

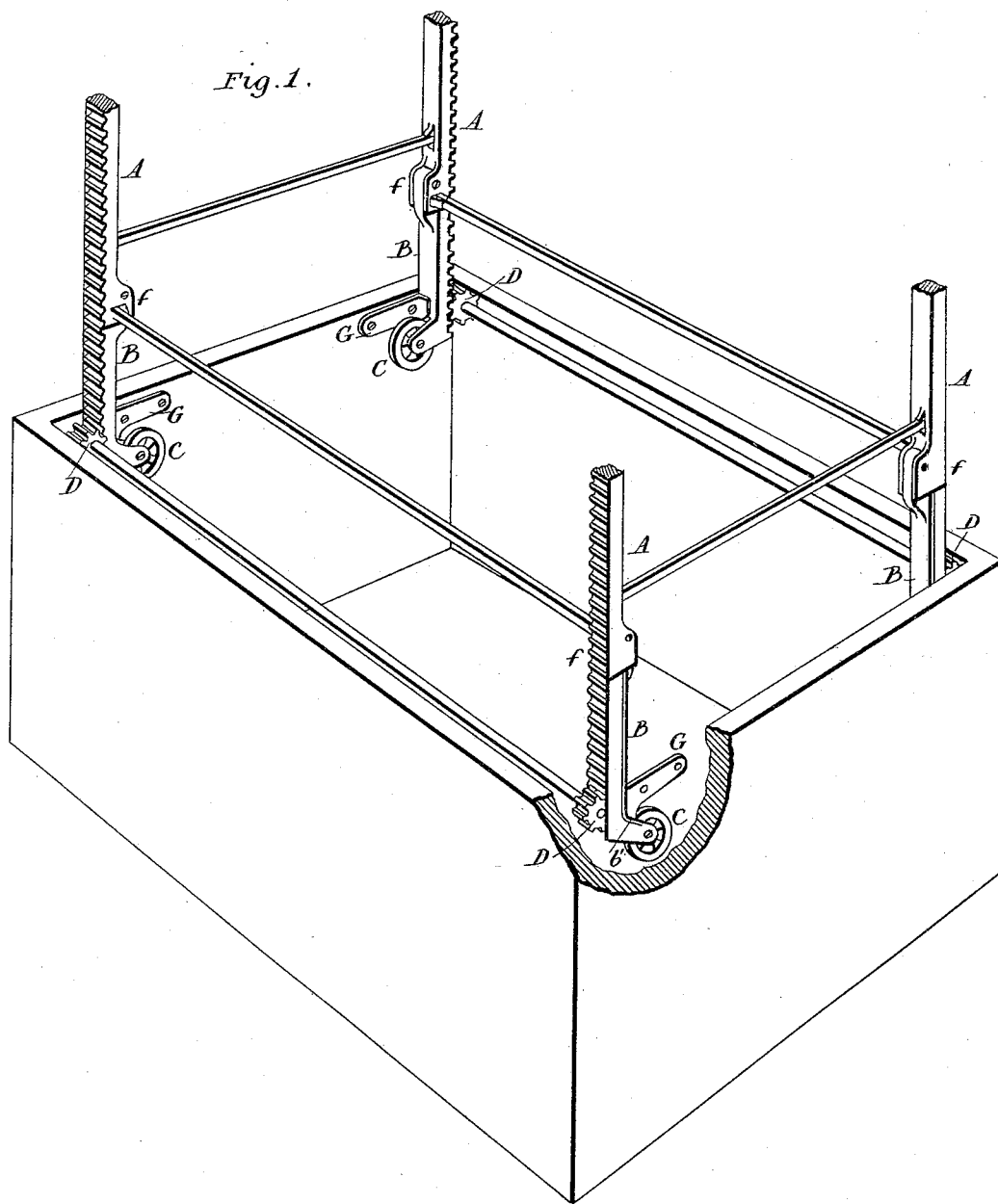
(No Model.)

2 Sheets—Sheet 1.

P. L. KIMBALL.
ELEVATOR.

No. 430,655.

Patented June 24, 1890.



Witnesses:

Wm. T. Norton
D. W. Maylor

Inventor:

Perry L. Kimball
by *John J. Maister & Son*
his Attorneys

(No Model.)

2 Sheets—Sheet 2.

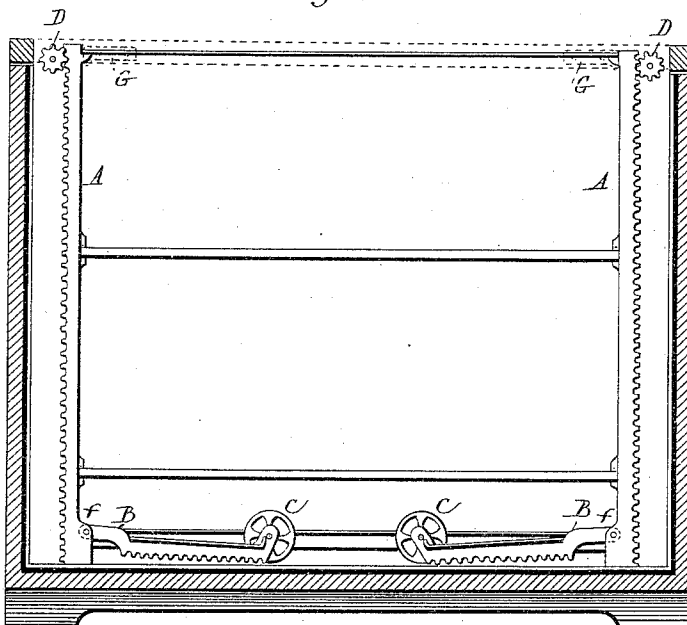
P. L. KIMBALL.

ELEVATOR.

No. 430,655.

Patented June 24, 1890.

Fig. 2.



Witnesses

Will. A. Norton
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Inventor

Perley L. Kimball

By his Attorneys

John F. Halsted & Son

UNITED STATES PATENT OFFICE.

PERLEY L. KIMBALL, OF BELLOWS FALLS, VERMONT, ASSIGNOR TO THE
VERMONT FARM MACHINE COMPANY, OF SAME PLACE.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 430,655, dated June 24, 1890.

Application filed August 28, 1889. Serial No. 322,208. (No model.)

To all whom it may concern:

Be it known that I, PERLEY L. KIMBALL, of Bellows Falls, in the county of Windham and State of Vermont, have invented certain
5 new and useful Improvements in Elevators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the
10 same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Elevators generally, including those adapted
15 ed for raising the milk-cans out of the cooling-boxes, known as "Cooley creamers," after the cream has been raised, have heretofore been made with toothed racks, whose length or height is limited to the depth of the interior of the creamer-box. By reason of this
20 limited length of the racks the cans cannot be raised, if so desired for any purpose, to an elevation such that the bottom of the cans can be brought up to or materially above the
25 top line of the box. While existing elevators, including such as are used with the Cooley creamers, are useful and efficient for all they assume to do, yet in some cases it is desirable to raise the elevator or the cans still
30 higher; and for this purpose I have invented the improvements presently hereinafter described, and whereby, without changing the height or depth of the elevator-shaft or of the creamer or box, the racks while capable
35 when lowered, as heretofore, of passing entirely within the shaft or box shall when raised out of the same reach to a height above the shaft or box much in excess of the depth of the same, thus bringing the bottoms of the
40 cans considerably above the top of the creamer-box—say about 6 (six) inches, more or less.

This invention consists in a special construction and action of devices, all which will clearly appear from the following description.
45

Figure 1 is a perspective showing my improvements as applied to the box or water-tank of a creamer, the racks being raised; and Fig. 2, an elevation with a side of the
50 box removed and with the racks in their lowest position.

The main racks A have, as shown, a height substantially equal to the depth of the inside of the shaft, creamer, or box, and are jointed to a supplemental extension-rack B, arranged
55 to turn inward, and, preferably, these extensions are provided at their extremities with a friction-roller C.

D D are the usual gears or pinions within the creamer, and which when operated by
60 any suitable device, as usual, outside the creamer serve to raise and lower at will the racks and the platform which supports the cans.

When the racks A are in their lowest positions, as shown in Fig. 2, the extensions B extend inward, thus adding nothing to the vertical lengths of racks A and resting upon the bottom of the creamer; but when the
65 racks are elevated to raise the cans resting on the platform these extension-racks B, by their own gravity, gradually assume a vertical position, thus practically adding just so much length to the racks A, and permitting
70 the platform and the cans to be raised just so much higher than otherwise would be possible, and without the need and the expense of having a very deep tank simply to accommodate a long rigid rack.

When my improved racks are in their raised positions, with their joints *f* above the
80 gears D, their parts or sections A and B are then in one and the same vertical line, and both become practically as if they were a single rigid rack by the agency of a fixed stop
85 or brace G, which not only serves to straighten out the extension B, but to hold it rigidly in its desired vertical position. When the entire rack is being raised to its highest position, the outer end of stops G G comes severally into
90 close or near contact with the inner edge of its then adjacent rack B, and when about at its highest position the upward pull causes the terminal inwardly-projecting or bent part *b'* of
95 rack B to bear upward against the hook part of the stop G, and thus acting like a lever to positively force the lower end of rack B outwardly, and in conjunction with the pinion D to insure
100 its alignment with the rack A. The pinions bear on the rack at one side and the stops bear on it at its opposite side. The inner edge of part B may have a feather or other

edge to run in a groove in the outer end of the stop G, and it should extend inward a little farther than the inner edge of rack A, so that the latter in rising and falling need not bear
5 against it.

In Fig. 1 is illustrated the creamer with its elevator in perspective view, showing the arrangement of the four-jointed racks disposed one in each corner, and showing the action
10 of the stop-braces G when the elevator has reached its highest point. The elevator is held in its different positions by locking the mechanism which raises and lowers it, and not necessary to be shown.

15 The rollers C are not positively necessary and may in some cases be omitted, if desired.

It will now be seen that the adjustable extension of the racks allows a much greater elevation of the cans in a given size of creamer
20 and affords incidentally a variety of other advantages incident to such elevation readily appreciable by those versed in the art of cream-raising with the Cooley or similar creamers.

My invention, it will be evident, is applicable for other purposes as well as for creamers or milk-setting apparatus—as, for instance,
25 wherever it may be convenient or desirable to raise an elevator-floor above the level of the top of a tank or above the floor of a house, or store, or apartment.
30

I claim—

1. An elevator for the interior of milk-cooling and cream-raising apparatus, consisting of a vertically-movable frame whose uprights
35 are rigid racks having a length substantially equal to the interior depth of the tank or case and having short supplemental racks hinged

thereto at their lower ends to turn inward, combined with gears to operate the racks and with suitable stops serving to straighten the
40 jointed racks and hold them straight when the elevator is run up.

2. In an elevator, and in combination with a case, a frame for raising the cans or articles to be lifted, having a height substantially
45 equal to the height of the case and having racks on its sides, supplementary racks connected to the lower ends of the racks on the main frame and jointed thereto so as to turn inward and rest on the bottom of the case and
50 bent inward at their ends, suitably-mounted pinions meshing with the racks, and suitable stops mounted on the sides of the case and serving to hold the supplementary racks in mesh with the pinions, all substantially as set
55 forth.

3. In an elevator, and in combination with a case, a frame for raising the cans or articles to be lifted, having a height substantially
60 equal to the case and having racks on its sides, supplementary racks connected to the lower ends of the racks on the main frame and jointed thereto so as to turn inward and rest on the bottom of the case, and having
65 their ends bent inward and carrying friction-rollers, suitably-mounted pinions meshing with the racks, and suitable stops mounted on the sides of the case and serving to hold the supplementary racks in mesh with the pinions, all substantially as set forth.

PERLEY L. KIMBALL.

Witnesses:

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FREDERIC H. DROWNE.