or open position and to swing the pedals H into a folded or extended position, as above explained.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. An automatic player piano, provided with a casing having its front below the key-

board provided with a door hinged at its upper end, folding bellows pedals, and a mechanism for swinging the said door into an open or closed position, and for moving the said bellows pedals into an extended active position or into a folded inactive position, the said mechanism including a lever having members connected respectively with the door and the bellows pedals, and a manually controlled actuating member connected with the said lever.

2. An automatic player piano, provided with a casing having a fixed front below the keyboard, a door hinged at its upper end to the lower end of the said fixed front, folding bellows pedals, a manually controlled slide, and mechanism actuated by the slide for swinging the door into an open or closed position and for moving the said bellows pedals into an extended active position within the door opening at the time the door is open, or into an inactive folded position behind the door and at the time the latter is closed.

3. An automatic player piano provided with a key board, a guideway on the under side of the key board, a fixed front below the key board, a door mounted to swing on the lower end of the said fixed front, a manually-controlled slide in the said guideway, folding bellows pedals, and a mechanism controlled by the said slide and connected with the said bellows pedals and the said door, to swing the latter open and to extend the bellows pedals in the door opening and to swing the door shut and fold the bellows pedals into the space in the rear of the door.

4. An automatic player piano provided with a key board, a guideway on the under side of the key board, a fixed front below the key board, a door mounted to swing on the lower end of the said fixed front, a manually-controlled slide in the said guideway, folding bellows pedals, and a three-armed lever connected with the said slide, the said folding bellows pedals and the said door.

5. An automatic player piano provided with a key board, a guideway on the under side of the key board and extending at right angles to the front thereof, a fixed front below the key board, a door mounted to swing on the lower end of the said fixed front, a manually-controlled slide in the said guideway, folding bellows pedals having a swing frame in which the pedals are pivoted, and a three-armed lever connected with the said slide, the said pedal frame and the said door.

6. An automatic player piano provided with a manually controlled slide, a hinged door folding bellows pedals, a lever having three members, and connections between the said members of the lever, and the slide, the folding bellows pedals and the door.

7. An automatic player piano provided

with bellows pedals, a swing frame, a rod forming part of the swing frame and on which the pedals are pivoted, a lever, a link connected at one end with the said lever, the
 5 other end of said link having a slot through which the said rod extends, a spring connection between the said link and rod, a second lever, a link connecting the said levers with each other, a manually-controlled slide, and
 10 a link connecting the said slide with the said second lever.

8. An automatic player piano provided with bellows pedals, a swing frame in which the pedals are pivoted, a lever, a link connecting the said lever with the said pedal
 15 frame, a second lever, a link connecting the said levers with each other, a manually-controlled slide, a link connecting the said slide with the said second lever, and a spring connected with the said second lever to counterbalance the pedals and frame.

9. An automatic player piano provided with bellows pedals, a swing frame, a rod forming part of said frame and on which the
 25 pedals are pivoted, a link having an elongated slot at one end through which the said rod extends, a lever connected with the other end of said link, a spring connection between the said link and rod, and mechanism for operating the said lever to move the said swing
 30 frame and pedals into an active or inactive position, the said mechanism having a manually controlled actuating member.

10. An automatic player piano provided
 35 with a manually-controlled slide, a lever connected with the said slide, a second lever, a link connecting the said levers with each other, a hinged door, a third lever fulcrumed adjacent to the said door and having a
 40 curved arm engaging the rear face of the said door, and a link connecting the said second and third levers with each other.

11. An automatic player piano provided with a manually-controlled slide, a lever connected with the said slide, a second lever, a
 45 link connecting the said levers with each other, a hinged door, a third lever fulcrumed adjacent to the said door and having a curved arm engaging the rear face of the said
 50 door, a link connecting the said second and third levers with each other, and a spring connecting the said door with the said curved arm of the said third lever.

12. An automatic player piano provided
 55 with a casing having a hinged door, a lever fulcrumed adjacent to the door and having a curved arm engaging the rear face of the door, a spring connecting the curved arm with the door, and mechanism connected
 60 with the said lever for moving the door into

an open or closed position, the said mechanism having a manually controlled actuating member.

13. An automatic player piano provided with a door, bellows pedals, a swing frame in
 65 which the pedals are pivoted, a three-armed lever having two of its members connected respectively with the said swing frame and the said door, and a manually controlled device connected with the other member of
 70 said lever.

14. The combination with the casing of a musical instrument provided with a hinged door, of bellows pedals, a swing frame in
 75 which the pedals are pivoted, lever mechanism having members connected with the door and the swing frame for moving the said door into an open or closed position and the said swing frame and the pedals into an
 80 active or inactive position, a manually controlled slide connected with a member of said lever mechanism, and a spring for counterbalancing the pedals and the operating mechanism.

15. An automatic player piano provided
 85 with a key board, a guideway on the under side of the key board, bellows pedals, a swing frame, a rod forming part of said frame and on which the pedals are pivoted, a link having an elongated slot at one end through
 90 which the said rod extends, a bell crank lever having one member connected with the other end of said link, a second lever, a link connecting the other member of said bell crank lever with the second lever, a link connected
 95 with an arm of said second lever, a manually controlled slide in the said guideway and connected with the said link, and means for counterbalancing the pedals and the operating mechanism connected therewith.
 100

16. The combination with the casing of a musical instrument provided with a hinged door, of bellows pedals, a swing frame in
 105 which the pedals are pivoted, a mechanism for moving the door into an open or closed position and for moving the swing frame and pedals into an extended active position, or into an inactive folded position, the said swing frame having a sliding connection with
 110 said mechanism, and a spring connected with the swing frame for imparting a quick return movement to said swing frame and pedals.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES SAXON WRIGHT:

Witnesses:

ANGIE K. PELLEGRON,
 FRED F. McEACHRON.