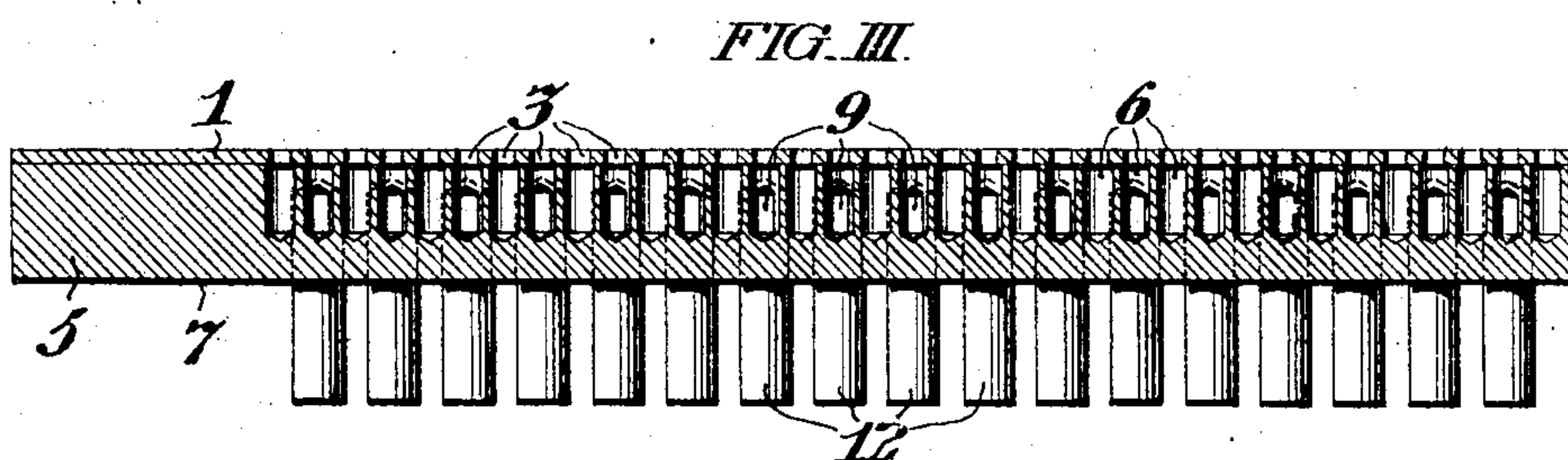
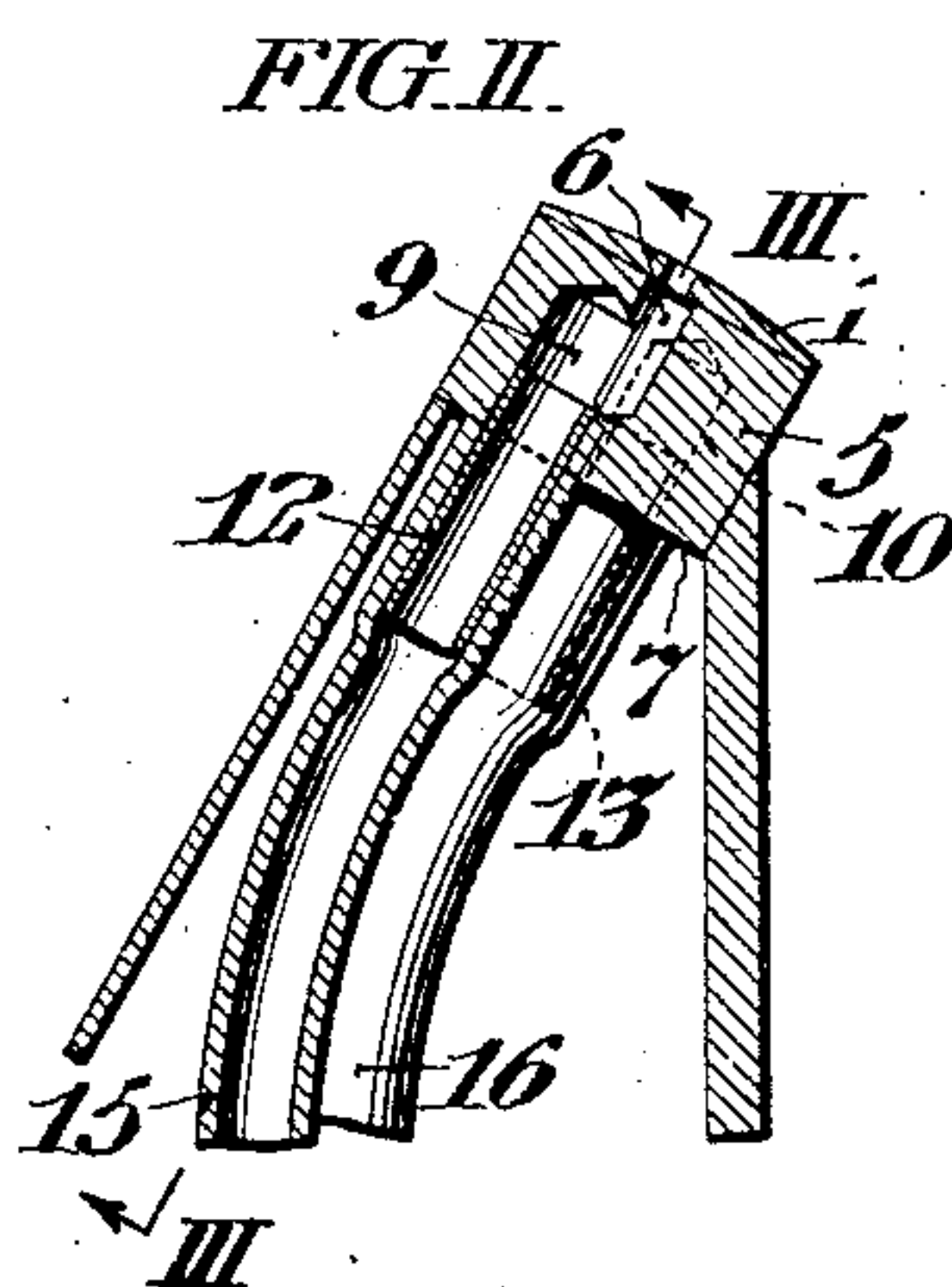
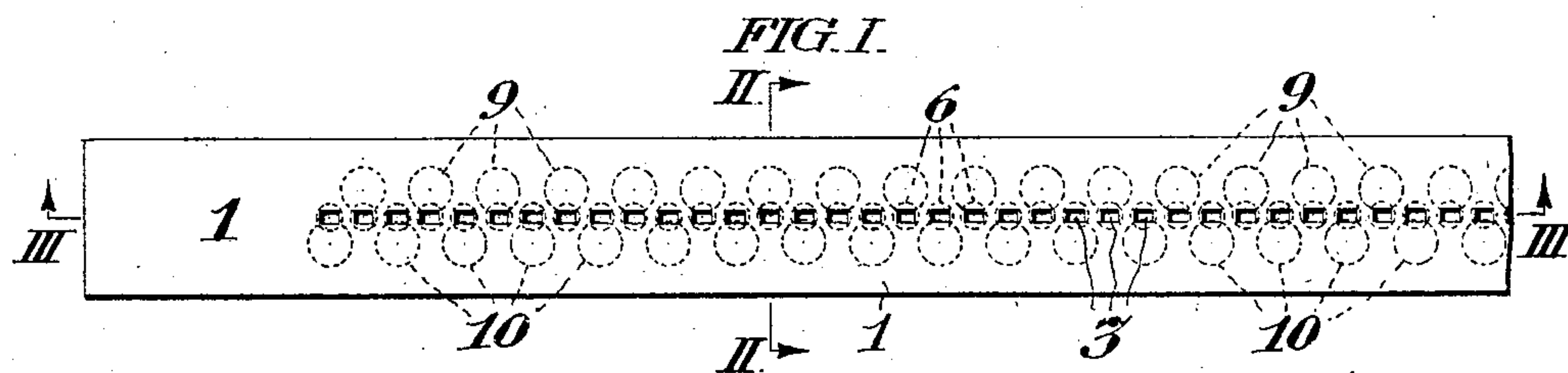


No. 844,986.

PATENTED FEB. 19, 1907.

P. WUEST, JR.  
PNEUMATIC TRACKER BAR.  
APPLICATION FILED JUNE 18, 1904.

2 SHEETS—SHEET 1.



WITNESSES:

Clifton C. Hallowell  
John C. Bergner.

INVENTOR:

PHILIP WUEST JR.,  
By Paige, Paul & Fralby  
Atty.

No. 844,986.

PATENTED FEB. 19, 1907.

P. WUEST, JR.  
PNEUMATIC TRACKER BAR.  
APPLICATION FILED JUNE 18, 1904.

2 SHEETS—SHEET 2.

FIG. IV.

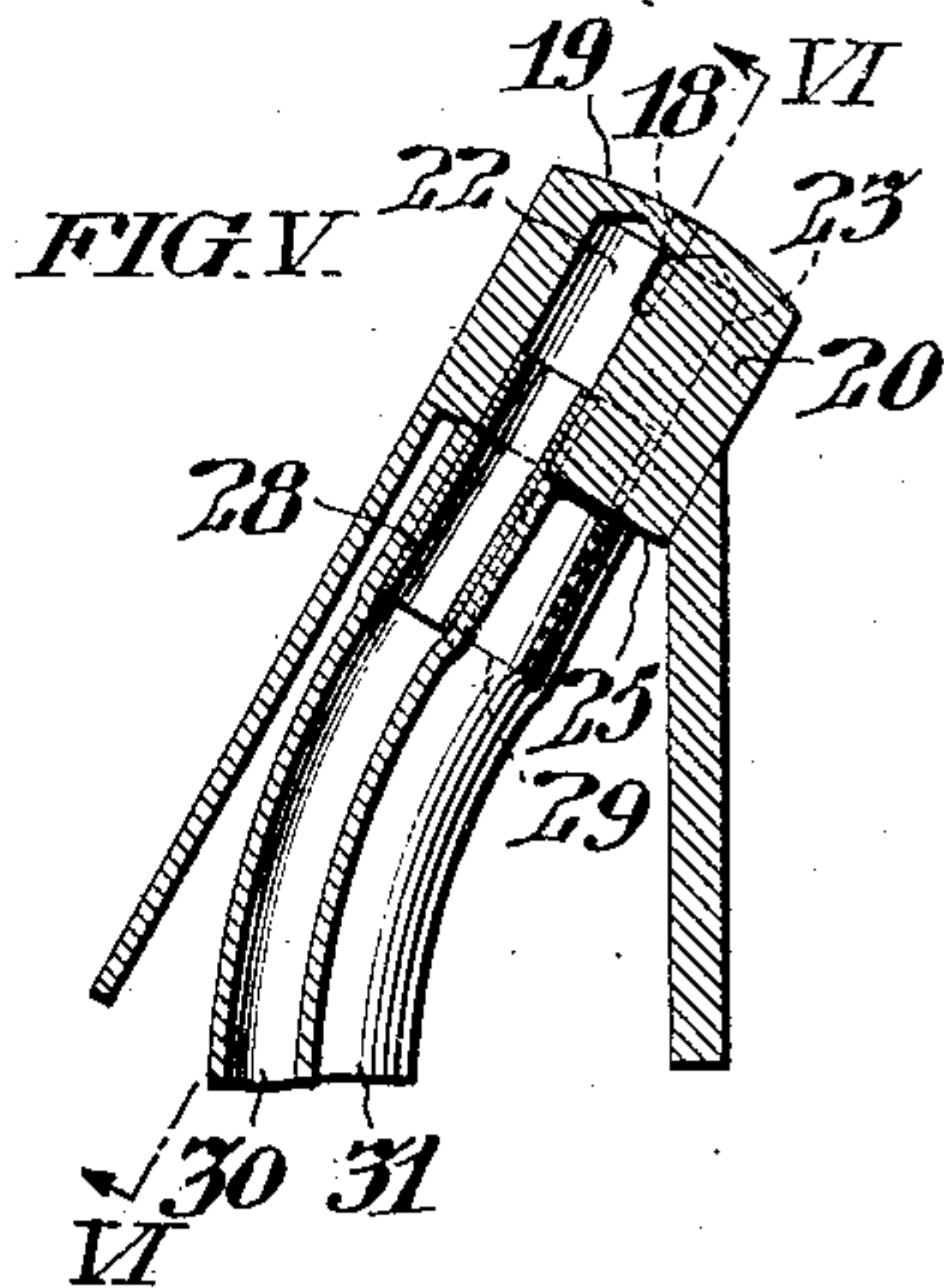
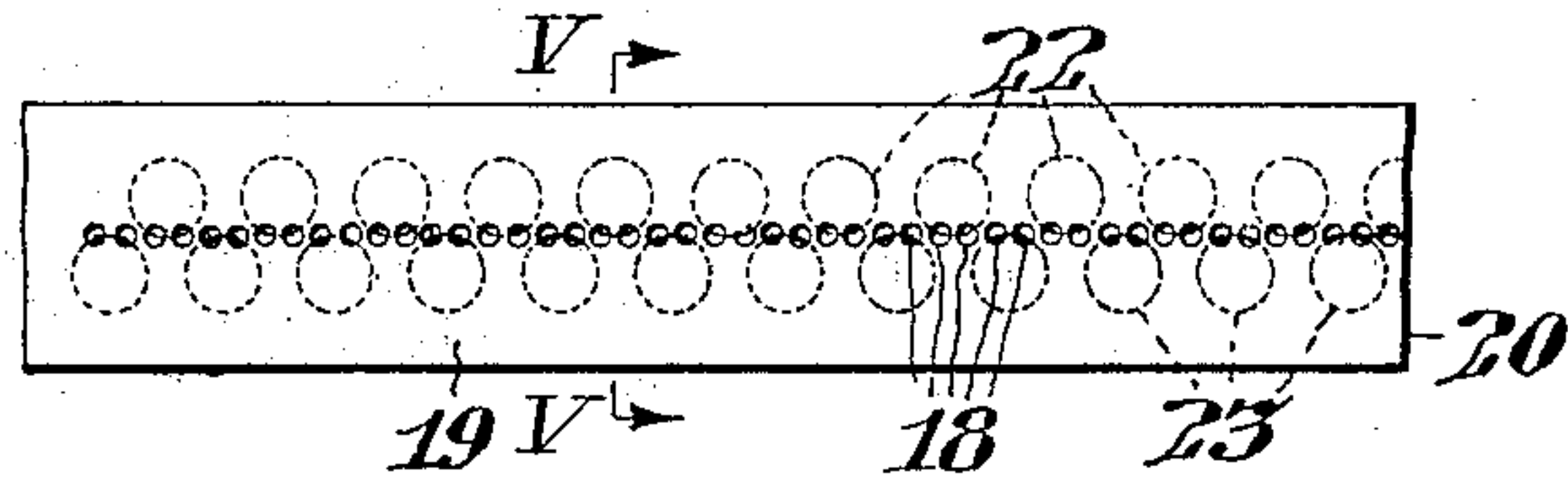


FIG. VI.

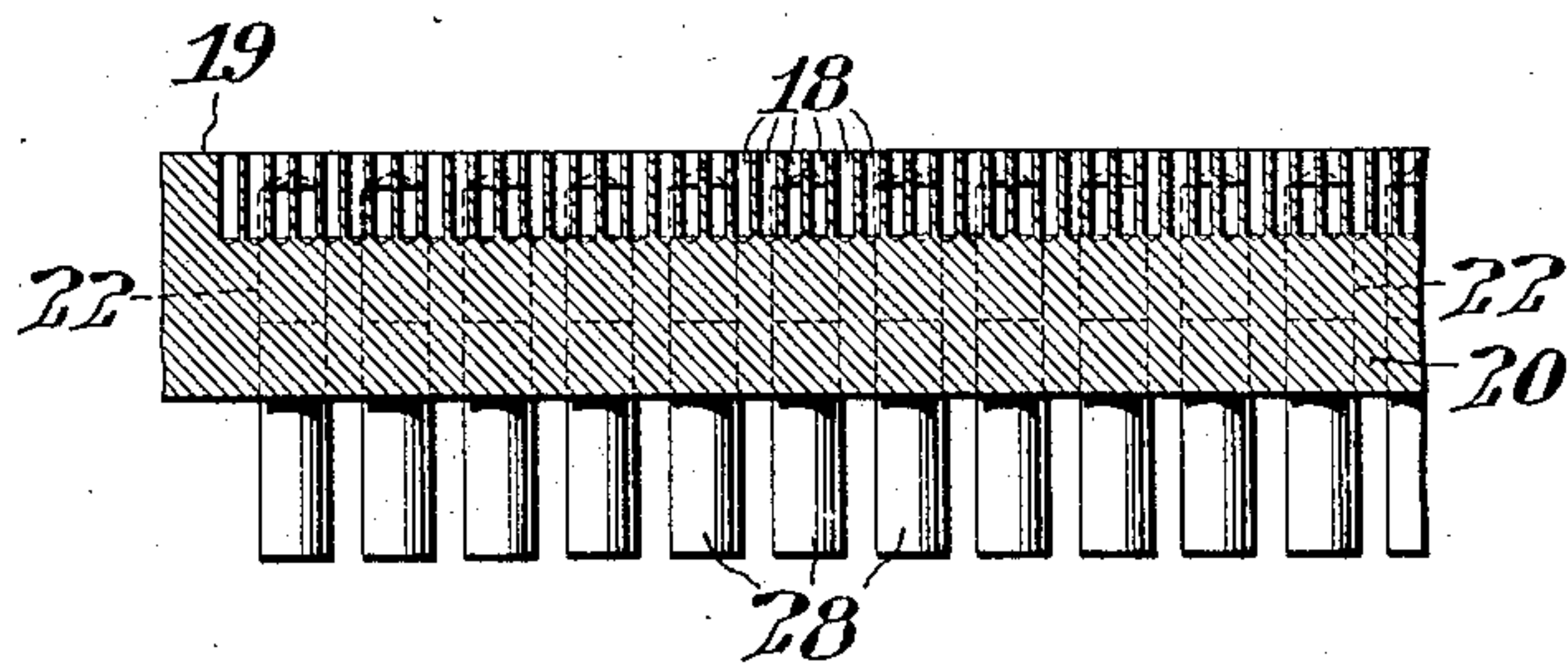
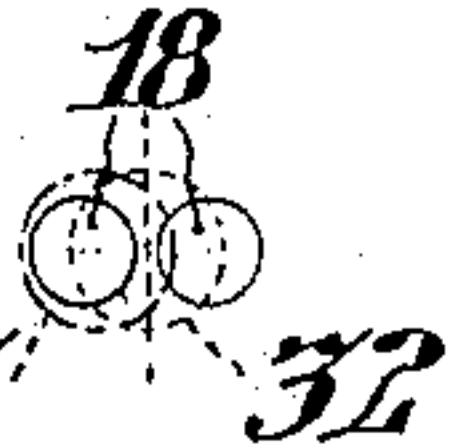


FIG. VII.



WITNESSES:

Clifton C. Hallowell  
John C. Bergner

INVENTOR:

PHILIP WUEST JR.,  
by Paigz, Paul & Haley  
Attys.



# UNITED STATES PATENT OFFICE.

PHILIP WUEST, JR., OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE  
AUTO-MANUAL PIANO ACTION COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

## PNEUMATIC TRACKER-BAR.

No. 844,986.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed June 18, 1904. Serial No. 213,138.

*To all whom it may concern:*

Be it known that I, PHILIP WUEST, Jr., of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Pneumatic Tracker - Bars, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to a musical instrument comprising a pneumatic tracker-bar provided with apertures over which perforated webs of paper or similar fabric are progressed to control the operation of pneumatic valves in the instrument. Heretofore such tracker-bars have comprised pieces of wood glued together to embody a series of adjoining rectangular ducts respectively in communication with the adjoining apertures in the face of the tracker-bar or have comprised a metallic face-plate embodying the series of apertures and directly supporting diverged sheet-metal nozzles in connection with tubes leading to the pneumatic valves in the instrument.

It is the object of my invention to provide a metallic tracker-bar which is more substantial and durable than the wooden structures aforesaid, which may be more readily and economically constructed than the prior metallic tracker-bars aforesaid, and which affords a substantial support for the nozzle terminals of the tubes leading to the valves.

A tracker-bar constructed in accordance with my invention, as hereinafter described, comprises a solid bar of metal having a series of apertures in its front face, the passages of said apertures extending inwardly for a relatively short distance, and a series of straight circular drilled ducts, extending from the opposite face of the bar in substantially parallel relation to said passages at such axial distances as to communicate therewith by lateral intersection of the respective peripheries. Said circular ducts are arranged alternately on opposite sides of the line of apertures, so that their rear ends terminate remote from each other at the rear face of said bar, and nozzles which are permanently secured in and supported by said bar and respectively connected with tubes leading to the pneumatic valves in the instrument.

A specific construction of the invention hereinafter described, which simplifies and

lessens the cost of manufacture of such tracker-bars, comprises a plurality of front apertures in communication with each circular drilled duct, said apertures being also circular drilled in parallel relation with the ducts and in the same piece of metal.

My invention comprehends the various novel features of construction and arrangement hereinafter more definitely specified.

In said drawings, Figure I is a front view of a portion of a tracker-bar conveniently embodying my improvements. Fig. II is a transverse sectional view of said bar, taken on the line II II in Fig. I. Fig. III is a longitudinal sectional view of said bar, taken on the line III III in Figs. I and II. Fig. IV is a front view showing a modified form of bar comprising a plurality of front apertures in communication with each duct. Fig. V is a transverse sectional view of said bar, taken on the line V V in Fig. IV. Fig. VI is a longitudinal sectional view of said bar, taken on the line VI VI in Fig. V. Fig. VII is a diagrammatic view illustrating the use of the form of bar shown in Figs. IV, V, and VI.

Referring to the form of my invention shown in Figs. I, II, and III, the face-plate is provided with a series of apertures 3, elongated in the direction of the length of said face-plate and of uniform rectangular cross-sectional area throughout the thickness of said plate 1.

The solid metal bar 5 is drilled through its front face to form a series of apertures 6 in straight alinement in correspondence with the series of apertures 3 in the face-plate 1, and said bar 5 is then drilled from the opposite face 7 to form ducts 9 and 10, which respectively communicate laterally with alternate apertures 3 in said face-plate 1, with which they are in parallel relation. The rear ends of said ducts 9 and 10 are conveniently provided with nozzles 12 and 13, which may be tightly driven therein, and then bent so that their rear ends diverge in angular relation to their front ends, so as to receive the terminals of the flexible tubes 15 and 16, leading to the pneumatic valves within the musical instrument.

In the form of my invention shown in Figs. IV, V, and VI the face-plate 1 is omitted and a series of circular apertures 18 are drilled through the front face 19 of the



solid metal bar 20. Two series of ducts 22 and 23 are then drilled in said bar from its opposite face 25, so that said ducts respectively communicate with alternate pairs of the apertures 18 in the front face of the bar. The rear ends of said ducts 22 and 23 are provided with nozzles 28 and 29, which are adapted to engage the terminals of the flexible tubes 30 and 31, leading to the pneumatic valves in the musical instrument.

Referring to the form of my invention shown in Figs. I to III, inclusive, the face-plate 1 and bar 5 being provided with corresponding apertures 3 and 6 are separately coated with films of solder, and said parts being assembled in proper relation are then permanently connected by heating them until their solder-coated surfaces are fused together.

During the soldering operation aforesaid it is of course necessary to maintain said parts in proper relative position by dowelpins or by temporary attaching means, such as wires or clamps. However, the soldering operation aforesaid is dispensed with and the manufacture of the bars facilitated by the construction shown in Figs. IV, V, and VI. Moreover, the last-named construction is advantageous in that the precise air-inlet area required being predetermined the pairs of apertures 18 may be made of such size as to continuously afford the desired area regardless of lateral displacement of the perforations 32 in the note-sheet traversing the bar, for although in the normal relation of the note-sheet and bar the perforation 32, as shown by the dotted circle in Fig. VII, passes over the apertures 18 in the bar, so as to uncover part of each aperture of a pair, substantially the same inlet area is afforded when the perforation 32 in the note-sheet is laterally displaced, as indicated by the dot-and-dash line 33 in Fig. VII.

It is obvious that various modifications may be made in the details of my invention without departing from its essential features. Therefore I do not desire to limit myself to the precise details of construction and arrangement herein set forth.

I claim—

1. In a tracker-bar, a metallic bar comprising a series of apertures in its front face, the passages of said apertures extending inwardly for a relatively short distance; and a series of straight circular drilled ducts extending from the rear of the bar in substantially parallel relation to said passages, but at such axial distances therefrom as to communicate laterally therewith, by intersec-

tion of the respective peripheries, substantially as set forth.

2. In a tracker-bar, a metallic bar comprising a series of apertures in its front face, the passages of said apertures extending inwardly for a relatively short distance; and two series of straight circular drilled ducts extending from the rear of the bar in substantially parallel relation to said passages, but at such axial distances therefrom as to communicate laterally with the passages of alternate apertures, by intersection of the respective peripheries, substantially as set forth.

3. In a tracker-bar, a metallic bar comprising a series of apertures in its front face, the passages of said apertures extending inwardly for a relatively short distance; two series of straight circular drilled ducts extending from the rear of the bar in substantially parallel relation to said passages, but at such axial distances therefrom as to communicate laterally with the passages of alternate apertures, by intersection of the respective peripheries; and nozzles fitted in the rear ends of said ducts, substantially as set forth.

4. In a tracker-bar, the combination with a series of apertures in the front face of said bar; of a series of ducts in said bar, each duct being common to two of said apertures, substantially as set forth.

5. In a tracker-bar, the combination with a series of apertures in the front face of said bar; of ducts in said bar each in communication with a pair of adjoining apertures, substantially as set forth.

6. In a tracker-bar, the combination with a series of circular apertures in the front face of said bar; of a series of circular ducts in said bar, each duct being common to two of said apertures, substantially as set forth.

7. The combination, with a tracker-bar having a series of apertures in its face; of ducts in said bar each communicating with a pair of adjacent apertures; and a note-sheet having openings adapted to register with said pairs of apertures in the relation specified, whereby, within the limits of complete displacement of the note-sheet, a uniform communication with said ducts is afforded; substantially as set forth.

In testimony whereof I have hereunto signed my name, at Philadelphia, Pennsylvania, this 9th day of June, 1904.

PHILIP WUEST, JR.

Witnesses:

ARTHUR E. PAIGE,  
E. L. FULLERTON.