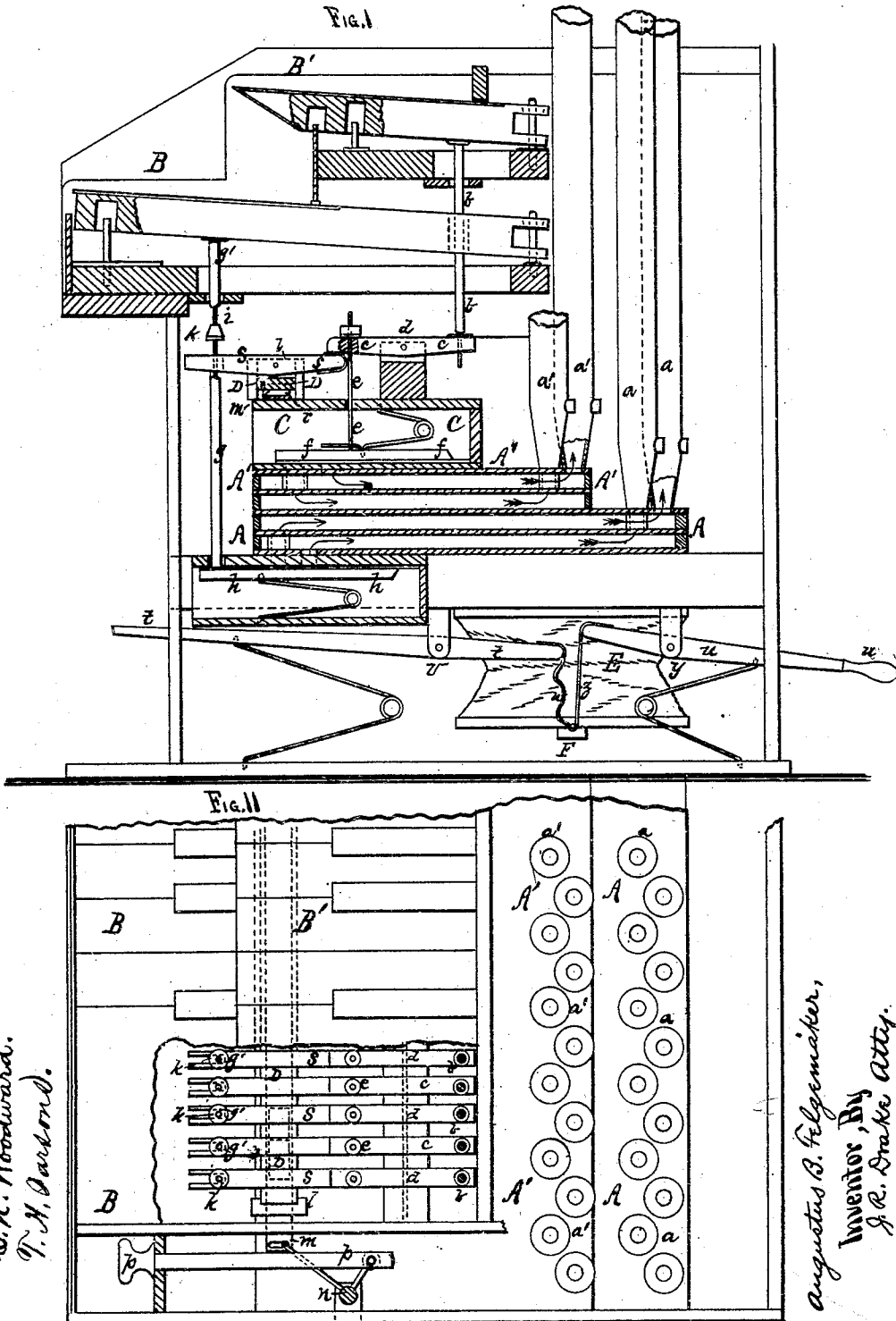


A. B. FELGEMAKER.  
PIPE-ORGAN.

No. 172,307.

Patented Jan. 18, 1876.



Witnesses.  
C. H. Woodward.  
T. H. Darmond.

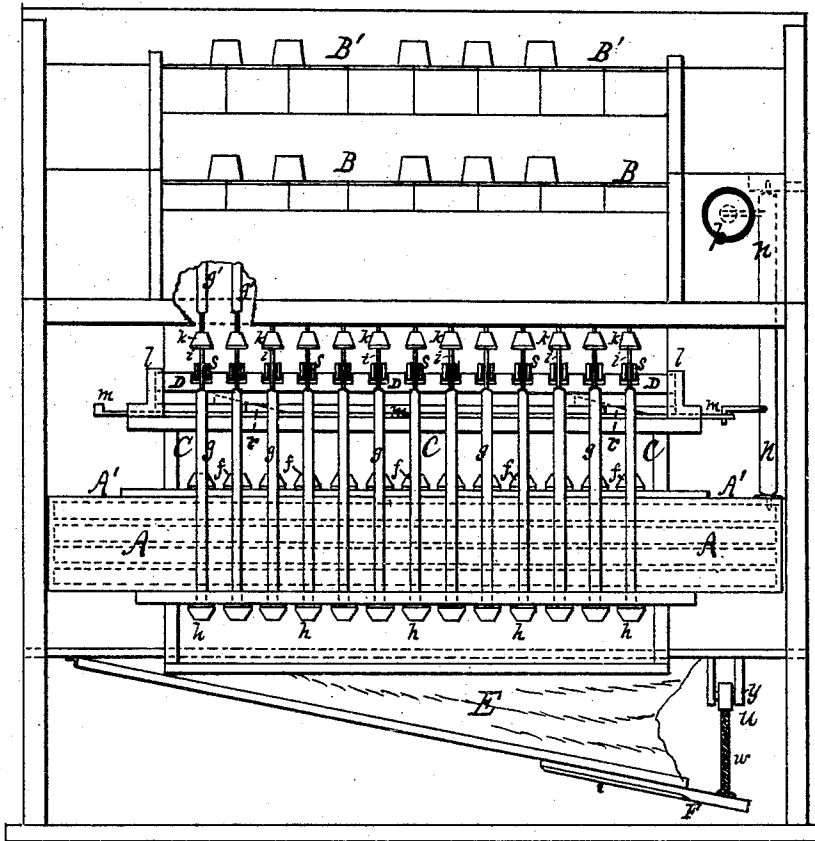
Augustus B. Felgemaker,  
Inventor, By  
G. R. Drake, Atty.

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FIG. III



Witnesses.  
E. H. Woodward  
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# UNITED STATES PATENT OFFICE.

AUGUSTUS B. FELGEMAKER, OF ERIE, PENNSYLVANIA.

## IMPROVEMENT IN PIPE-ORGANS.

Specification forming part of Letters Patent No. **172,307**, dated January 18, 1876; application filed September 8, 1875.

*To all whom it may concern:*

Be it known that I, AUGUSTUS BERNARD FELGEMAKER, of Erie, in the county of Erie and State of Pennsylvania, have made certain Improvements in Portable Pipe-Organs, of which the following is a specification:

This invention is an improvement on the patent granted to myself and Silas L. Derrick, dated May 5, 1868, and numbered 77,703; and the invention consists in the application of two wind-chests to a portable pipe-organ, (one set on top of the other,) and their arrangement in relation to two rows of keys or "manuals."

The invention further consists in the manner of and devices for coupling the two manuals; also in the construction of the push-pins; and, finally, in the arrangement of the foot and hand levers, &c., by which the bellows is operated by either independently, all as hereinafter specified.

In the drawings, Figure 1 is a side elevation in vertical cross-section; Fig. 2, a plan; and Fig. 3 a front view, with the case removed.

A represents the usual wind-chest of a portable pipe-organ, *a a* showing the pipes leading from the air-passages, and in connection with the usual key-board B. A' is a second wind-chest set over or on the first one, and whose pipes *a' a'*, through their appropriate channels, are operated by a second row of keys or manual, B'. The two manuals and two wind-chests are for the purpose of giving greater scope to this kind or class of instruments, so as to allow of a greater variety of tone or "stops," and this is accomplished by providing the second row of keys B' and the separate wind-chest A' for that set or manual, thus permitting a player to get what are known as "solo effects," one manual being used for those and the other for the accompaniment. Either manual may represent the solo-stops.

The manner of operating with the second wind-chest is as follows: The push-pins *b b* (see Fig. 1) leading directly from the keys B' of second manual, operate the levers *c c*, which are pivoted in the middle at *d*. The pressure on the key forces down the push-pin, which thrusts down the back end of said lever and raises the front end, drawing up with it, by means of a connecting-wire, *e*, the wind-valve

*f*, and unclosing the opening to the channel leading to the pipe *a'*. The first row of keys B actuates the valves of the regular wind-chest A in the usual manner, the push-pins *g g* operating directly on the valves *h h*.

The construction of the push-pins *g g* or "stickers," is peculiar, and is for a threefold purpose—viz., to level the keys, to couple the manuals, and open the valves *h h*. Between the upper portion *g'* and lower part *g* of each push-pin is an interposed threaded wire, *i*, and an adjustable nut, *k*, set at a certain position on the wire, the object to be presently explained. The keys of the lower manual each rest on the upper part *g'* of each push-pin, and, by turning this upper part *g'* up or down on the threaded wire *i*, the key is kept level with the next one, and so on through the whole manual. The nut *k* on each pin is used in connection with the coupling devices, which are as follows: On top of the valve-chamber C (which sets over wind-chest A') is arranged the lever coupling-bar D, and which is raised up and lowered in a frame, *l*, by means of a flat draw-slide, *m*, setting underneath, (and which is attached to a rod, *n*, leading to the stop *p*), and by inclines *r r* (see Fig. 3) on the slide *m*, working in corresponding inclined slots in the coupling-bar in its under side. In this coupling-bar are pivoted the independent levers *s s*, with their outer ends forked, as shown fully in Fig. 2, and which inclose the threaded wire *i* of the push-pins *g*, and just below the adjustable nut *k*. The back ends of these levers come just beneath the front ends of the levers *c c* of the second manual, but do not interfere with their working until the slide *m* is drawn by the stop *p*, which throws the front ends of the levers *s s* up in connection with the nut *k*, on the front push-pins *g*. Therefore, when the keys of the first manual B are pressed down the push-pin *g* is operated, opening the valve *h*. The nut *k* forces down the lever *s*, and this throws up the lever *c*, which opens the valve *f* simultaneously with the other *h*, thus coupling all the notes together and getting a double effect. Even when the coupling-stop is pulled out, the second manual B' will still operate independently.

All this action is very simple, and is situated immediately under the key-board, and is

no longer than the length of the keys, leaving plenty of room behind for the pipe-work, &c.

E represents the usual bellows or "feeder" to the organ. This is blown either by foot-pressure on the front lever *t* or by a hand-lever, *u*, at the back. Their independent arrangement is one of the features of this invention. The foot-lever *t* is pivoted at *v*, and has a length of webbing *w* attached to its inner end, (see Fig. 1,) and also to a bar, F, on the bottom of the feeder E. The hand-lever *u* is pivoted at *y*, and has also a piece of webbing, *z*, attached to its inner end and to the same bar F of the feeder or bellows. Suitable springs are arranged in connection with the levers *t u* to return them to position. By this simple arrangement either lever can be operated entirely independent of the other.

I claim—

1. In a portable pipe-organ, the two wind-chests, A A', and their respective air-channels and connections, with the two manuals or banks of keys, B B', all combined substantially as and for the purpose specified.

2. The stickers or push-pins for the lower key-board B, constructed in two parts, *g g'*, and having the interposed threaded wire *i* and nut *k*, as and for the purpose specified.

3. The combination of the push-pins *g g' i*, nut *k*, slotted levers *s s*, and lever-bar D, for the purpose of throwing said levers in connection with levers *c c* to couple or uncouple the two manuals, as hereinbefore specified.

4. The key-leveling device, consisting of the upper part *g'*, of the push-pin, and the interposed threaded wire *i*, substantially as specified.

5. The foot and hand levers *t u* and webbing *w z*, in connection with the feeder E and bar F, for the purpose of getting independent action from either lever, combined and arranged substantially as specified.

6. In a pipe-organ provided with two manuals, B B', the two wind-chests, A A', coupling devices D *m*, levers *c s*, push-pins *g g'*, wire *i*, and nut *k*, all constructed and arranged substantially as and for the purpose described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

A. B. FELGEMAKER.

Witnesses:

J. R. DRAKE,  
JULIUS FELGEMAKER.