

W. W. HOPKINS.
KEY BAR LOCKING MECHANISM FOR CALCULATING MACHINES, &c.
APPLICATION FILED JUNE 21, 1909.

987,068.

Patented Mar. 14, 1911.

FIG. 1.

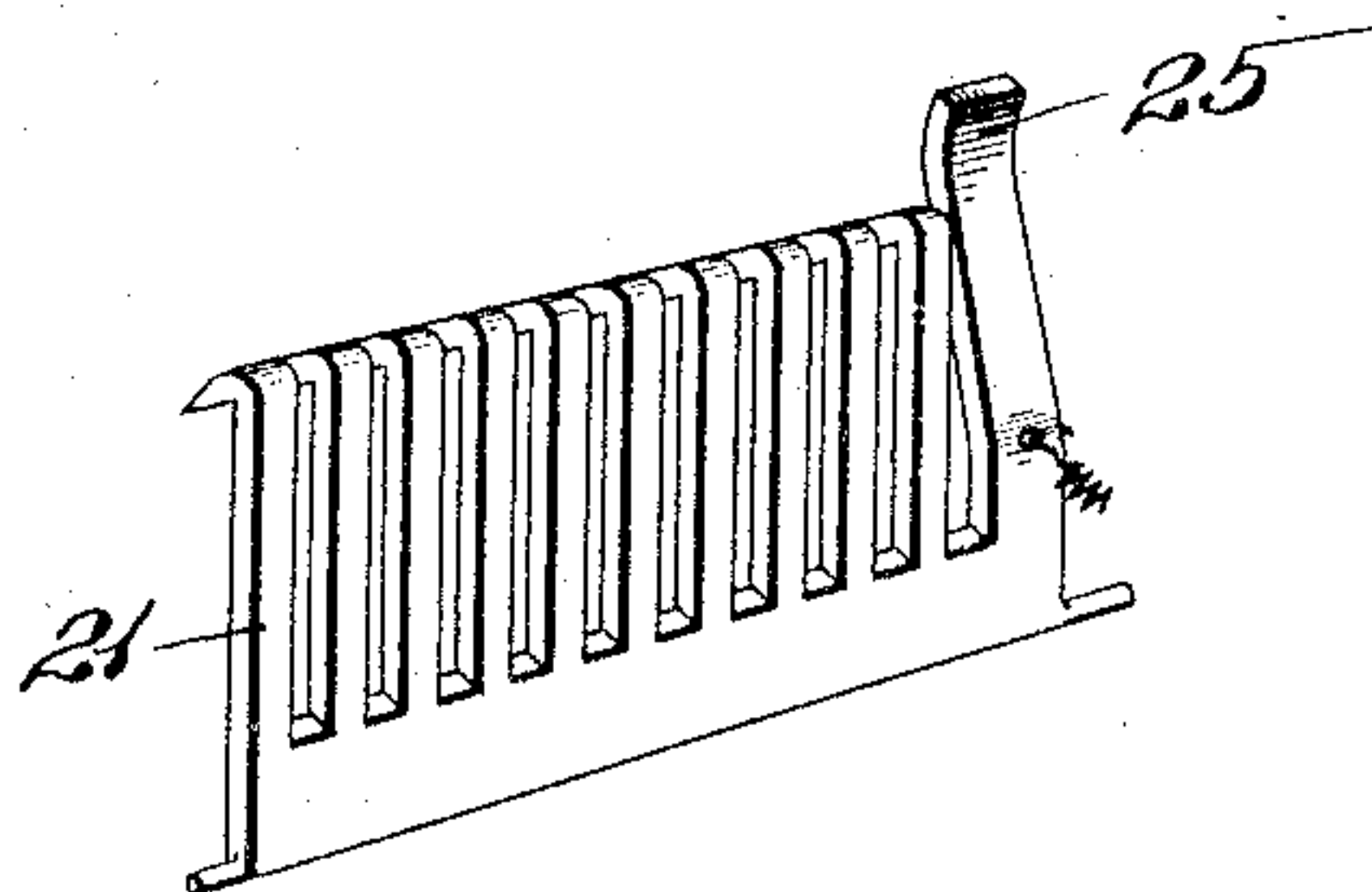


FIG. 2.

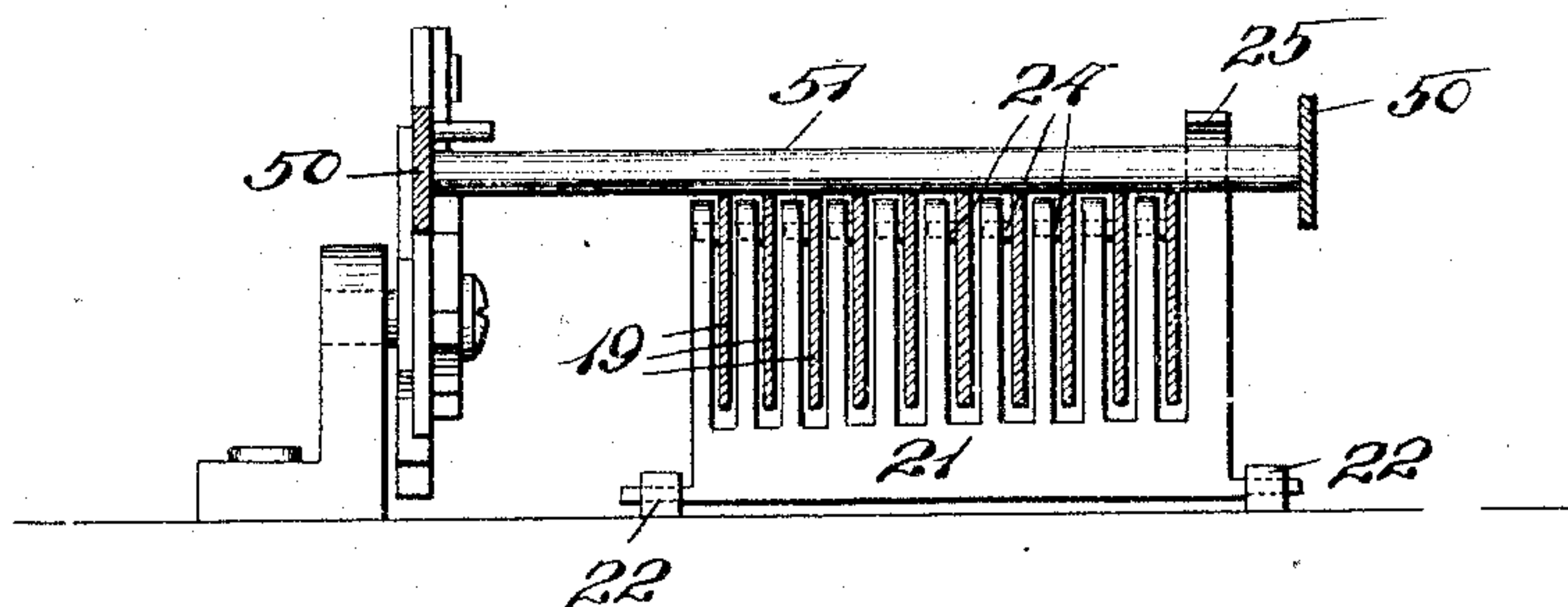
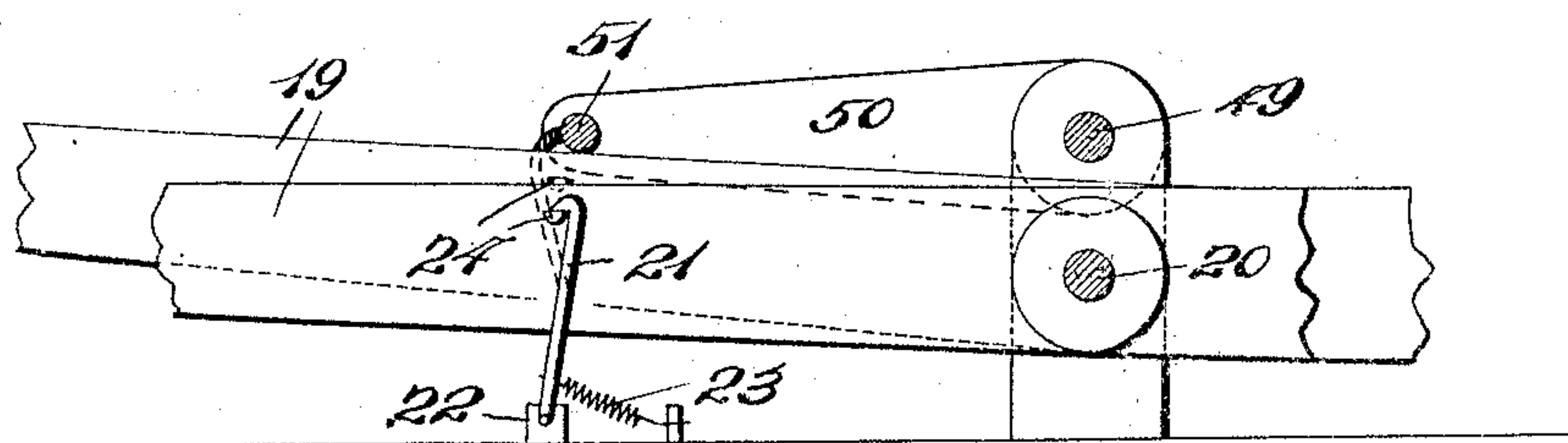


FIG. 3.



WITNESSES

Wm. Janus.

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BY

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UNITED STATES PATENT OFFICE.

WILLIAM W. HOPKINS, OF ST. LOUIS, MISSOURI, ASSIGNOR TO MOON-HOPKINS BILLING MACHINE COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

KEY-BAR-LOCKING MECHANISM FOR CALCULATING-MACHINES, &c.

987,068.

Specification of Letters Patent.

Patented Mar. 14, 1911.

Original application filed April 9, 1909, Serial No. 488,883. Divided and this application filed June 21, 1909, Serial No. 503,395.

To all whom it may concern:

Be it known that I, WILLIAM W. HOPKINS, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Key-Bar-Locking Mechanism for Calculating-Machines, &c., of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a detail view of my improved key bar locking device. Fig. 2 is a vertical sectional view through several key bars showing my device in position. Fig. 3 is a side elevational view showing my improved device in position with relation to the key bars which it controls.

This invention relates to a new and useful improvement in mechanism for locking key bars of calculating machines, cash registers, and the like, the object being to provide a simple device which, when any key of a series is operated, will coöperate with the remaining keys of that series, locking them against movement until the operating key is restored to its home position.

This application is a division of an application filed by me April 9th, 1909, Serial No. 488,883.

In the drawings, 19 are the key bars, or other parts to be controlled, which are pivotally mounted on the shaft 20.

21 is a plate pivotally mounted in bearings 22 and held in normal position by means of a spring 23. Plate 21 is in the form of a comb whose teeth project up between the key bars 19, the upper ends of said teeth being provided with hooked projections for engaging pins 24 on the several key bars. There is a cam projection 25 extending up from one side of the comb plate, which cam projection coöperates with a bar 51 mounted in an arm 50, which arm is pivotally mounted on a shaft 49.

Whenever one of the key bars 19 is elevated, as shown in Fig. 3, the bar 51 will be raised, and by engaging the inclined portion of the part 25, will rock the comb plate

so that the hook projections at the upper end of the teeth of the comb will move over the pins 24 of all the key bars 19 except the one which is raised. The upper surfaces of these hook projections are preferably curved so as not to interfere with the pin 24 of the elevated key bar. The upper faces of the pins 24 are also made preferably flat, so that a slight movement of the comb plate will lock all of the key bars against movement, except, of course, the one which is being operated.

When an operated key bar is released, the spring 23 rocks the comb slightly in its bearings, causing the hooked portions thereof to disengage from the pins 24, whereby all of the key bars 19 are released and any of them can be operated. The next key bar operated, of course, will lock all the others against movement.

Instead of arranging my improved locking device to the rear of the pivotal point of the key bars whereby it is operated by the elevation of the key bar, it is obvious that it could be arranged in front of the pivotal point of the key bars, and be operated by the depression of the key. In this latter construction, the upper ends of the comb teeth would pass under the pins 24 to lock their respective key bars against depression.

I am aware that minor changes in the construction, arrangement and combination of the several parts of my device can be made and substituted for those herein shown and described, without in the least departing from the nature and principle of my invention.

I claim:

1. In a key bar locking mechanism for calculating machines and the like, the combination of normally operable key bars, each of which has a locking projection, a pivoted locking plate in the form of a comb whose teeth are provided with shoulders or hooks to coöperate with said locking projections on the key bars, and a bar lying across the key bars and operated by any one of said key bars for operating said locking plate.

2. In a key bar locking mechanism for calculating machines and the like, the combination of normally operable key bars pro-

vided with locking projections, a movable locking plate provided with means to co-operate with the locking projections on said key bars, a cam face on said locking plate
5 and a bar operated by any one of said key bars for engaging said cam face and operating said locking plate.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 19th day of June 1909.

WILLIAM W. HOPKINS.

Witnesses:

W. P. SMITH,
LENORE CLARK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
