No. 675,546. Patented June 4, 1901.

K. KIONKA.

ELEVATOR.

(Application filed July 18, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

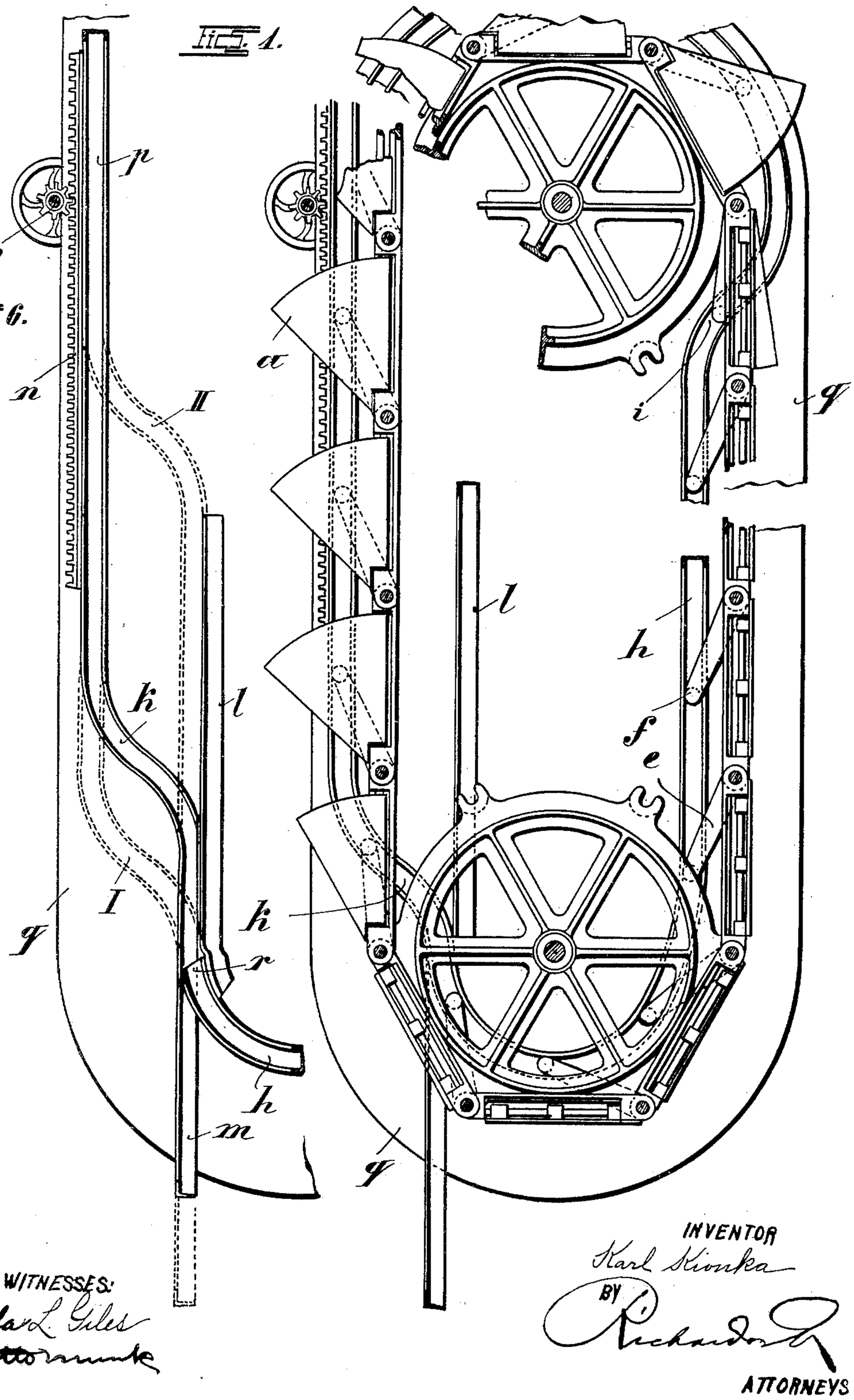

Fig. 6.

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Fig. 3.

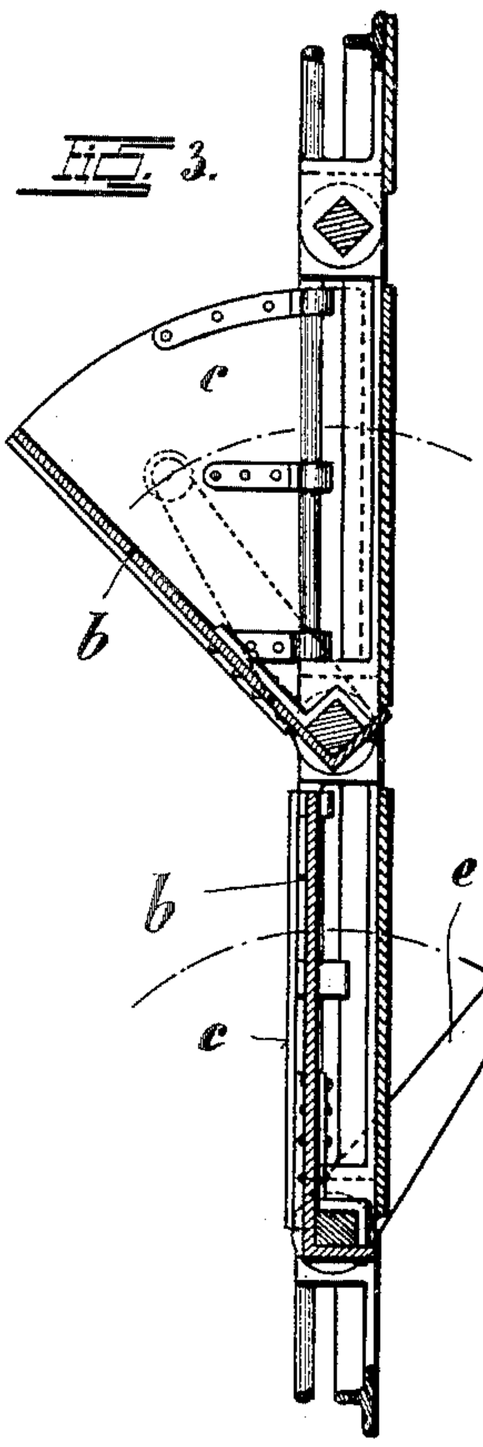


Fig. 2.

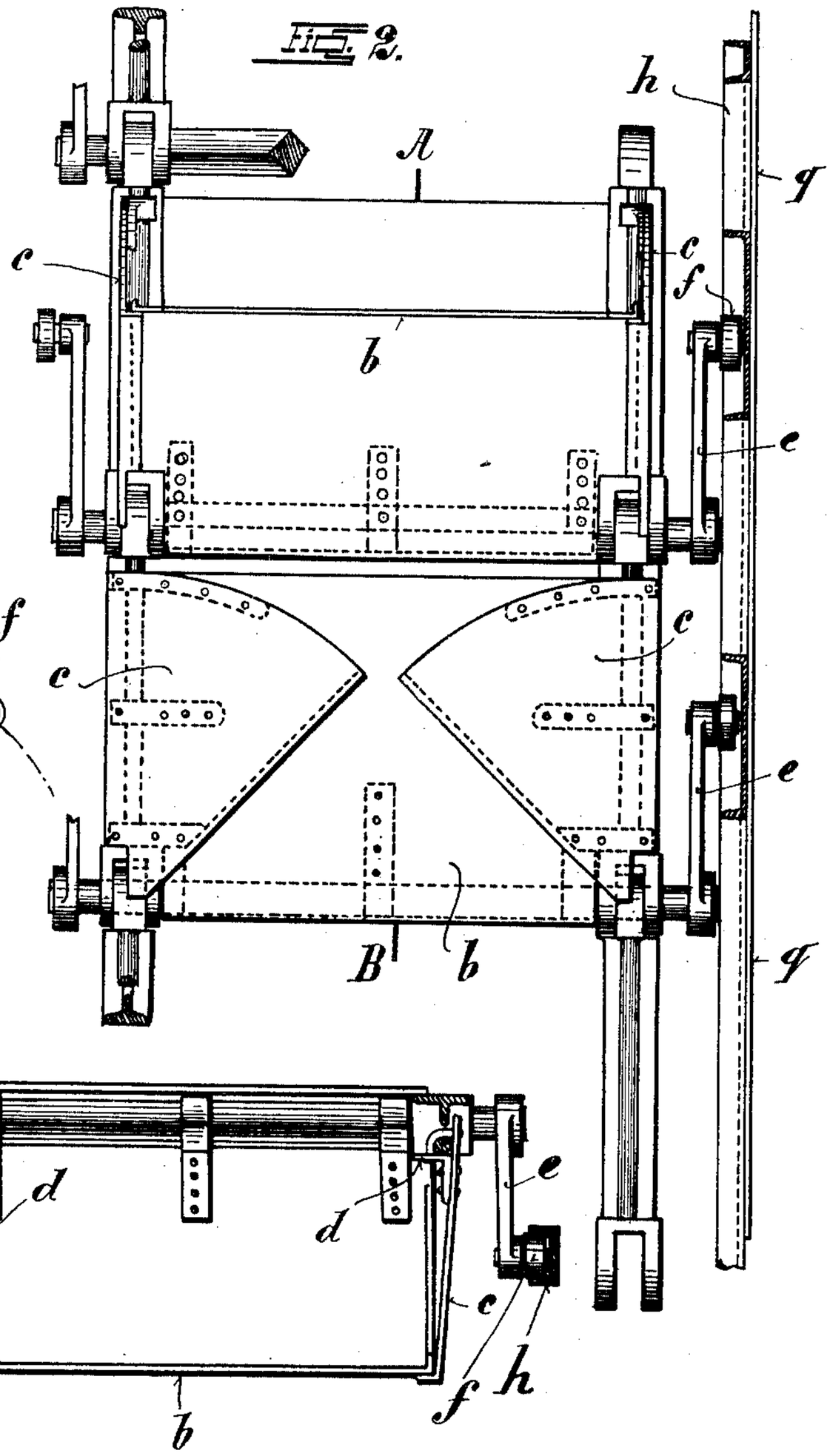
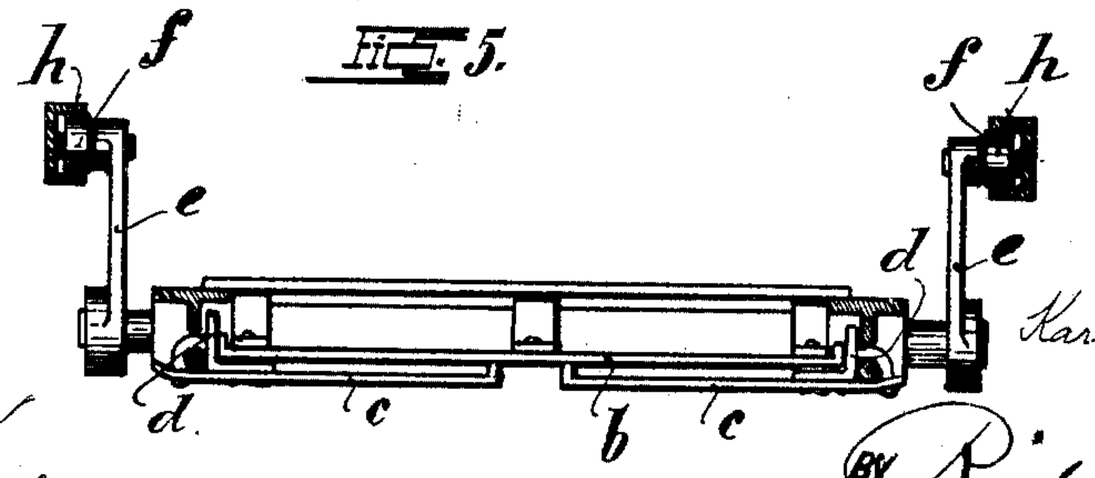


Fig. 4.

Fig. 5.



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KARL KIONKA, OF BRESLAU, GERMANY.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 675,546, dated June 4, 1901.

Application filed July 18, 1899. Serial No. 724,277. (No model.)

To all whom it may concern:

Be it known that I, KARL KIONKA, bookkeeper, of Ohlauer Stadtgraben 21, Breslau, in the Province of Silesia, Germany, have invented some new and useful Improvements in Elevators, of which the following is a full and clear description.

This invention relates to improvements in endless conveyer elevators; and the object of the invention is to render the resistance in the passing of the buckets through the material as slight as possible and to allow scooping at any height of the heap of material; and to this end I provide collapsible buckets which fold up as soon as they have delivered or poured out the conveyed material and which reopen only at the place from where the conveying shall take place.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a side view, partially broken, with the side plate removed and the axles for the pivotal arms *e* in section. Fig. 2 shows, on an enlarged scale, a bucket in open condition and a bucket in closed condition, both in front view. Fig. 3 shows a section along A B of Fig. 2. Fig. 4 represents an opened bucket in plan. Fig. 5 shows a closed bucket in plan. Fig. 6 shows the adjustable device for opening the buckets.

The bucket *a* has a folding front *b* and folding or pivotal side walls *c*. The side walls are provided with lugs *d* in such a manner that when the front *b* is raised it strikes against the lugs *d* and causes the side walls *c* to swing back. Consequently the front *b* and the side walls *c* of folded-up buckets will assume the position represented in Figs. 2, 3, and 5.

A movement of the front *b*, which, as above mentioned, actuated the two side walls, is brought about in the following manner: The buckets move between two lateral plates *q*, only the right-side plate being shown in Fig. 2 of the accompanying drawings. On the plate *q* is a guide or cam way *h*. This is preferably made of V-iron. At *i*, Fig. 1, the right leg of the way *h* is drawn in, while the left leg of the way is guided outward at *k* in its lower part. In this guide slides a lever *e* with a roller *f*. This lever *e* is keyed on the pivot *g* of the bucket-front, Figs. 2 to 5. If in the movement of the elevator a pin *f* strikes the place *i*, Fig. 1, of the way *h*, the front *b* revolves and folding up of the whole elevator-bucket takes place. At *k* the pin *f* is again guided outward by the slot and the elevator-bucket must open automatically. With this construction it is not necessary, as has been the case hitherto, that the elevator take the material directly from the ground, it being sufficient if the buckets fill with material at a distance of some centimeters under the surface of the heap. As the height of the heap varies the left switching or adjustment part *k* is arranged adjustably as to the height. In Fig. 6 of the accompanying drawings this adjustable arrangement of part *k* is illustrated. The guide-slot *h*, which is fixed on the lateral plates *q*, is interrupted at *r*. The adjustable part *p*, with the switch part *k*, is also made of V-iron, the cross-piece being removed, however, at the lower part *m* at one side, so that the extremity *r* of the guide part *h* presses on the rear cross-piece. By suitable means—for instance, by racks *n* and toothed wheel *o*—a displacement of the switch part *k* can take place along the extremity *r* of the guide *h*, and Fig. 6 shows in dotted lines the lowest position I and the highest position II, also in dotted lines.

In displacing the guide *q* on the guide *h* the guide would be open at the right side, as the bridge or cross-piece of the lower part *m* has been removed. A substitute for this missing right-side bridge or cross-piece is provided by the angle-iron *l*, which is keyed on the guide *h*, so that the guide-pinions *f* can both find support in these adjustable parts at any time. The upper part of the guide *p* adjusts rectilinearly in telescope fashion in the guide *h*.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. An elevator-bucket comprising the fold-

ing front, the folding sides and the back, means for operating the front and means whereby the movement of the front operates the sides, substantially as described.

2. In combination, the back of the bucket, the folding front, means for operating the same, the folding sides and the lugs *d* arranged to be struck by the front to make the sides fold therewith, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

KARL KIONKA.

Witnesses:

WILHELM WEIDNER,

HERMAN BARTSCH.