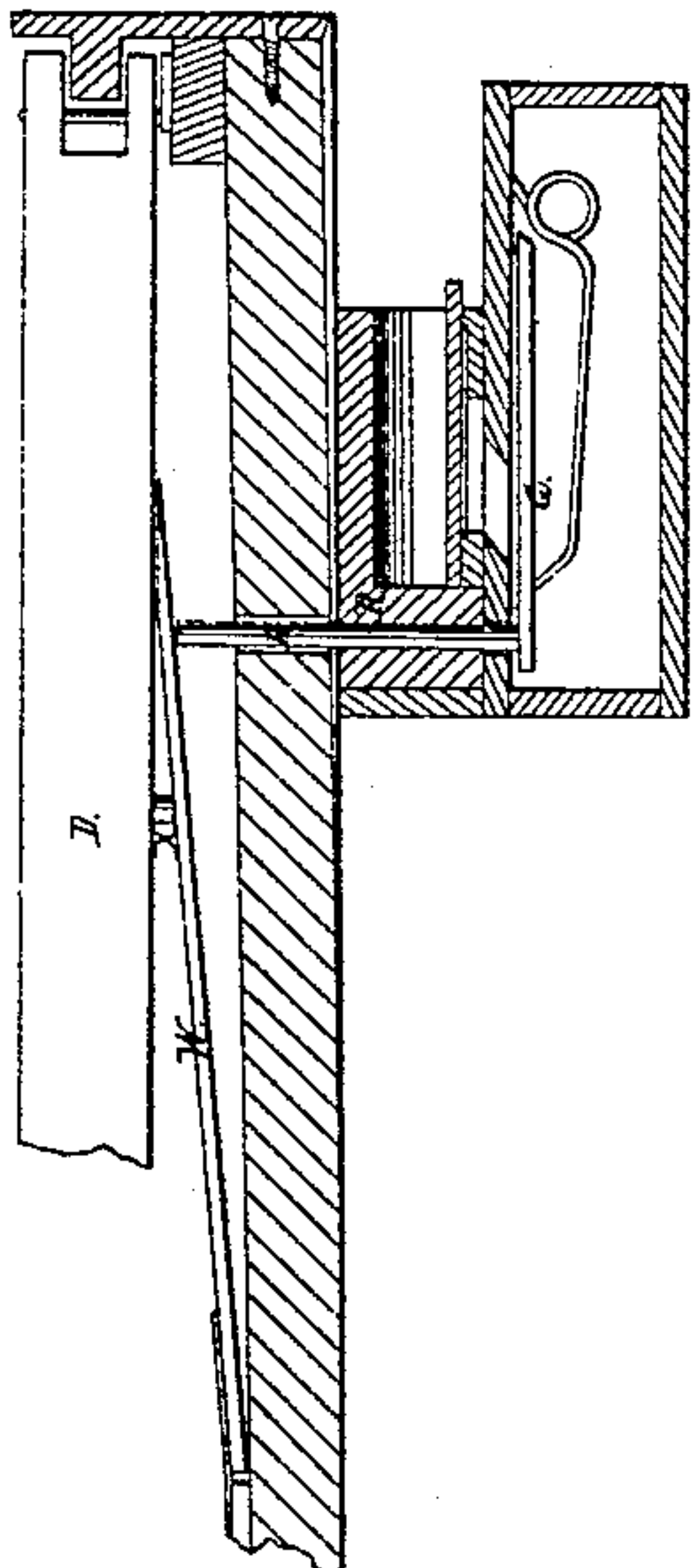


*R. Burdett Sheet 1, 2 Sheets*  
*Reed Organ.*

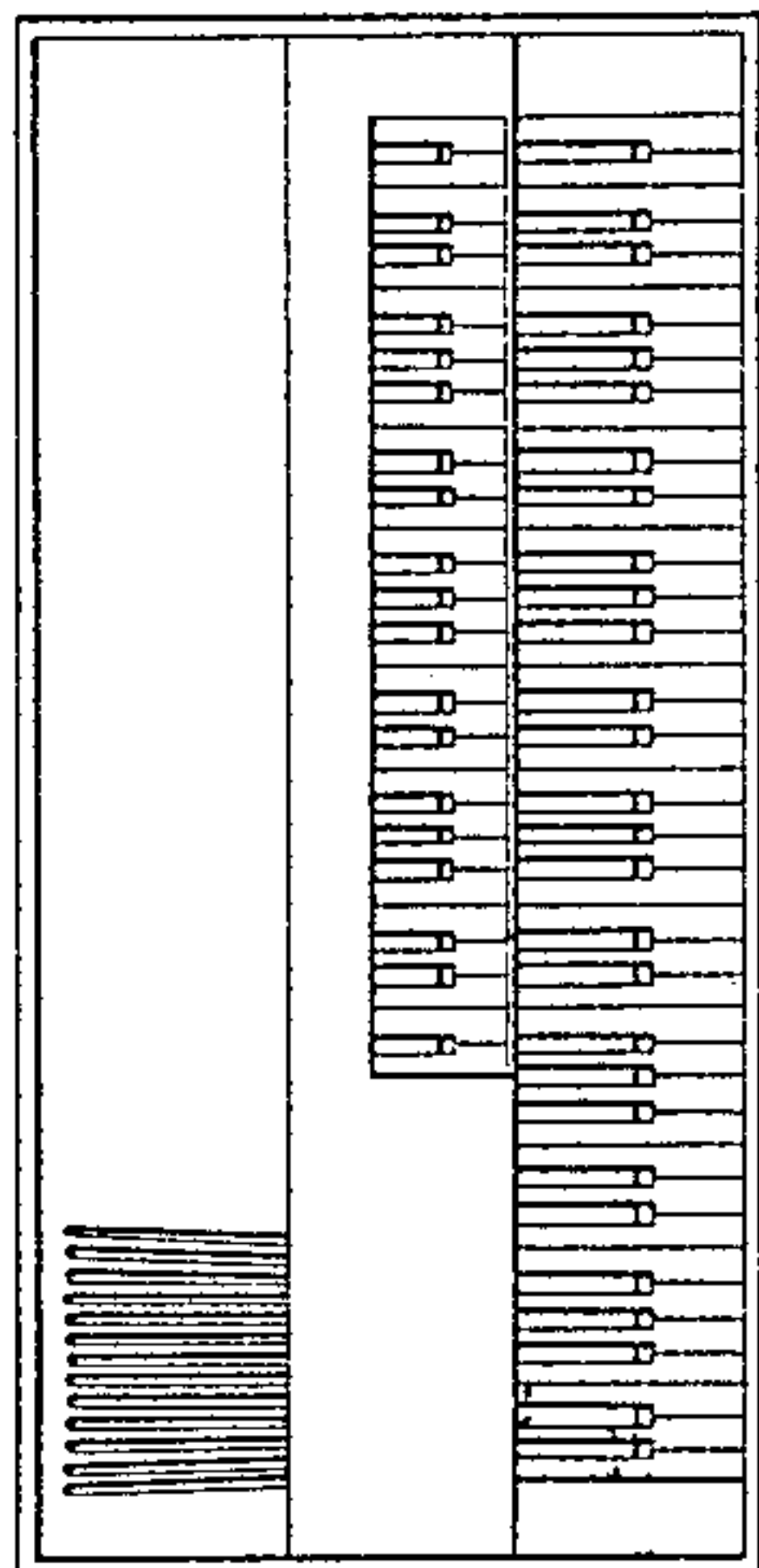
*N<sup>o</sup> 98,345.*

*Patented Dec. 28, 1869.*

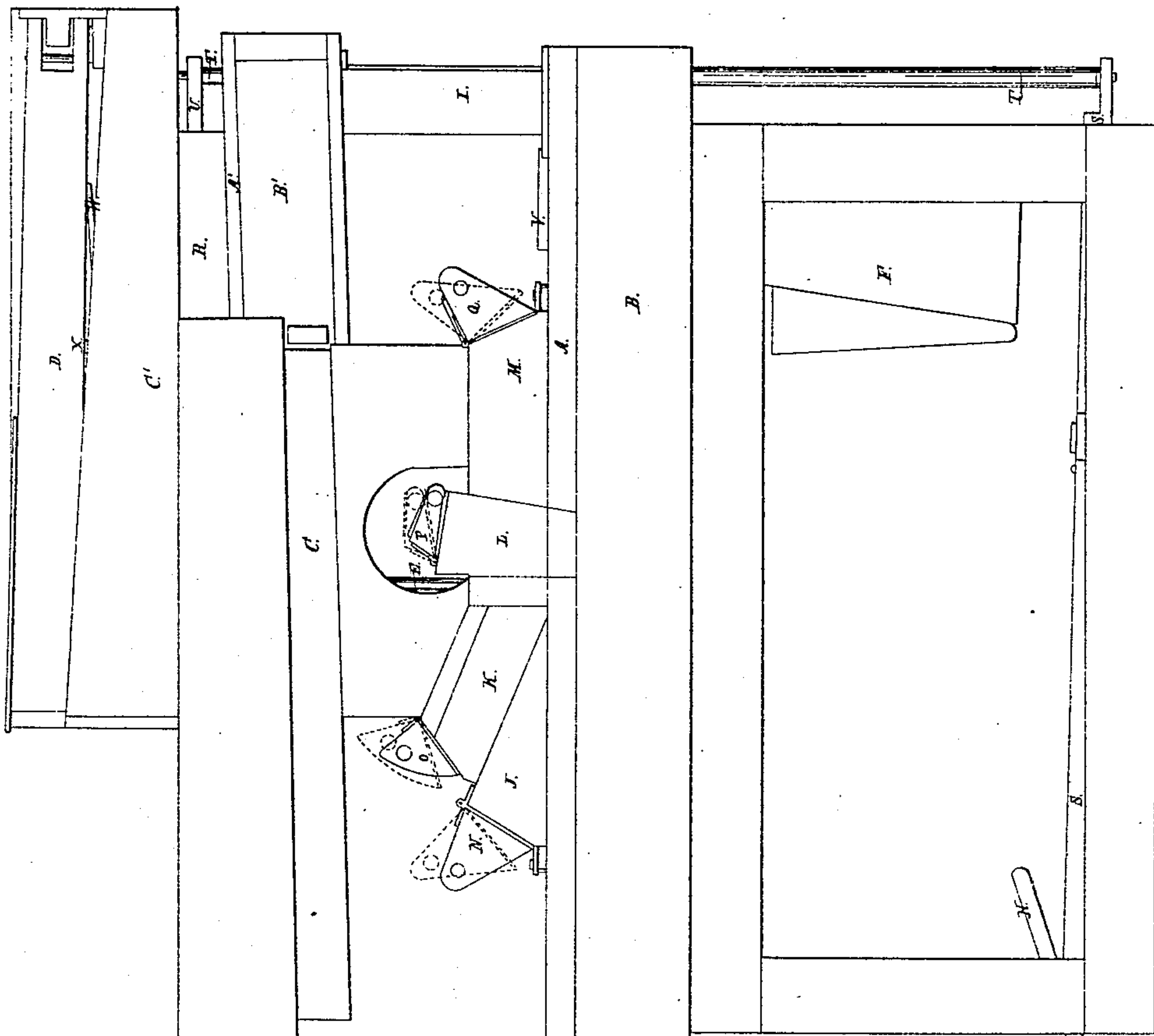
*Fig. 3.*



*Fig. 1.*



*Fig. 2.*



*Witnesses.*

*R. S. Turner*  
*J. S. Brown*

*Inventor.*

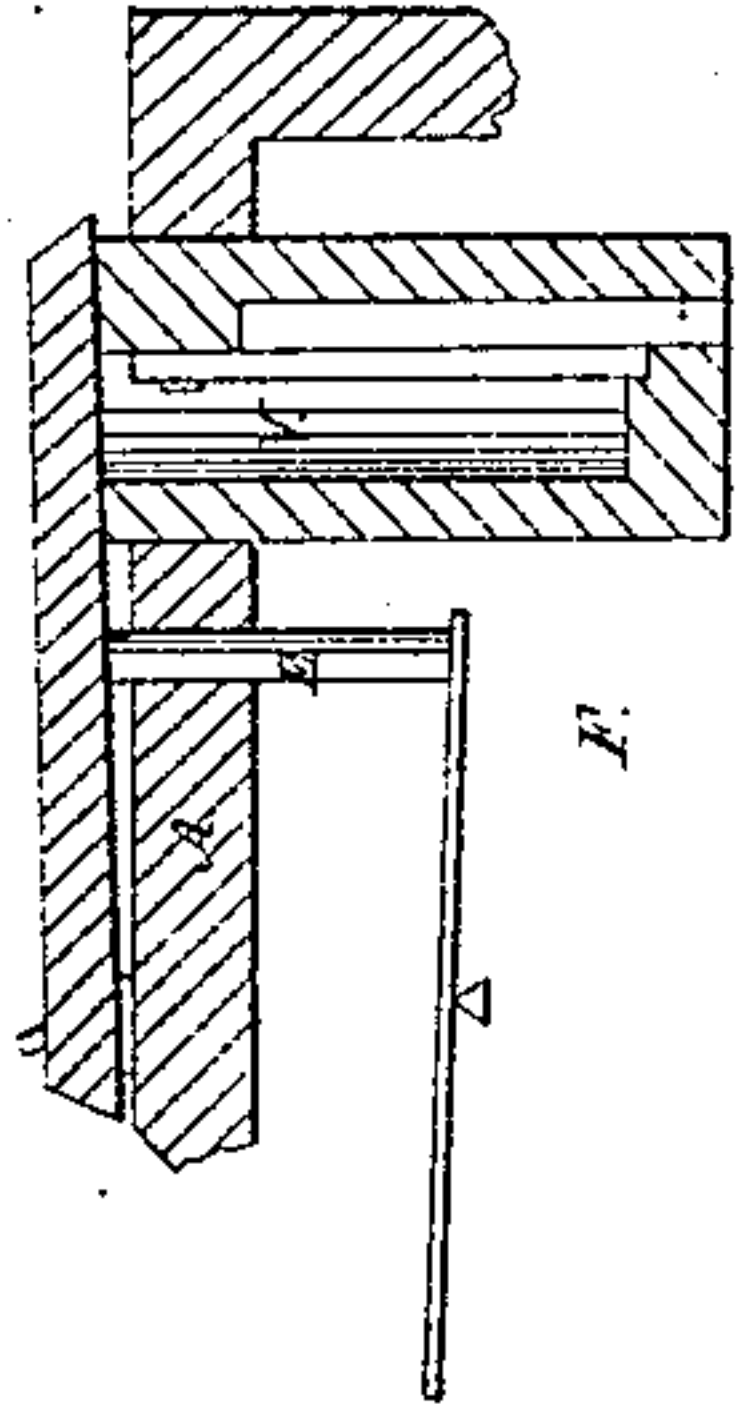
*Riley Burdett*  
*By his atty*  
*R. E. Smith*

*R. Burdett* Sheet 2, of 2 Sheets.  
*Reed Organ.*

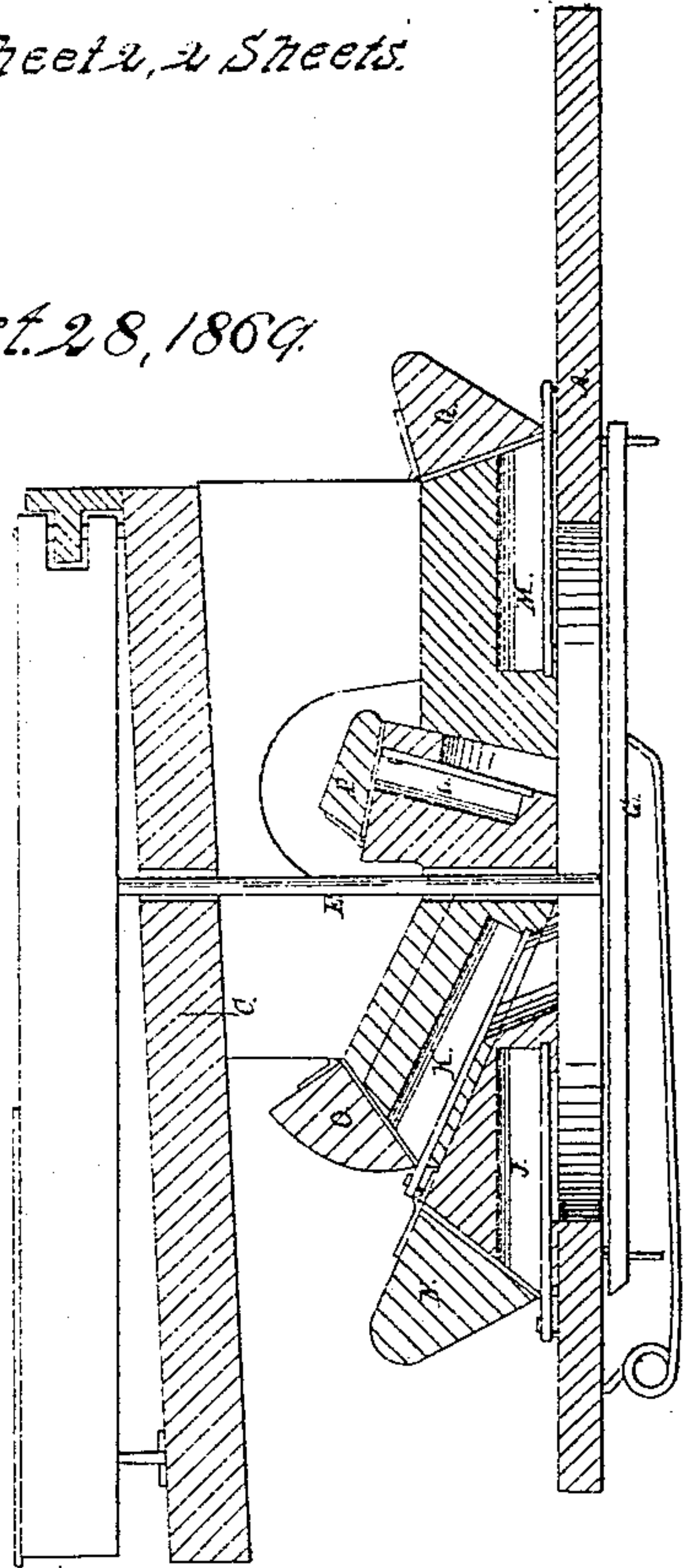
*N<sup>o</sup> 98,345.*

*Patented Oct. 28, 1869.*

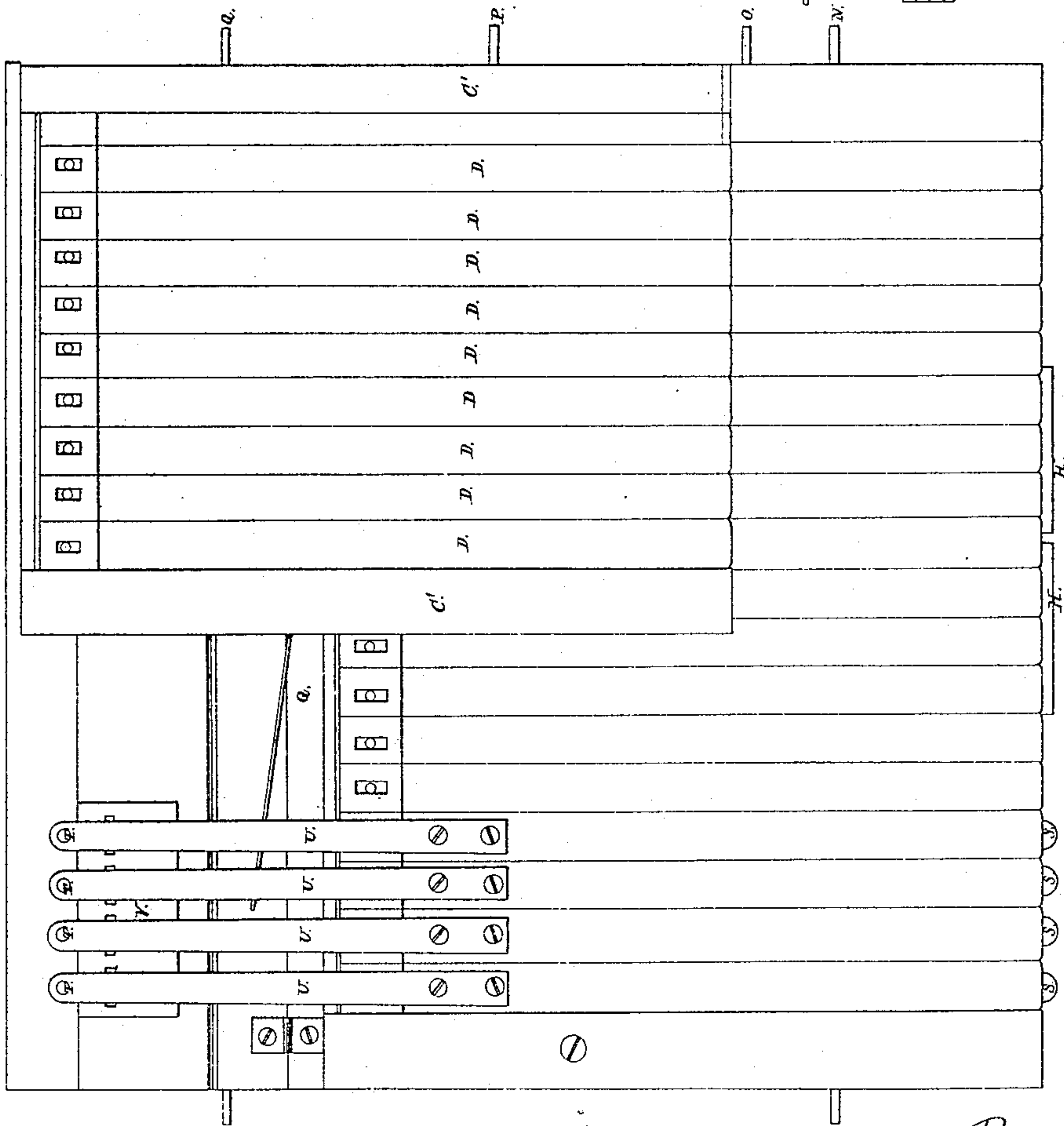
*Fig. 6.*



*Fig. 5.*



*Fig. 4.*



*Inventor.*

*Witnesses.*

*R. S. Turner.*  
*J. S. Brown.*

*Riley Burdett*  
*Myself atty*  
*A. C. Smith*



# UNITED STATES PATENT OFFICE.

RILEY BURDETT, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN REED-ORGANS.

Specification forming part of Letters Patent No. 98,345, dated December 28, 1869.

*To all whom it may concern:*

Be it known that I, RILEY BURDETT, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Reed-Organs; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved key-board. Fig. 2 is an end elevation of the action of my instrument. Fig. 3 is a vertical section through the upper action and wind-chest. Fig. 4 is a plan, showing the extension-arms for the pedal-action, &c. Fig. 5 is a vertical section through the lower socket-board, &c. Fig. 6 is a vertical section through one of the sub-bass sockets.

My improvement in reed-organs relates to that class which has more than one bank of keys and several stops; and consists, particularly, in the arrangement of parts with reference to each other, so that a much greater variety of effects can be produced than has heretofore been possible within the same dimensions and with the same mechanical power.

That others may fully understand my improvement, I will particularly describe it.

A A' are the socket and reed boards. B B' are the wind-chests. C C' are the key-frames. D D are the keys, and E E are the tracker-pins. F is the bellows. G are the valves. H H are the blow-pedals. These parts are all of ordinary construction, and do not require any special description. I is a wind-conductor, connecting the lower wind-chest B with the upper, B'. J K L M are four reed-sockets on main reed-board A, and N O P Q are the stops for the same. R is the reed-socket for the upper action. S S are the foot-pedal keys, which operate the corresponding keys on the manual by means of the long connecting-rods T, which act against the extension-arms U, which project backward from said manual. The extension-arm U has a hole through its rear end, to permit a pin set in the end of the rod T to pass upward through said extension-arm. The purpose of this is to permit said extension-arm to rise up when the key is depressed by the fingers without operating the rod T also, but to enable the performer to operate said keys with the foot-pedal, when desirable. The set of reeds J gives a four-foot tone, and is called

"principal." The set K gives an eight-foot tone, and is called "celeste," being tuned a little out with another set. The set L gives an eight foot tone, and is tuned the same pitch as diapason, and is called "clarabella." The set M gives a sixteen-foot tone, but may be tuned as a bourdon or a diapason. The set R is tuned in unison with the bourdon, and is called "clarion" or "cremorne." The set V gives a sixteen-foot tone, and is used as sub-bass in this instrument. The upper set of keys and its action are for use more particularly in solo-playing, but, when desired, can be used the same as, or coupled to, the lower bank; and when used for solo-playing, the accompaniment is played on the lower bank, and when used in this manner effects are produced that cannot be obtained on any ordinary organ. This set extends from tenor F upward, three or more octaves, as shown in Fig. 1.

By these combinations a very comprehensive and effective instrument is produced, without necessarily increasing the size of the case, bellows, or valves, over those ordinarily used in small instruments.

The reeds used for the stop L, designated "clarabella," are made smaller than the ordinary reed, and placed perpendicular, or nearly so, to the socket-board. The reeds constituting this stop are so covered up and shaded by their surroundings that they, from their size, peculiar arrangement, and position, produce a subdued, sweet, and pipe-like tone. The sub-bass set V is let into the wind-space or throat of the bellows, below its conjunction with the foundation and socket-board, as shown in figure, and thereby secures the advantages of great compactness and volume of tone.

In this organ the stops may be operated in any of the common and well-known ways, and they may be coupled or operated singly, as may be desired, the methods of accomplishing these ends being well known in the trade. Octave-couplers may be attached; also any suitable key-coupler, to couple the two banks of keys, may be used.

The effects produced and the varieties obtained on this instrument by the judicious use and combination of stops are as great as any large pipe-organ, and exceed that of any other reed instrument.

In order to produce the required motion in



the tracker-pin and valve, and a proper dip in the keys of the upper manual, I have constructed a compound-lever movement to operate the tracker-pins and secure the full action of the valves without a corresponding motion or dip of the key. I interpose between the tracker-pin and the key the lever W, hinged on the front rail of the key-frame C, and place between said lever and the key a short pin or block, X, attached to the lever W at a suitable point between the front end of the key and the tracker-pin E. The motion then of the tracker-pin is greater than the depression of the key at its junction with the lever, and in proportion to the distance of the block X from the end of the lever W. The reason for using this compound lever is that the tracker-pin is extended so near the farther end of the key that sufficient motion cannot be otherwise obtained.

The instrument thus described can be made with or without the upper action or its belongings.

It will be perceived that the upper bank, being limited to that part of the scale most serviceable in solo-playing, permits the bank to be materially shortened, and enables me to employ the extension-arms U for the sub-bass without interfering with the action of said upper bank. Thus I secure all the advantages of a double bank and the pedal-action, as I have described it, combined in the same instrument, which would not be practicable under any other arrangement. There are also other material advantages pertaining to this arrangement,

viz: the short bank of keys requires less bellows-power than a long bank would do, and the bellows and its attachments may therefore be smaller than would otherwise be necessary. The short bank also costs less in material and labor than a long bank, and the instrument will cost proportionately less than it otherwise would do.

Having thus described my invention, what I claim as new is—

1. The arrangement of the upper and lower wind-chests B' and B, connected by the throat I, substantially as described.

2. The set L, placed vertically, or nearly so, in the socket-board, as described, and for the effect set forth.

3. The combination and arrangement of the key D, lever W, and block X, or its equivalent, with the tracker-pin E, for the purpose set forth.

4. The combination and arrangement of the foot-pedal keys S, long connecting-rod T, and extension-arm U, so that the keys of the lower bank may be operated by the pedal-keys, when desired.

5. The manual sub-bass, set into the throat of the bellows, and operated as described.

6. The combination and arrangement of the several parts described, and for the purpose set forth.

RILEY BURDETT.

Witnesses:

H. O. HEDGE,  
R. D. O. SMITH.