

No. 867,114.

PATENTED SEPT. 24, 1907.

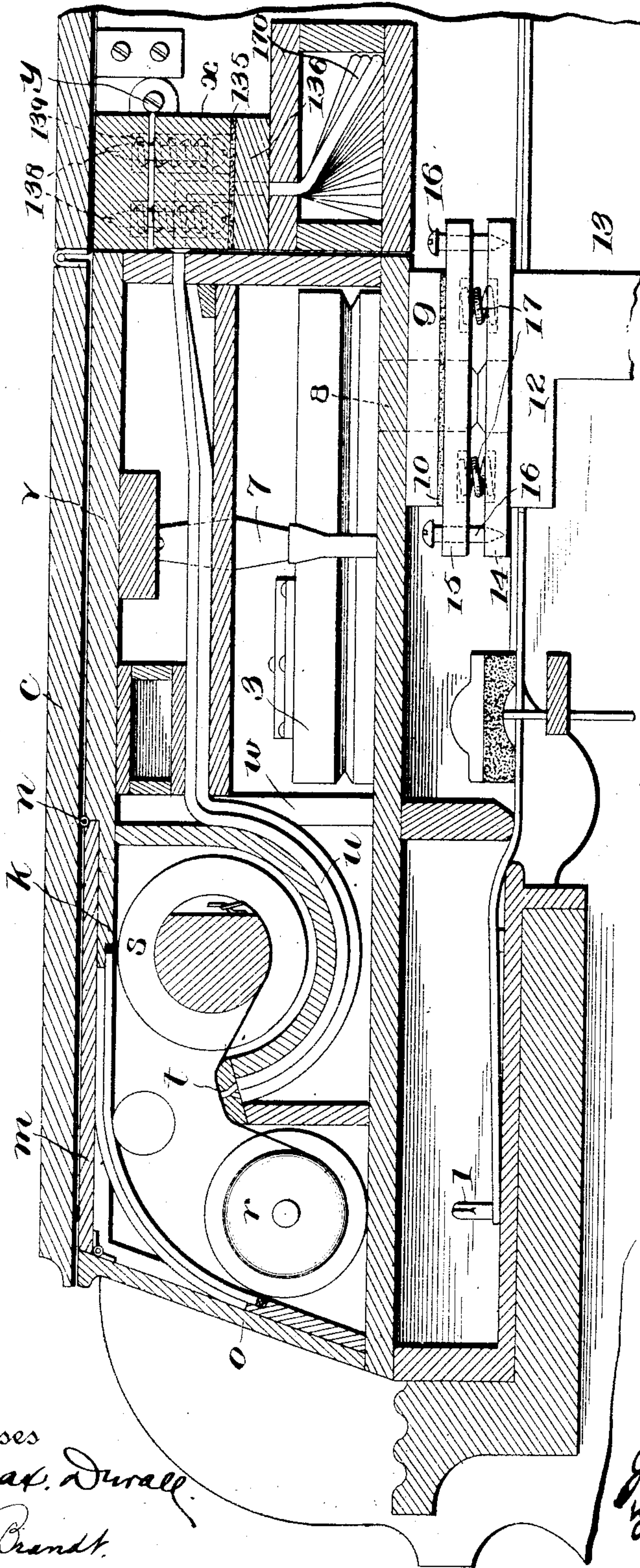
J. W. DARLEY, JR.

AIR DUCT AND CONNECTION FOR SELF PLAYING GRAND PIANOS.

APPLICATION FILED OCT. 22, 1906.

2 SHEETS—SHEET 1.

FIG. 1.



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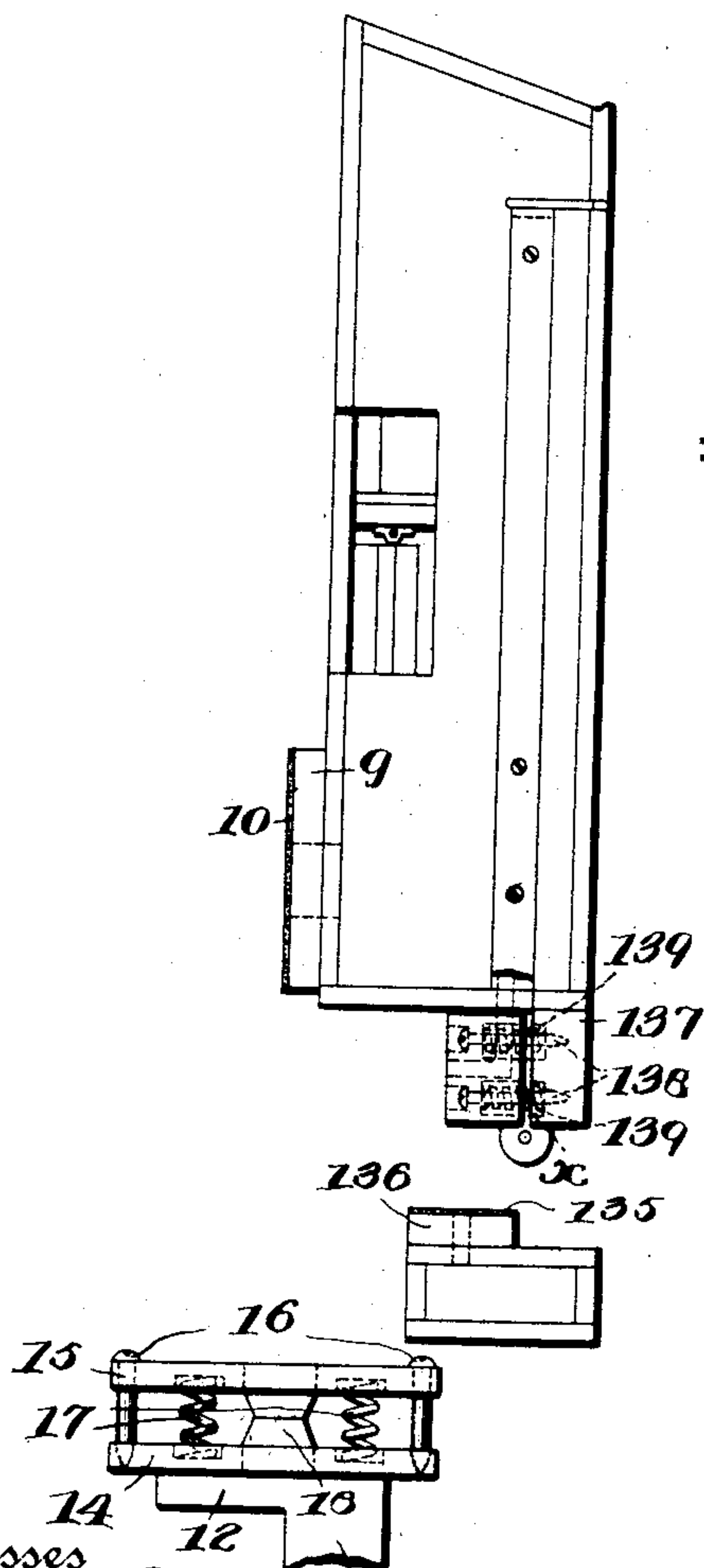
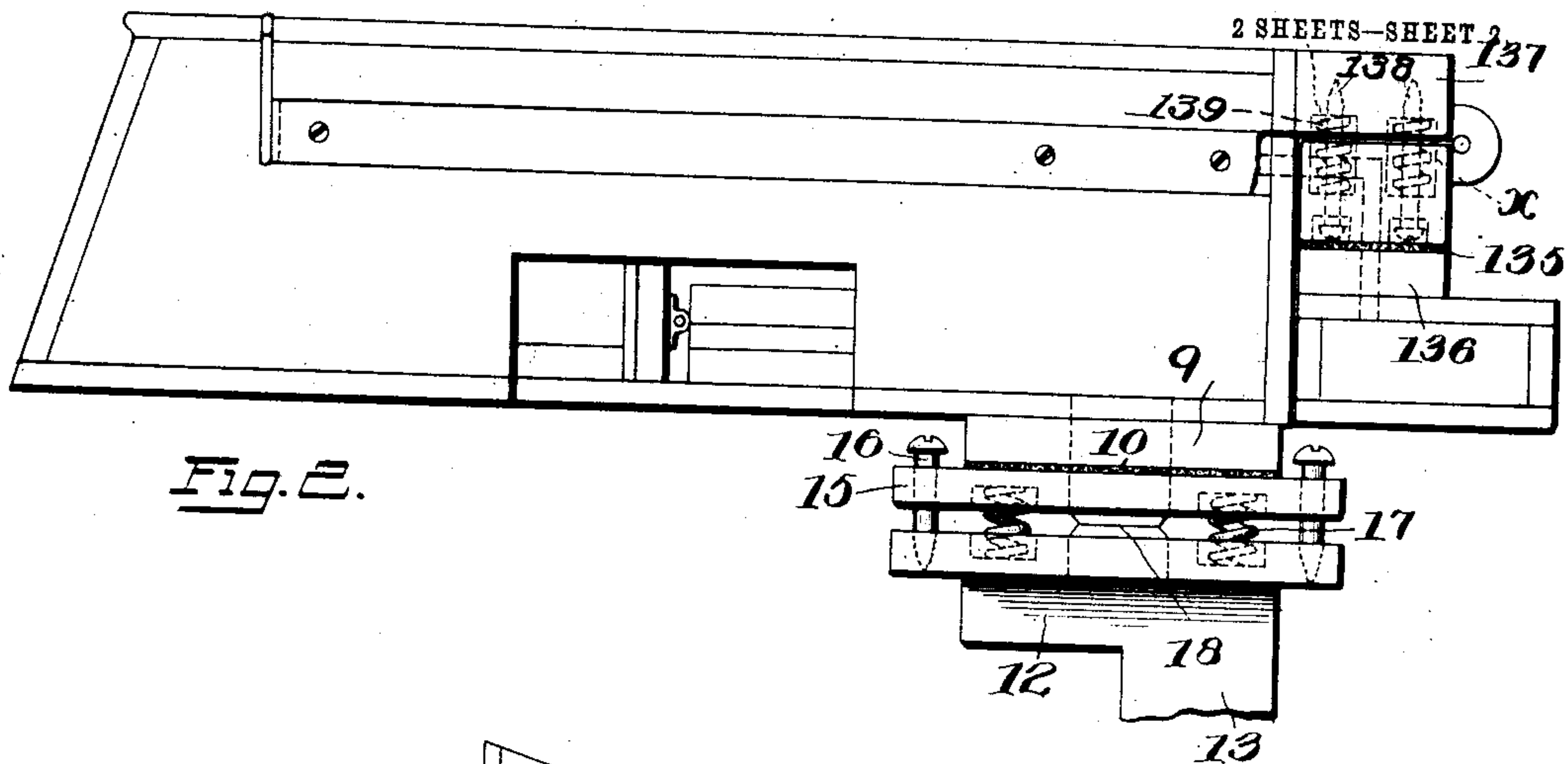
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UNITED STATES PATENT OFFICE.

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AIR-DUCT AND CONNECTION FOR SELF-PLAYING GRAND PIANOS.

No. 867,114.

Specification of Letters Patent.

Patented Sept. 24, 1907.

Original application filed July 9, 1906, Serial No. 325,409. Divided and this application filed October 22, 1906.
Serial No. 340,952.

To all whom it may concern:

Be it known that I, JOHN W. DARLEY, JR., a citizen of the United States, residing at Baltimore city, and State of Maryland, have invented certain new and
5 useful improvements in Air-Ducts and Connections for Self-Playing Grand Pianos; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the
10 same.

My invention relates to improvements in air ducts and connections for self-playing grand pianos.

The object of my invention is to provide an air duct of such a character that the parts thereof are readily
15 separable from each other, and which, when the parts are folded together, will form an air tight joint without the necessity of adjusting and securing the same.

With this object in view, my invention consists in the construction and combinations of parts as herein-
20 after described and claimed.

In the accompanying drawings, Figure 1 is a sectional view of the front top portion of a grand piano, showing my invention, and Fig. 2 is a side elevation of the movable box and related parts; and Fig. 3 is a
25 similar view with the box raised.

k represents a box in which the music rolls are placed, this box being located immediately under the folding lid of the piano. This box is provided with a cover m, hinged at n, and having a front o hinged to
30 the cover m, so that it may be folded entirely back, and so that it may be folded partially back to form a music rest.

Within the box k are located the music-rolls r and s, and the tracker board t, connected by tubes u with
35 the pneumatic portion of the apparatus. The box k, containing the music rolls, is only the front part of a larger box v, a partition w separating the music roll portion from the box proper. This box contains the tubes u, already referred to, leading to the tracker
40 board. These tubes all run backward and pass into a header x, and the large box v is hinged at y to the piano case, so that the entire box v can fold backward about the hinges y when the piano lid is open, so that access may be had to the tuning pins l for tuning the
45 strings. Fig. 3 represents the box v in the raised position.

The pneumatic tubes u converge together and run over a plate in the central part of the box v, and in the rear of this box and underneath the tubes, are the
50 pumpers 3. These pumpers are provided with the usual discharge openings and valves, movable covers, and suction openings and valves, which are no part of the present invention. The springs 7 attached to the

top of the box and to the pumpers normally keep the pumpers closed, and by the movement of the pedals 55 the movable members of said pumpers are lifted against the tension of said springs.

To the pumper 3 the air passes up through the passage 8 in the coupling member 9. The air passes into the air passage 12 from the air trunk 13 through the
60 flexible portion 18 and through a passage in the coupling member 15 to the passage 8, the members 9 and 15 fitting against each other and having a covering 10 of leather or similar material between them to make an air tight joint. To still further insure an air tight
65 fit, I provide the means shown in the drawing, in which 14 represents a flange on the end of the trunk 13, and 15 a movable coupling member parallel thereto and connected therewith by means of screws 16. Springs 17 tend to press the member 15 away from the
70 flange 14 and against the member 9. The portion 18 of the walls of the passage 12 is made flexible, so as to permit the movement of the member 15, so that when the box v is folded down into the position shown in Fig. 1, which is its normal position, a tight joint will
75 be formed between the members 9 and 15 by means of the packing 10. In Fig. 3 the box v is shown as raised, whereupon the member 15 is raised by the springs 17 until stopped by the screws 16. I also use a similar construction to produce a tight joint between the
80 headers into which the pneumatic tubes lead from the tracker board, and from the pneumatic box. The header x is movably attached to the rear rail 137 of the box v by means of screws 138, threaded into the rail 137 and passing loosely through holes in the header
85 x, springs 139 surrounding said screws and normally keeping said header in contact with the packing 135, which is secured on the header 136 in which are headed the pipes 170 which lead to the pneumatic box not shown. As the box v is raised the header x moves
90 downward slightly until stopped by the heads of the screws 138. When the box is folded down, the reverse action takes place and a tight joint is thus maintained.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the
95 United States, is:—

1. In a self-playing grand piano, the combination of an air duct having walls made in sections adapted to yieldingly fold against each other, and means for keeping
100 said sections in contact with each other under spring tension, substantially as described.

2. In a self-playing grand piano, the combination of an air duct having walls made in sections, one part adapted to fold down against the other, and means for resiliently holding the ends of said sections in contact
105 with each other, thereby making an air tight joint, when the parts are folded together, substantially as described.

3. In a self-playing grand piano, the combination of

an air duct made in sections, members surrounding the ends of said sections where they meet, and means for folding said members together yieldingly under spring tension, substantially as described.

5. 4. In a self-playing grand piano, the combination of an air duct made in sections, members surrounding the ends of said sections where they join together, one of said members being made yielding, and springs for holding the members in air tight contact with each other, substantially as described.

- 10 5. In a self-playing grand piano, the combination of a hinged box provided with a perforated member forming an air passage, an air trunk provided with a movable member, said air trunk and member having a passage therethrough, a portion of the walls of said passage being flexible, springs for holding said movable member in contact with the member on said box, and screws for limiting the movement of said member, substantially as described.

6. In a self-playing grand piano, the combination of a hinged box adapted to carry the music rolls and tracker board, a member attached to said box and perforated to form an air passage, said member being provided with a yielding cover, an air trunk provided with a movable member, said member and air trunk having an air passage therethrough, part of the walls of said air passage being flexible, springs located between the top of said air trunk and said movable member, and screws for limiting the movement of said movable member, substantially as described.

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

JOHN W. DARLEY, Jr.

Witnesses:

J. STEPHEN GIUSTA,
JOS. H. BLACKWOOD.