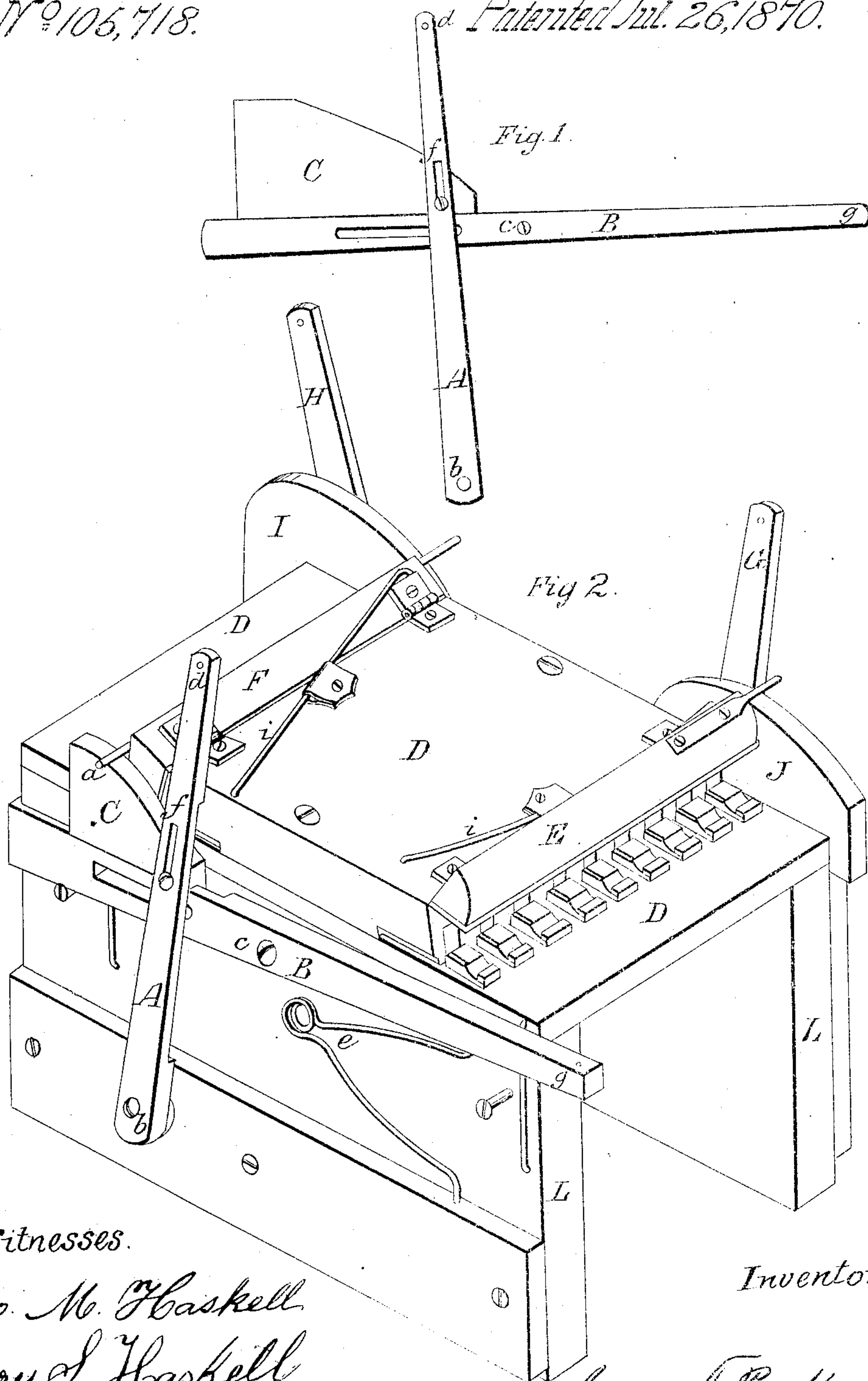


Patented Jul. 26, 1870.



Witnesses.

Geo. M. Haskell
Mary S. Haskell

Inventor:

Samuel Packard

UNITED STATES PATENT OFFICE.

ISAAC T. PACKARD, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN REED MUSICAL INSTRUMENTS.

Specification forming part of Letters Patent No. **105,718**, dated July 26, 1870.

I, ISAAC T. PACKARD, of Chicago, county of Cook, and State of Illinois, have invented an Improvement in Reed Musical Instruments, of which the following is a specification:

Object and Nature of the Invention.

The object of this invention is to enable the performer upon the instrument to connect or disconnect at pleasure, by means of registers or draw-stops, any one or all of the different sets of reeds to one or more foot or knee pedals, so that they may be made to sound or not, without removing his hands from the keys.

Description of the Accompanying Drawing.

Figure I is a side elevation, showing my invention. Fig. II shows its application to a reed-board with two sets of reeds.

When the same parts occur in both figures the same letters distinguish them.

General Description and Mode of Operation.

Fig. I, A is a coupling-lever, with its fulcrum at *b*. B is another coupling-lever, with its fulcrum at *c*. C is a cam sliding in a groove in the upper surface of B. It is also connected with the lever A by means of a pin fastened into C and working in a slot or mortise through A at *f*.

In Fig. II, D D D is the reed-board, supported by standards L L. E and F are the stop-valves. Beneath the valve E one set of reeds is seen. Upon the other side, under the valve F, another set is arranged in the same way. These stop-valves are hinged to the reed-board, and are closed by the springs *i i*. When open the reeds will sound if desired; but when closed the passage of the air is excluded.

G H I J show a part of the usual lever appliances, which, being connected with the registers at the key-board, enable the performer to open and close the stop-valves in the ordinary way.

The object of the coupling-levers A and B and the cam C is to throw on the reeds under the stop-valve F at pleasure by a foot or knee pedal whenever the register, which must be connected with the lever A at *d*, is drawn.

The manner of operation is as follows: Let the usual register for the stop-valve E be

drawn and the valve will open, as seen in Fig. II. The reeds are now ready for use, with a register attached at *d* on the lever A. Next draw this register and the lever A will move forward, and with it the cam C, until that part of the cam near *a* will come in contact with the pin shown just over *a*. This pin is fastened to the stop-valve F in the same way as the one seen at the right-hand end of the stop-valve E. This position of the lever A is the one seen in Fig. II. Now, if the lever B is pressed down at *g*, the cam C will be thrown upward, raising the stop-valve F, and allow the reeds to sound, if desired. In this position the full power of the instrument is obtained; but it may at once be diminished by releasing the lever B, when, through the action of the spring *e*, it will resume its former position and the valve F will close. This lever B is operated by connecting it either with a foot or knee pedal and independent of or connected with the swell-pedal. I prefer, however, to connect it to the same pedal that operates the swell, as a better musical effect can in this way be obtained, and the same pedal answers equally well for both.

If connected with a foot-pedal, a rod will be attached to the lever B at *g* and pass down to the foot-pedal; if to a knee-pedal moving horizontally at the front of the organ, an elbow-lever will communicate the desired motion to the lever B. As both of these devices are in common use upon reed-organs, for the purpose of operating the swell, a further description of them is not necessary.

It will now be seen that the performer can by this arrangement pass, as he may desire, from one extreme of power to the other upon his instrument; but should he wish, as often may be the case, to use the register as commonly arranged, he has only to push back the register attached to the lever A, and then the pedal will move the swell only.

A coupler for coupling reeds and keys in octaves is used by many makers, and to this I have applied my coupling-levers, so as to connect it, when desirable, with the pedal. This is effected, by throwing the octave-coupler on or off by a spring and in the opposite direction, by my invention. This application will be at once understood by instrument-makers.

ers, and the effects produced are varied and interesting. But the importance of this invention becomes more apparent when applied to an instrument with four or more sets of reeds. Every set, besides being under the control of the ordinary registers, can be operated also by this invention, and a great number and variety of changes produced, besides many pleasing and very desirable orchestral effects, which can be attained in no other way.

It is not always desirable to make the coupling-levers and cams just as here described. Indeed, sometimes in the same organ, when several sets are used, it will be found necessary to differ them as to size, length, and position, as those skilled in making instruments will see it expedient to do.

I am aware that in both reed and pipe or-

gans one or more sets of reeds or pipes have been connected with pedals; but these have always been permanent connections, not made so as to be thrown on and off by coupling-registers, or in any way like or equivalent to the mode I have invented.

Claim.

I claim—

The levers A and B and the cam C, or their equivalents, when the same are made and combined substantially as herein described, and used to accomplish the purpose set forth in this specification.

ISAAC T. PACKARD.

Witnesses:

GEO. M. HASKELL,
MARY S. HASKELL.