

H. JASCHKE.  
PIPE ORGAN.

No. 503,857.

Patented Aug. 22, 1893.

Fig. I.

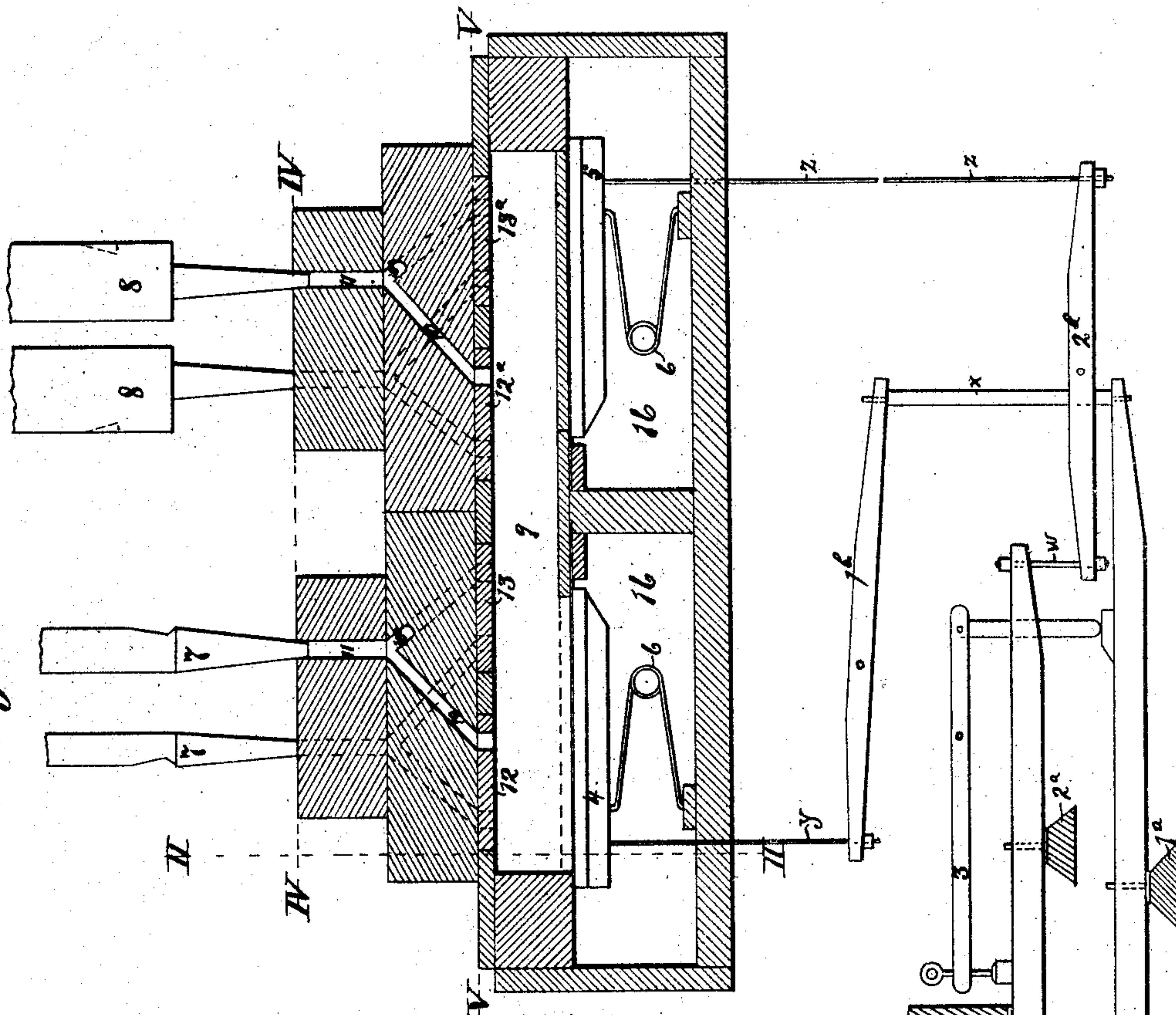
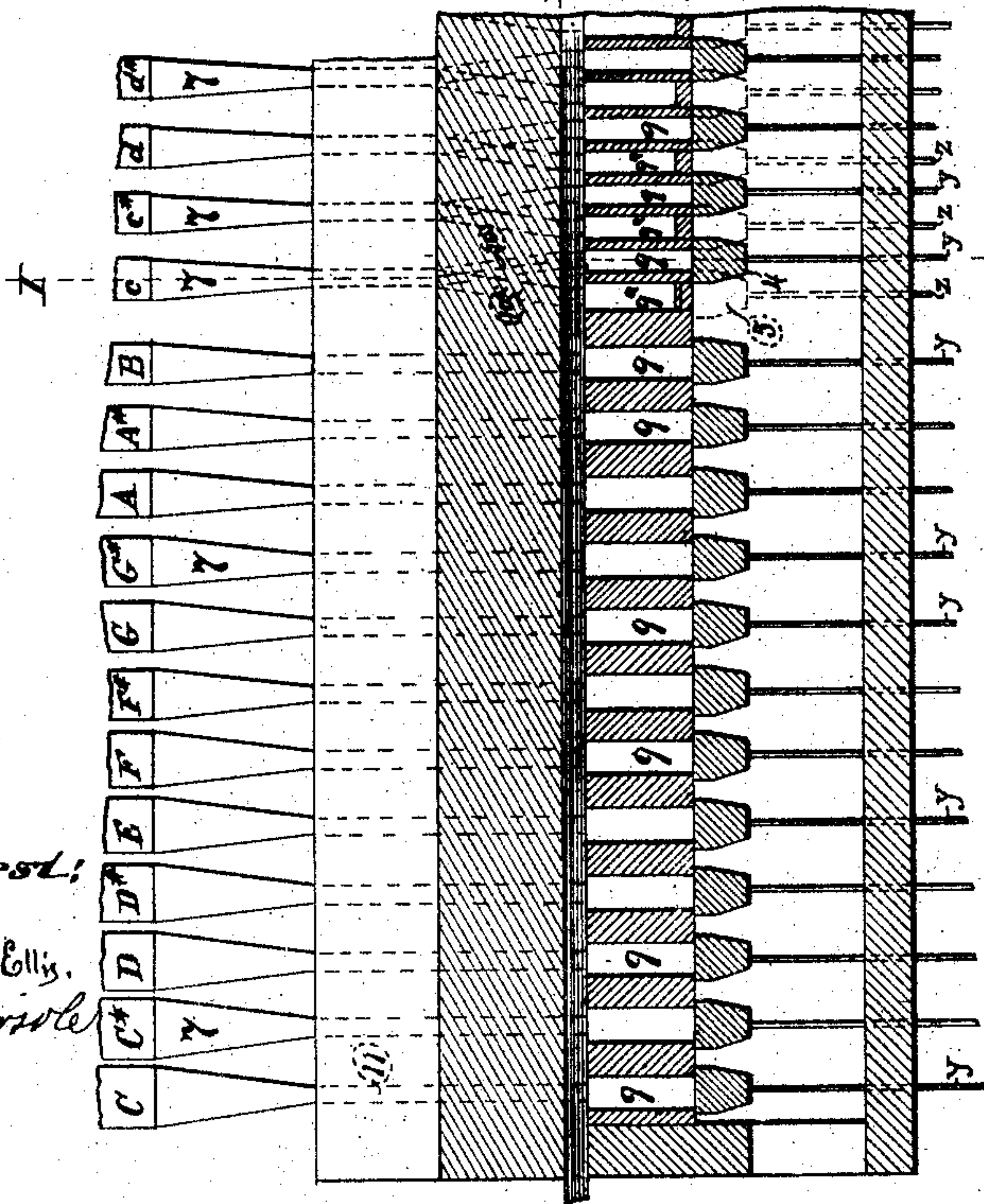
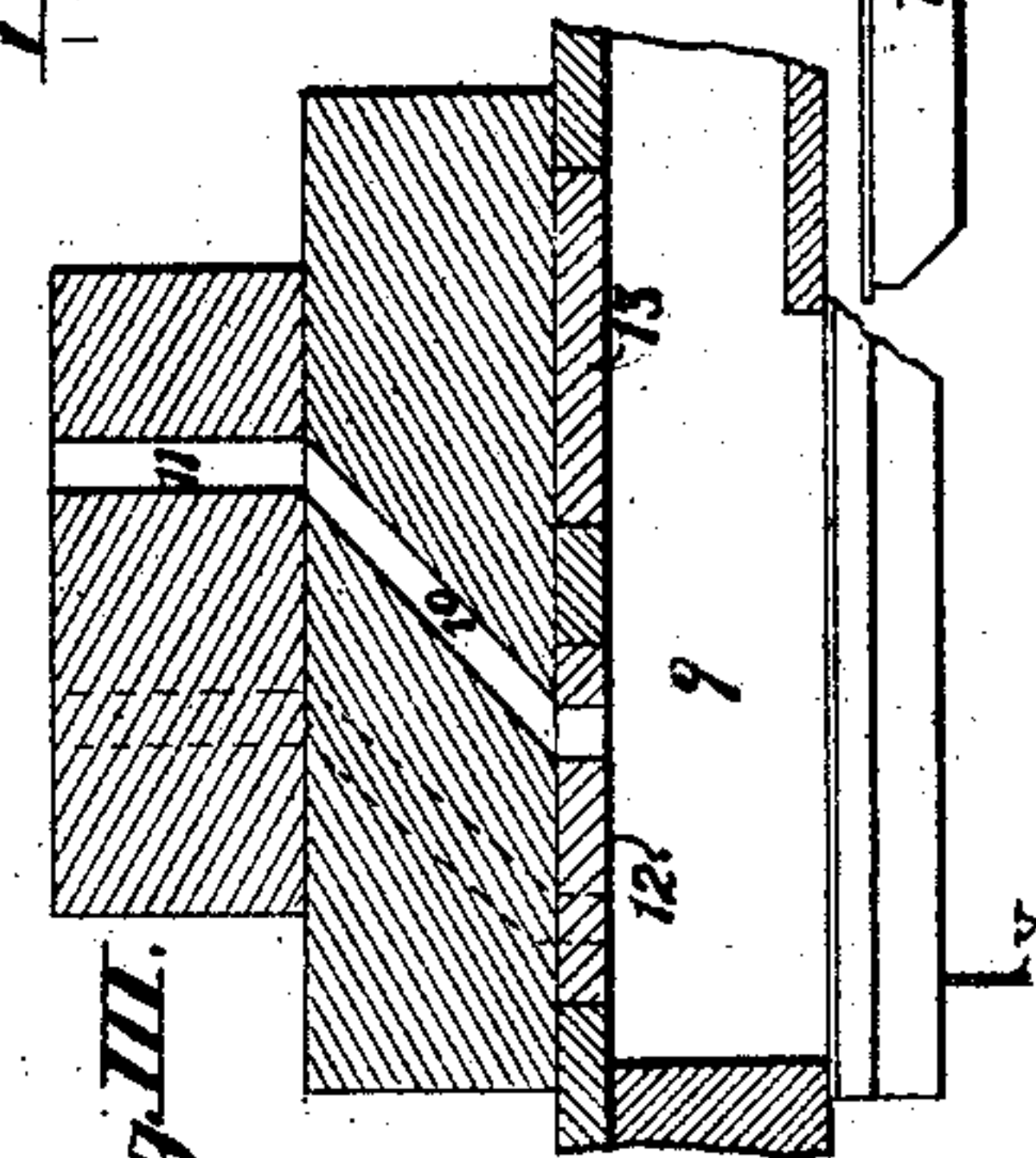


Fig. II.



Attest:  
H. G. Ellis,  
A. W. Gheriolo

Fig. III.



Inventor:  
Henry Jaschke.  
By Knight Bros.  
Attys.



(No Model.)

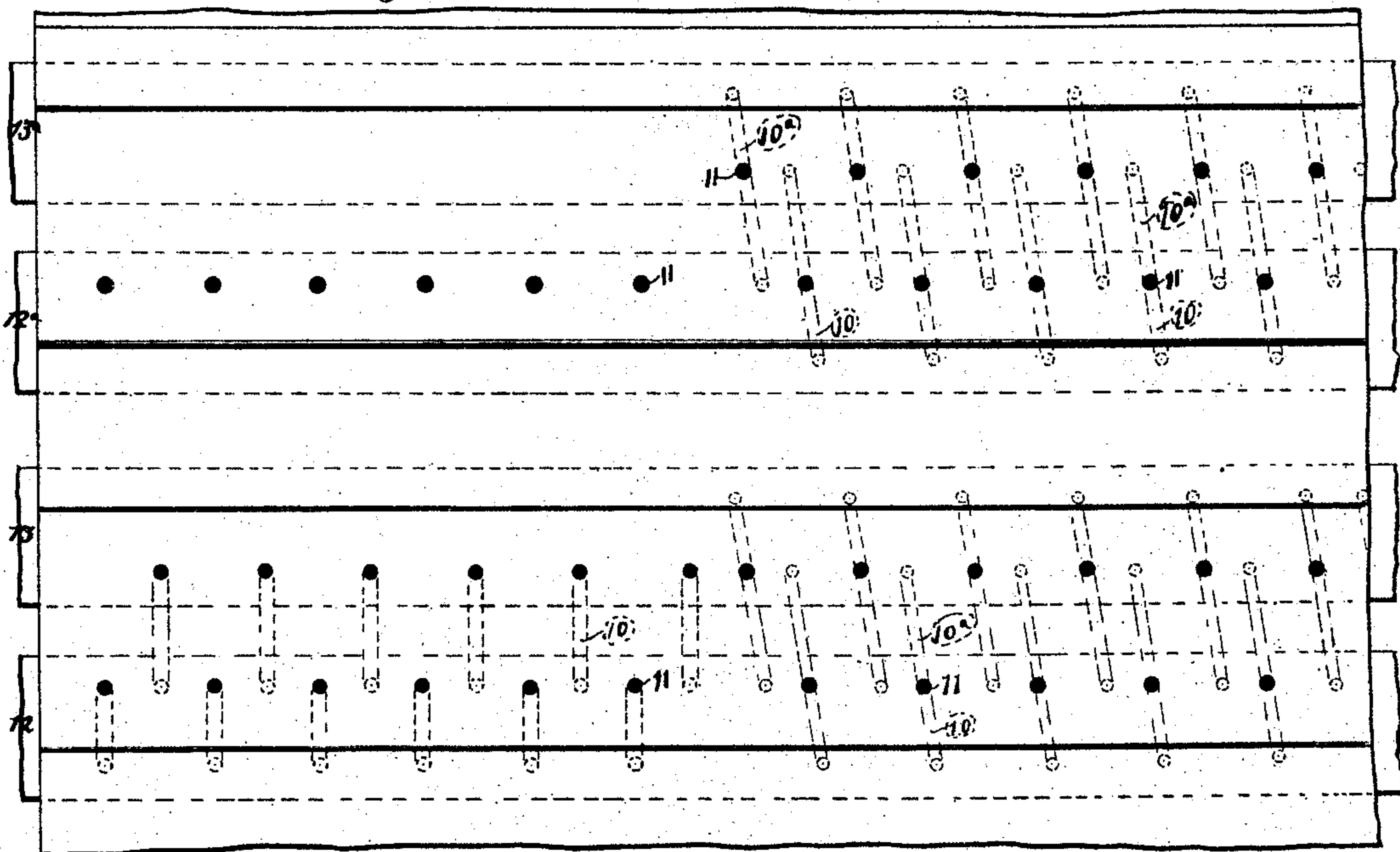
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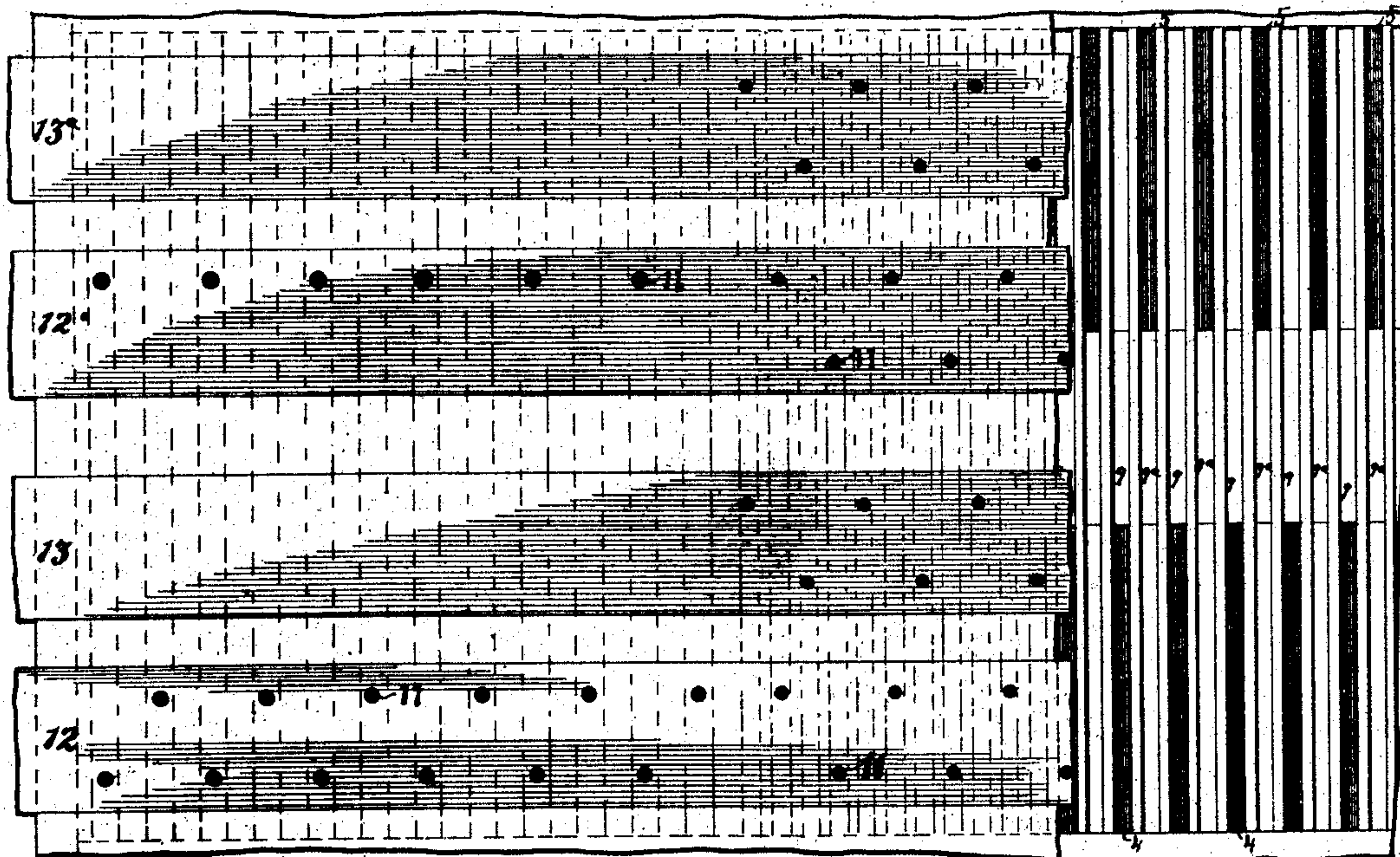
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*Fig. IV.*



*Fig. V.*



*Attest:*

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Henry Jaschke  
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# UNITED STATES PATENT OFFICE.

HENRY JÄSCHKE, OF ST. LOUIS, MISSOURI.

## PIPE-ORGAN.

SPECIFICATION forming part of Letters Patent No. 503,857, dated August 22, 1893.

Application filed March 22, 1893. Serial No. 467,160. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY JÄSCHKE, of St. Louis, State of Missouri, have invented certain new and useful Improvements in the Construction of Pipe-Organs, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, which form part of this specification.

This invention relates to that class of organs having two or more key boards or manuals, and consists in the arrangement of channels, their connection with the pipes, and operation by the pallets, together with other features of novelty, which will be more fully explained in the following description; the object of my improvements being to reduce the number of pipes in an organ of this class, without in any wise impairing the capacity of the organ; in other words, by these improvements an organ of two manuals or key-boards may be constructed to occupy but very little more space than an organ of the same number of stops with but a single manual or key-board, which end is attained by methods set forth in the drawings and description.

Referring to the drawings:—Figure I is a vertical, cross sectional view through the sounding board or wind chest, showing the connections between the keys and their respective pallets, and the oblique ports from the channels leading to the pipes. Fig. II is a vertical sectional view at right angles to the plane of Fig. I, on the line II—II, and is a longitudinal section through the sounding board or wind chest, showing the pallets and the channels, and by dotted lines the oblique wind ports leading to the pipes indicating how the separate channels for the lower and upper manuals or key-boards are connected to the same pipes by means of the oblique wind ports. Fig. III is a vertical cross-section through the sounding board, at a position within the first octave, from the lower end, of a rank or series of pipes, showing how the end octaves of pipes are supplied by single wind ports, instead of double wind ports, as are the balance of the pipes. Fig. IV is a top view of sounding board on the line IV—IV, of Fig. I, showing the holes for the pipes, the stop slides, and by dotted lines the wind ports connecting the pipe holes. Fig. V is a

top view, similar to Fig. IV, on line V—V, of Fig. I, showing the stop slides, part of the view being broken away to show the interior of the channels and the pallets.

1 is a key of the lower manual, supported on a fulcrum 1<sup>a</sup>, and connected to and operating the pallet 4, through the lever 1<sup>b</sup> and rods *x* and *y*, which is held normally closed by the spring 6, similar springs holding all the other pallets closed. 2 is a key of the upper manual supported on a fulcrum 2<sup>a</sup>, and connected to and operating one of the series of pallets of which 5 is a member, through the lever 2<sup>b</sup> and rods *w* and *z*. 3 is a coupler of the two manuals. This may be of any desired form, as it cuts no figure in the present improvement. 7 is one rank of pipes. 8 is another rank of pipes. As many different ranks of pipes may be used, as desired.

16—16 is the wind chest, and above 16 are the channels 9 and 9<sup>a</sup>, which are connected by means of the wind ports 10 and 10<sup>a</sup> to the pipe holes 11, leading to the pipes above.

There are in each rank of pipes, twelve more pipes than there are keys in one manual, thus if there are fifty-eight keys in one manual which is the usual number in organs, as now constructed, there will be one octave more of pipes, or seventy. These seventy pipes are connected to the keys and operated by them in the following manner: Beginning at the left hand end of the lower key-board or manual, the first note which is C, is connected with the left hand pipe through the left hand channel 9, and the wind port leading from it to the pipe hole 11, this left hand pipe is marked C in Fig. II. Thus the lowest key on the lower manual speaks the lowest pipe, of any rank of pipes, each succeeding key on the lower manual is connected in the same way with the succeeding pipe. It will be seen from this, that when the last key at the right hand end of the lower manual is reached, there will still be twelve pipes extending one octave higher up the scale of tones. Going back to the left hand key of the upper manual, which is also C, same as on the lower manual, I connect this key with the pallet opening into the first channel marked 9<sup>a</sup>, from which channel the wind port 10<sup>a</sup> leads to the same pipe hole 11 that the wind port 10 joins, and speaks the pipe c, which is one octave higher



than the pipe C, which the corresponding key of the lower manual speaks. The next succeeding key of the upper manual is connected in the same way to the next succeeding pipe, or  $c\%$ , each key having a separate and independent channel from which the wind ports lead to the pipe holes, and following this manual of keys up to the end key at the right of the manual, it will be found that the right hand key connects with the last of the seventy pipes. There are as many channels as there are keys on the two manuals. From each channel one wind port leads to one of the pipe holes. The first twelve channels lead to the first twelve pipe hole. The next or thirteenth channel leads to the next pipe hole, as does the succeeding one, or fourteenth. These two channels lead to the same pipe hole by means of the two oblique wind ports which join each other at the lower end of the pipe hole. The pallet of one of these channels being operated by the second  $c$ , or thirteenth key of the lower manual, the pallet of the other channel being operated by the first C, or lowest key of the upper manual. The next or fourteenth pipe, marked  $c\%$ , is also provided with two separate and independent channels and is operated by the fourteenth key of the lower manual, and the second key of the upper manual; each pipe from the twelfth to fifty-ninth having two channels, and speaking by a key from each manual, the fifty-ninth pipe to the right hand end of the rank having only twelve channels, which are operated by the last octave of keys on the upper manual.

As many ranks of pipes may be used as desired, by extending the sounding board back. Fig. I shows two ranks, as do Figs. IV and V. Each rank of pipe is provided with two stops and corresponding slides, as shown in the drawings; for the rank 7 there are the slides 12 and 13, and for the rank 8 the slides 12<sup>a</sup> and 13<sup>a</sup>. The slide 12 when open, all the other slides being closed, will allow the rank 7 of pipes to speak by the lower manual only, if instead of the slide 12 being opened, slide 13 had been, then the rank 7 of pipes would speak by the upper manual only. In the first case the first fifty-eight pipes would speak, in the other the fifty-eight pipes beginning at the thirteenth and ending with the seventieth. If both slides 12 and 13 are open, then both manuals will speak the rank 7 of pipes. This method of having the same rank of pipes respond to the two manuals, is termed making the pipes speak double, the corresponding keys of the two manuals speaking the octaves of the note, the upper manual always being one octave higher than the lower manual. The channels 9 and 9<sup>a</sup> extend to the rear end of the sounding board and may be of the length required to accommodate the number of ranks of pipes employed.

From the foregoing description, it will be seen that by the addition of an octave of

twelve pipes, this organ will do all that an ordinary organ with two separate ranks of the same kind of pipes connected to the two manuals will do. Instead of having fifty eight pipes for each manual, which with two manuals an octave apart would bring forty-six pipes of one manual in exact unison with forty-six pipes of the other manual; in other words, instead of forty-six pairs of pipes, used in ordinary construction, this improvement provides forty-six pairs of channels connecting forty-six single pipes; thereby making a saving of forty-six pipes for every different stop, or kind of pipe used.

By this method of construction, there are no pairs of pipes to get out of unison, there is a saving of space by about forty per cent., a great saving in the cost of construction, and in the amount of bellows power required to speak the organ.

Any set or rank of pipes can be added to either manual or bank of keys, without being used or connected to the other, that is, the lower manual can have more speaking stops than the upper, the pipes not speaking double, or the upper manual can have stops operating pipes not connected to the lower manual. As each manual has separate channels and their respective actions are independent of each other, any number of stops can be added to either manual without having the pipes speak double.

I claim as my invention—

1. An organ having two manuals, independently connected to and speaking the same rank of pipes, through the double channels 9 and 9<sup>a</sup> and provided with draw stops so arranged that either the upper or lower manual may speak the same rank of pipes, or both manuals be independently connected to the same rank of pipes at the same time.

2. An organ having two manuals, independently connected to the pallets 4 and 5, which open and close the channels 9 and 9<sup>a</sup>, said channels 9 and 9<sup>a</sup> connecting with and speaking the same pipe, substantially as described.

3. The combination in a pipe organ provided with two manuals independently connected to and speaking the same rank of pipes, of the double channels 9 and 9<sup>a</sup> connected to each pipe that speaks by both manuals.

4. An organ having two manuals independently connected to and speaking the same rank of pipes, provided with draw stops whereby either or both manuals may be made to respond at a given time, having separate and independent channels and pallets for each key on the two manuals, and each pipe speaking by both manuals being connected with two channels respectively opened and closed by keys of the two manuals.

HENRY JÄSCHKE.

In presence of—

E. S. KNIGHT,

A. M. EBERSOLE.