

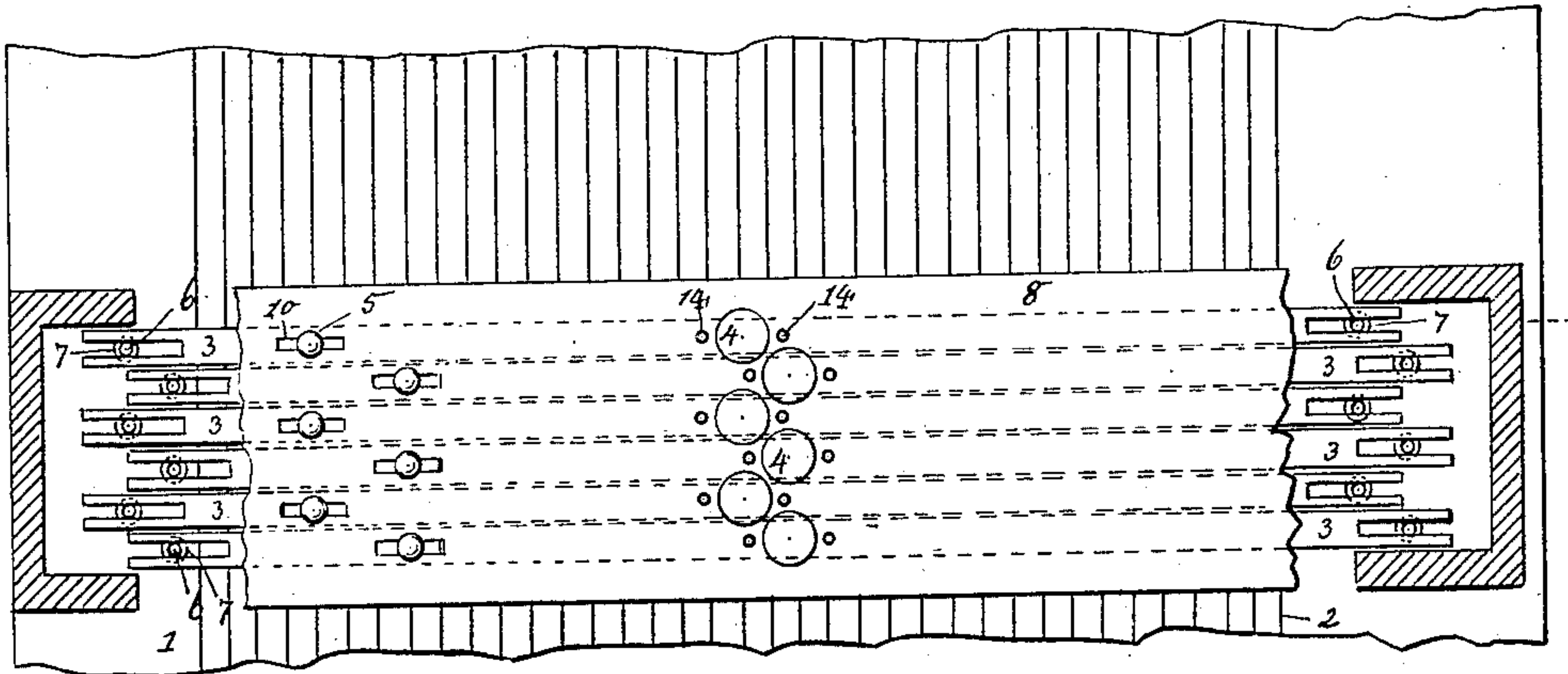
(No Model.)

T. H. ROTH, R. DOLGE & L. MELCHER.  
HARP.

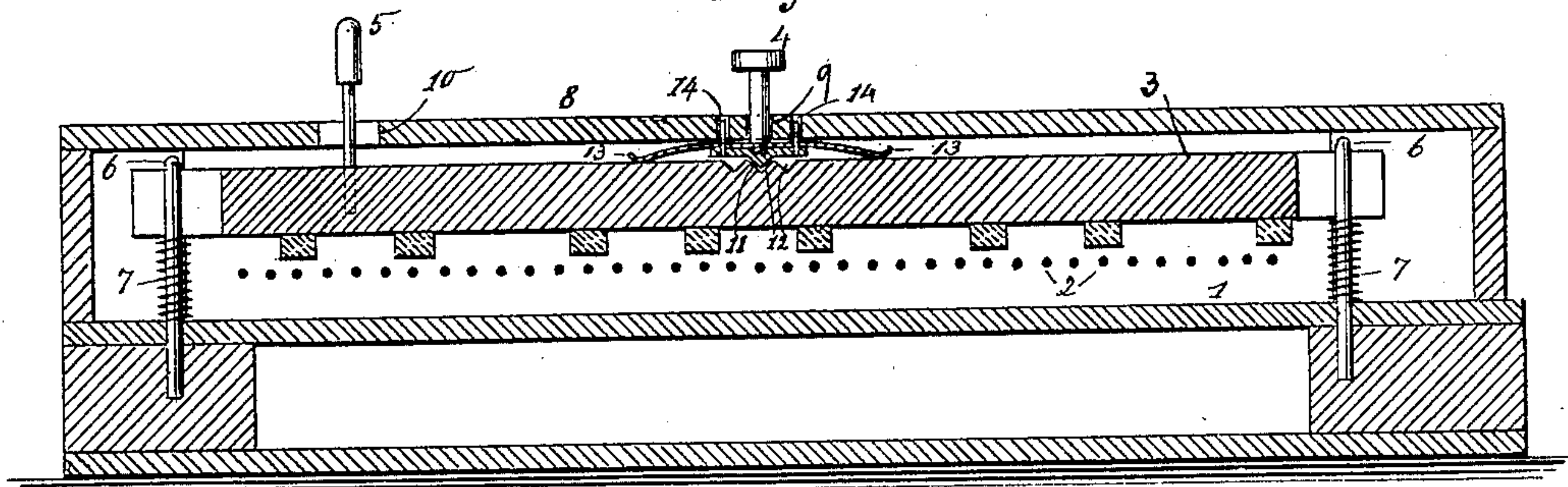
No. 557,509.

Patented Mar. 31, 1896.

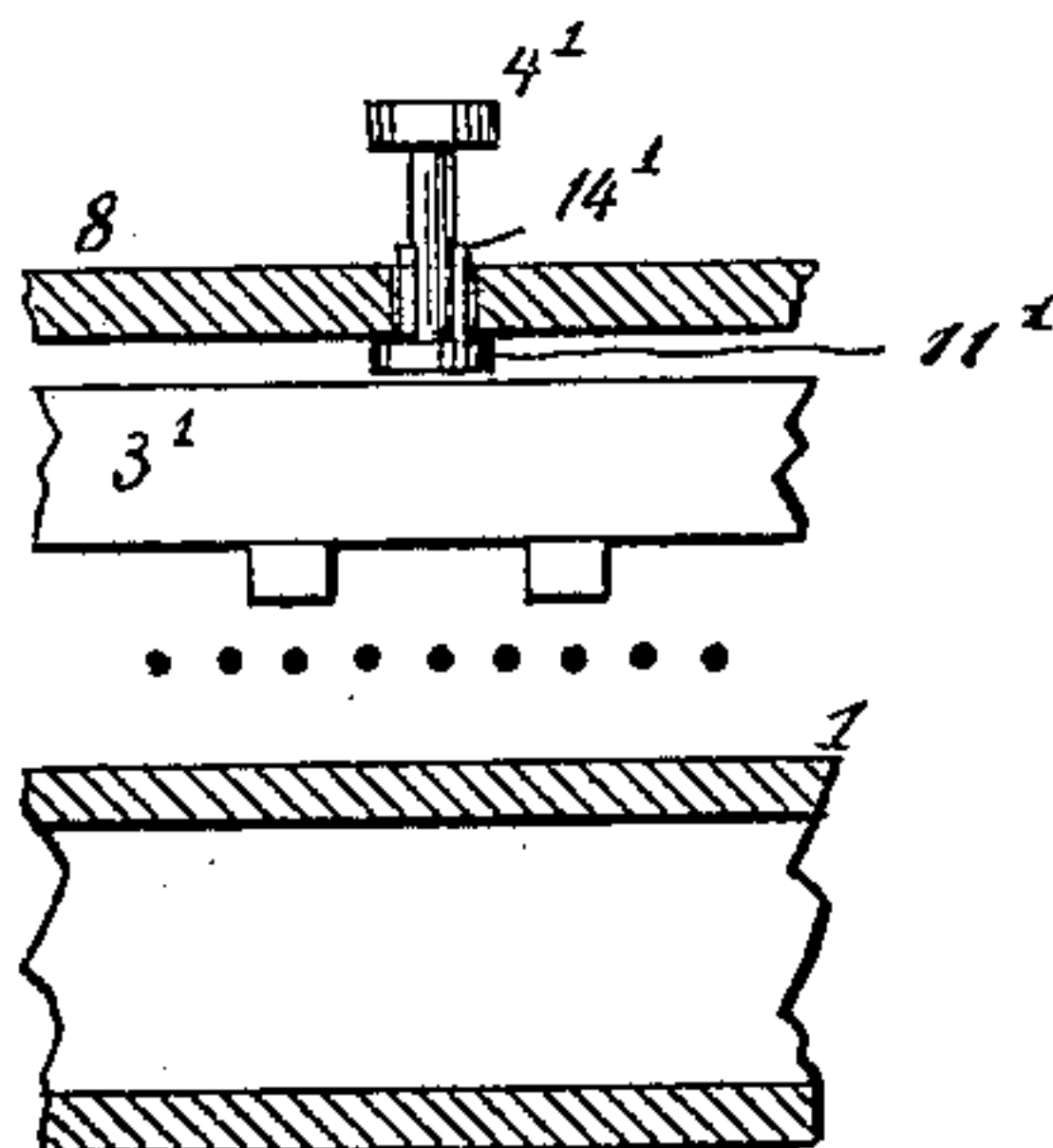
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES:

*E. Woff.*  
*(Chas. E. Poerger)*

INVENTORS:  
*Theodore H. Roth.*  
*Rudolf Dolge.*  
*Louis Melcher.*  
BY *Hauff & Hauff*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

THEODORE H. ROTH, OF DOLGEVILLE, AND RUDOLF DOLGE AND LOUIS MELCHER, OF NEW YORK, N. Y., ASSIGNORS TO THE C. F. ZIMMERMANN COMPANY, OF DOLGEVILLE, NEW YORK.

## HARP.

SPECIFICATION forming part of Letters Patent No. 557,509, dated March 31, 1896.

Application filed August 8, 1895. Serial No. 558,680. (No model.)

*To all whom it may concern:*

Be it known that we, THEODORE H. ROTH, residing at Dolgeville, in the county of Herkimer, and RUDOLF DOLGE and LOUIS MELCHER, residing at New York, in the county of New York, State of New York, citizens of the United States, have invented new and useful Improvements in Harps, of which the following is a specification.

10 This invention relates to harps which are provided with bars or manuals adapted to contact with, cut out, or leave open certain strings. These bars are generally pressed or moved toward the strings by means of a button or finger-piece; and the object of this invention is to keep said button or finger-piece  
15 located centrally relatively to the strings or to the guides of the bar, so that uniform pressure or action is exerted by said bar upon all the strings which are contacted with, and excessive force for depressing or moving the bar to contacting position will not be required.

20 In carrying out this invention we prefer to employ a construction in which the button or finger-piece remains centrally located between the guides of the bar, any shifting of the bar not affecting or deranging this central location of the button.

30 Figure 1 of the drawings represents a plan view of a harp. Fig. 2 is a section. Fig. 3 shows a modification.

35 The harp or instrument has the sounding-board 1, strings 2, and bars or manuals 3, which, as known, when moved toward the strings will contact with, cut out, or leave open some of them for producing a chord. By being made shiftable the various effects of the bars can be increased, as known. The handle or finger-buttons 4 move the bars to  
40 contacting position, and are preferably called "contacting" or "pressure" buttons or "depressing-handles" to distinguish them from the buttons or handles 5 by which the bars are shifted and which may be appropriately called  
45 "shifting-handles."

The ends of the damper-bars are slotted to allow shifting or lengthwise movement of the bars, said slotted bar portions being made to

straddle or engage the guides or supports 6, fixed to the sounding-board 1. The springs 50 7 normally hold the bars out of contacting position.

If a button 4 should be located nearer to one of the guides 6 of its bar, said button will exert a more powerful pressure or leverage 55 on the bar portion located between said button and the nearer guide 6 than on the bar portion located between said button and the farther guide, and to effect a satisfactory contacting by the bar under such circumstances 60 may require a powerful or fatiguing pressure on button 4. By locating the button 4 centrally between the guides 6 of its bar said button will effect uniform leverage or contacting from one guide to the other along said bar. 65

In the drawings the buttons 4 are shown secured in a cover or top 8, extended above the strings, the stems of the buttons extending through holes 9 in the cover, leaving the button free for its contacting movement or movement toward and from the strings; but said buttons 4 are not free to partake of the shifting or longitudinal movement of the bars. The shifting-handles 5, extending through slots 10 in cover 8, serve to shift the bars. 75

In Fig. 2 a button 4 and bar 3 are shown, with ridges or portions 11 and 12 adapted to interlock while the button moves the bar to contacting position; but when the button 4 is released the parts 11 and 12 are in position to 80 leave the bar free to shift. A button 4 in Fig. 2 is also shown with springs or arms 13 made to engage or press on a bar and aiding in the uniform distribution of pressure or contacting. To prevent rotation or spinning of 85 button 4, the latter may be suitably guided by the cover 8, as by suitable pins, wings, or slots, as shown at 14, Fig. 2, or at 14', Fig. 3.

In Fig. 3 the bar 3' is shown with a smooth top in place of the interlocking portions 12 90 of bar 3, and the depressing-handle 4' has a face or part 11' made to engage the contacting-bar 3'.

In order to secure compactness, it may at times be desirable to place the supports 6 of 95 the successive contacting-bars out of aline-



ment, and the depressing-handles would in that case be similarly thrown out of alinement or into zigzag position.

In Fig. 1 are shown six contacting bars or manuals; but of course this number can be varied without departing from the invention—as, for example, in toys or simple instruments, such as for teaching beginners, but one bar may be satisfactory, while the addition of more bars adds to the scope of the instrument.

In the above description reference has been made to contacting-bars, and it will be readily understood that not only bars for leaving open or cutting out certain strings can be operated by centrally-located handles, but also bars provided with picks, hooks, hammers, or other device for sounding or muting the strings can be actuated by centrally-located handles.

Instead of supporting the bars on springs 7, as shown, said bars, as well known, can be carried by swinging or other suitable well-known links or supports.

The invention is not restricted to the particular construction shown herein, the invention consisting principally in having the depressing-handle fixed centrally between the guides of a shiftable damper-bar.

What we claim as new, and desire to secure by Letters Patent, is—

1. A shiftable bar having dampers or contactors fixed to and made to shift with said bar, combined with guides for said bar, and a bar depressing or actuating handle arranged centrally between the guides and unattached to the bar, whereby the latter is shiftable independently of the bar depressing or actuating handle, substantially as described.

2. A lengthwise-shiftable bar having dampers or contactors fixed to and made to shift with said bar, combined with guides for said bar, and a bar depressing or actuating handle movable vertically at a point centrally between the guides and unattached to the shiftable bar, so that the latter can be shifted

lengthwise independently of the bar depressing or actuating handle, substantially as described.

3. A series of lengthwise-shiftable bars having dampers or contactors fixed to and made to shift with said bar, combined with guides adapted to guide the bars and arranged out of alinement, and a series of bar depressing or actuating handles arranged centrally between the guides and all unattached to the bars, whereby the latter are shiftable independently of the bar depressing or actuating handles, substantially as described.

4. The combination of a lengthwise-shiftable bar, provided on its upper surface with a series of ridges, and guides for the bar, of a bar-depressing handle arranged centrally between the said guides and provided with a ridge adapted to interlock with the ridges of the bar when the handle is depressed, said handle being unattached to the bar, whereby the latter is shiftable lengthwise independent of the handle, substantially as described.

5. The combination with a lengthwise-shiftable bar, and guides for the bar, of a bar-depressing handle arranged centrally between the guides and unattached to the bar, whereby the latter is shiftable lengthwise independent of the handle, and a spring engaged with the handle and bearing against the bar, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of subscribing witnesses.

THEO. H. ROTH.  
RUDOLF DOLGE.  
LOUIS MELCHER.

Witnesses as to signature of Roth:

JOHN J. JOYCE,  
M. GRACE WALKER.

Witnesses as to signatures of Dolge and Melcher:

NILS ROSEN,  
WILLIAM C. HAUFF.