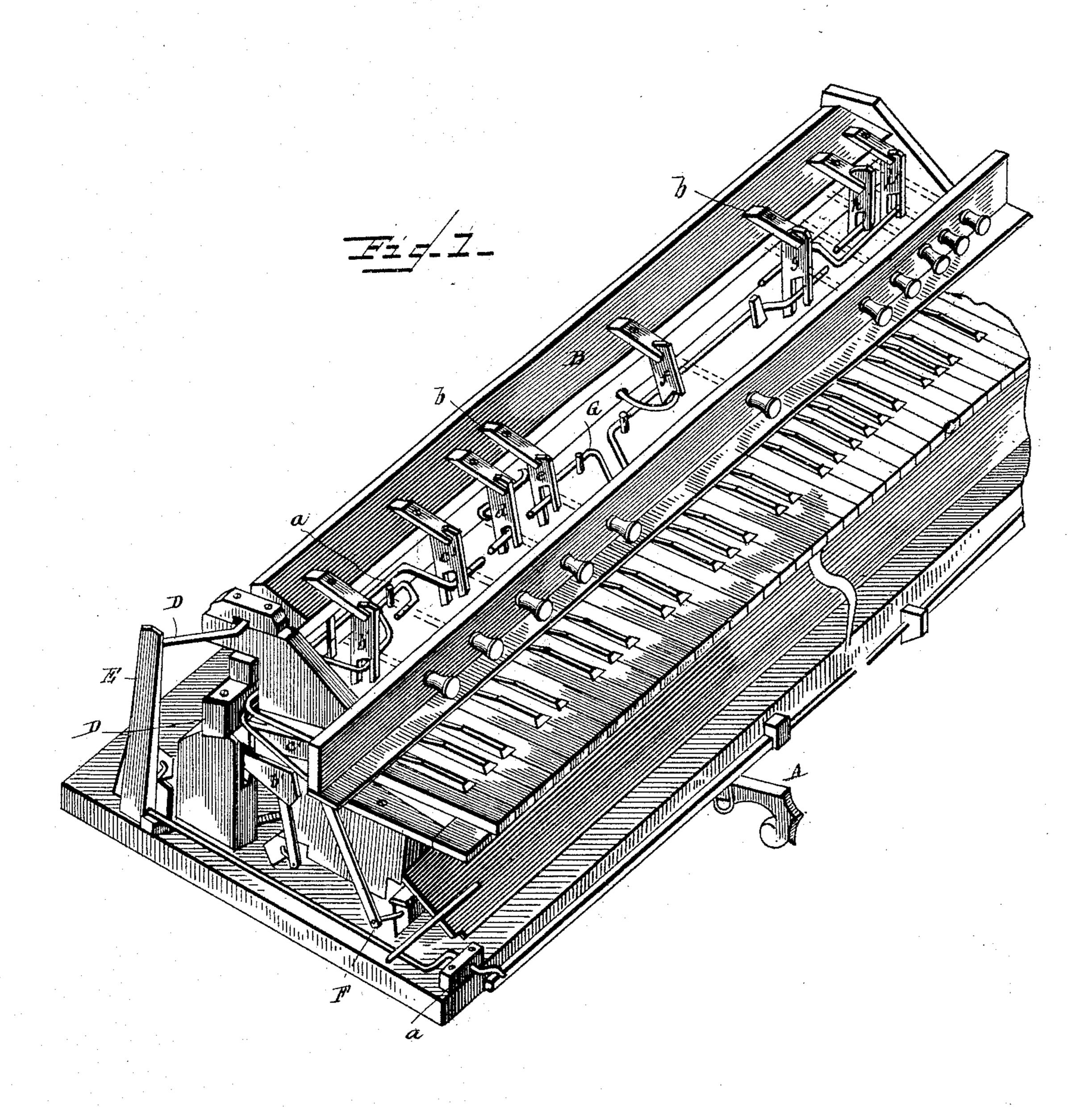
## C. FOGELBERG. ORGAN STOP ACTION.

No. 355,984.

Patented Jan. 11, 1887.

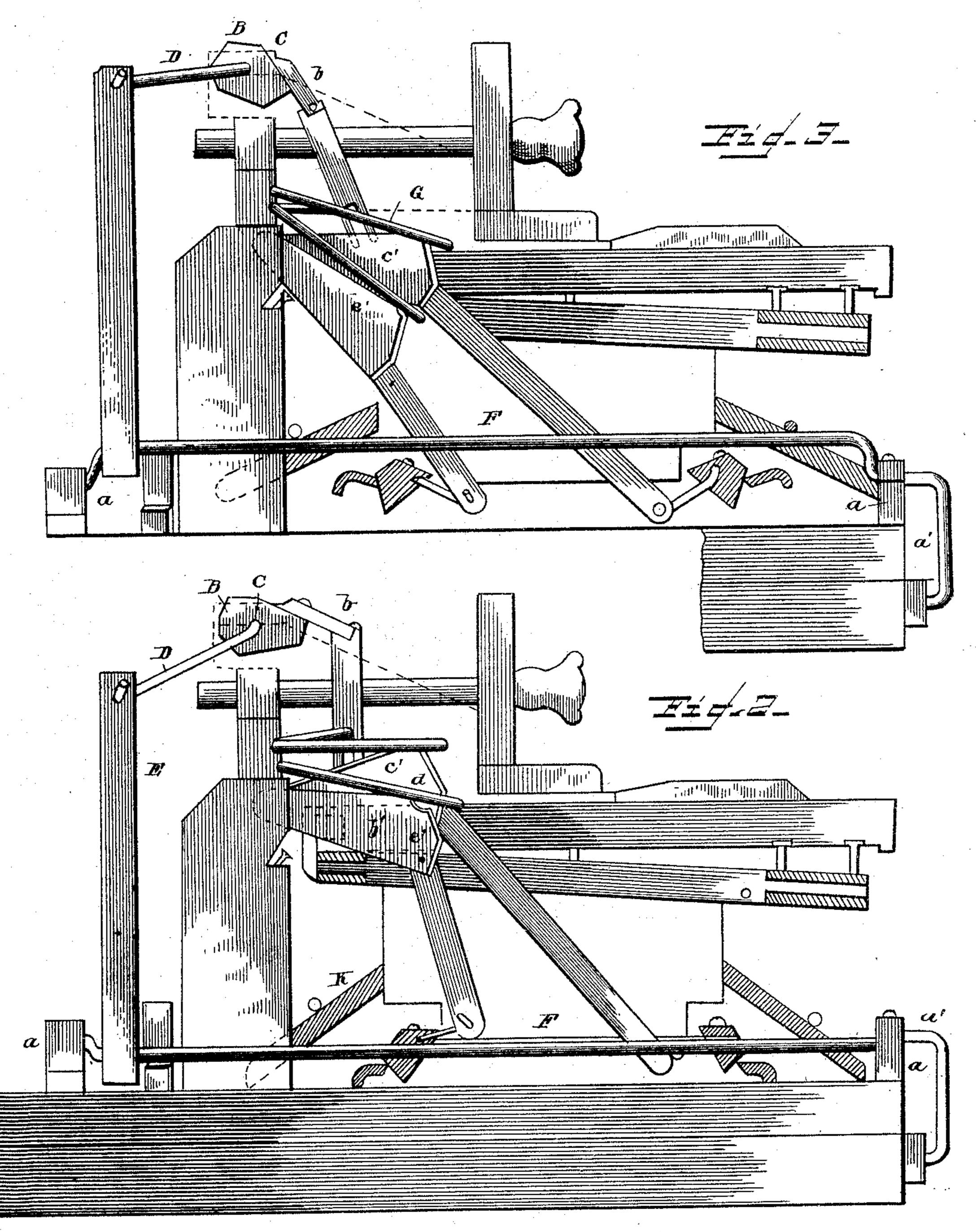


Witnesses; Edwin II. Yewell, Um. J. Rittee Loue Togelburg by & Humen C. FOGELBERG.

ORGAN STOP ACTION.

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## United States Patent Office.

CARL FOGELBERG, OF ERIE, PENNSYLVANIA.

## ORGAN STOP-ACTION.

## SPECIFICATION forming part of Letters Patent No. 355,984, dated January 11, 1887.

Application filed February 13, 1886. Serial No. 191,831. (No model.)

To all whom it may concern:

Be it known that I, CARL FOGELBERG, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Organs; and I do hereby declare the following to be such a full, clear, and exact description of the invention as will enable others skilled in the art to which it appears to make and use the same.

My invention relates to organs, the object being to bring the several stops of a reed organ into joint operation in such a sequence as will give such a gradation of tone as the proper production of musical effects requires.

The invention consists in the details of construction and combination of parts hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a portion of an organ with parts broken away to more fully disclose the construction. Fig. 2 is an end view showing the position of the parts when the stops are closed; and Fig. 3 is an end view showing the position of the parts when the stops are open.

Corresponding parts in the several figures are denoted by the same letters of reference.

Referring to the drawings, A represents the knee-swell.

B represents the grand organ-bar located at the rear of the organ and suitably journaled at such point. The shaft C, upon which the grand-organ bar is mounted, is bent to form a crank-arm, D, to which is pivotally connected

an arm, E, which is mounted at its lower end upon a crank shaft, F, journaled in blocks a, secured at the end of the organ.

Connecting the forward end of the crank-shaft with the knee-swell is a rod, a. It will thus be seen that when the knee-swell is operated it will cause the arm E to be raised, which latter will, through the agency of the crank-arm D, lower the inner end of the grand-organ bar.

Secured to the upper side of the grand-organ bar B, and extending inwardly therefrom, are plates b, having bifurcated inner ends, in which are pivoted a series of arms, b<sup>3</sup> c<sup>3</sup> d e f g h i k, each of which is provided with a ver-

tical slot, *l*. The slot of the arm *d* is the 50 smallest, and the slots gradually increase in height or size throughout the series of arms.

G represents suitably-mounted wire stop-rods, which are adapted to open the stops when the inner end of the grand-organ bar is depressed, the stops upon which the first two rods of the series being shown, while those of the remainder of the series are unseen; but the action of the stop-rods upon them is the same.

In operation, when the knee-swell is moved it causes the grand-organ bar to be depressed at its inner end through connections described, and the arm d to act upon its stop-rod to open stop d'. As the slot of the next arm is somewhat 65 higher than arm d, it will be observed that that portion of the arm at the end of the slot will not come into contact with the stop-rod, but on further movement of the knee-swell the stop d' will be still further opened, and stop e' 70 opened by the arm e.

It will be seen that by providing the arms which act upon the stop-rods with slots of varying heights, the stops are successively operated upon one after another.

The improvement before described, while simple, has been found to possess great value in the production of musical effects.

Having thus described my invention, what I claim as new, and desire to secure by Letters 80 Patent, is—

1. In an organ, the combination, with the grand-organ bar, the stops, and their stop-rods, of arms pivotally connected with the grand-organ bar and resting on the stops, substan-85 tially as set forth.

2. The combination, with the grand-organ bar, the stops, and their stop-rods, of arms pivotally connected with the grand-organ bar and having slots of varying heights, as set forth.

In testimony that I claim the foregoing as my invention I have hereto affixed my signature in the presence of two witnesses.

CARL FOGELBERG.

Witnesses:

D. L. RICE,

A. J. Engstrom.