

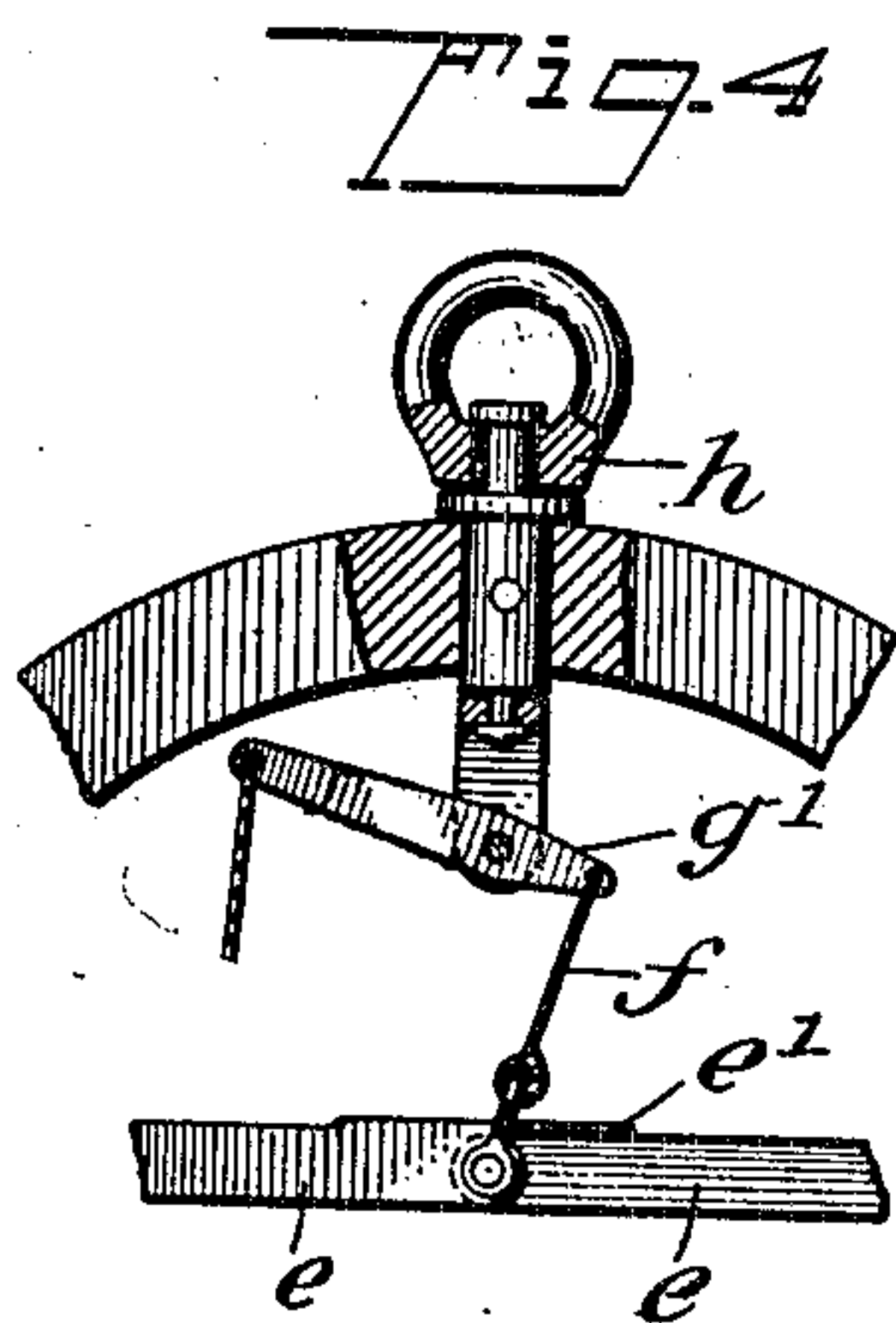
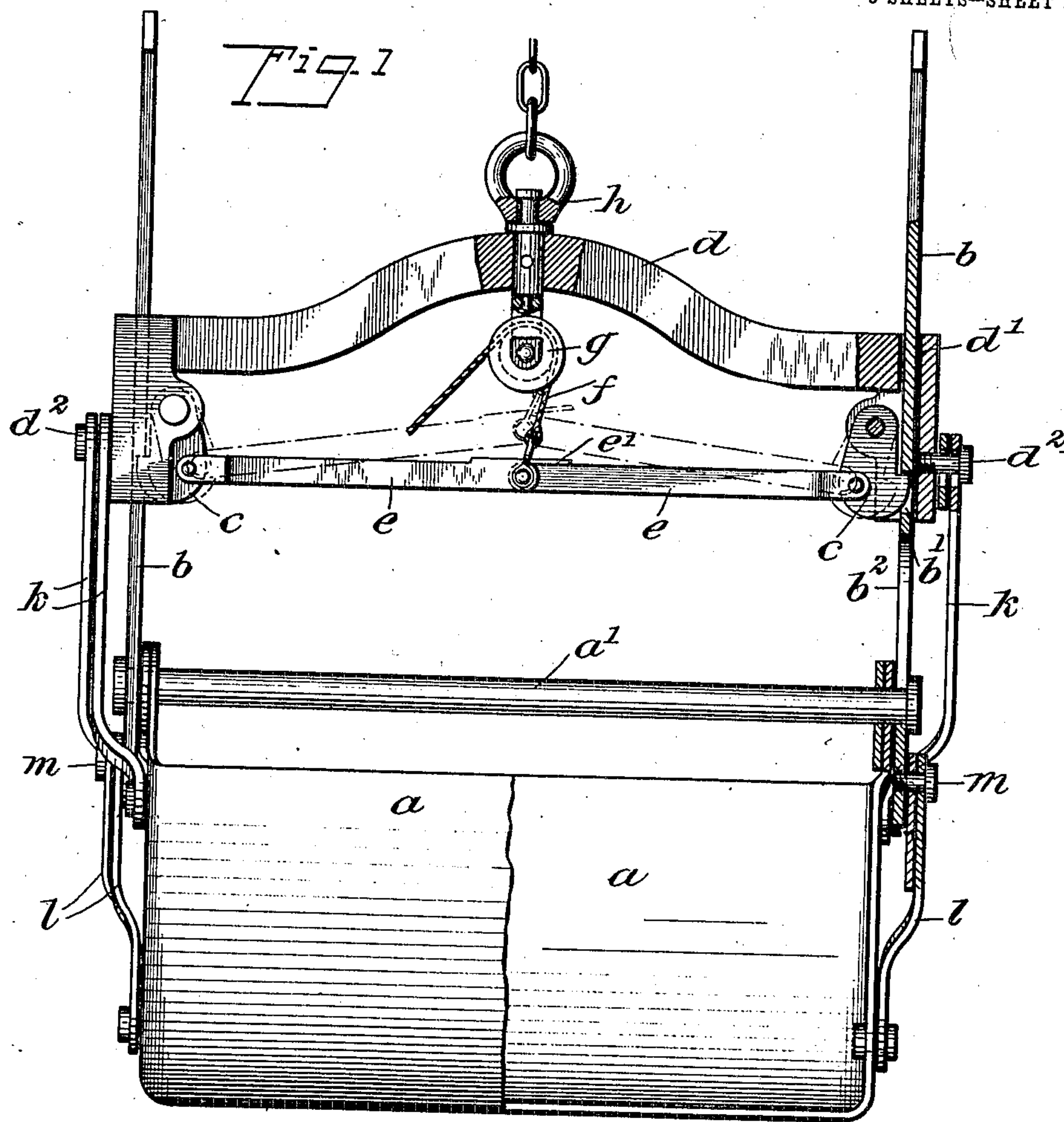
No. 837,079.

PATENTED NOV. 27, 1906.

V. E. LANE.
CLAM SHELL BUCKET.

APPLICATION FILED MAY 18, 1904. RENEWED OCT. 8, 1908.

3 SHEETS—SHEET 1.



WITNESSES:

J. A. Propoy
A. E. Fay.

INVENTOR
Victor E. Lane
BY *Mumford*
ATTORNEYS

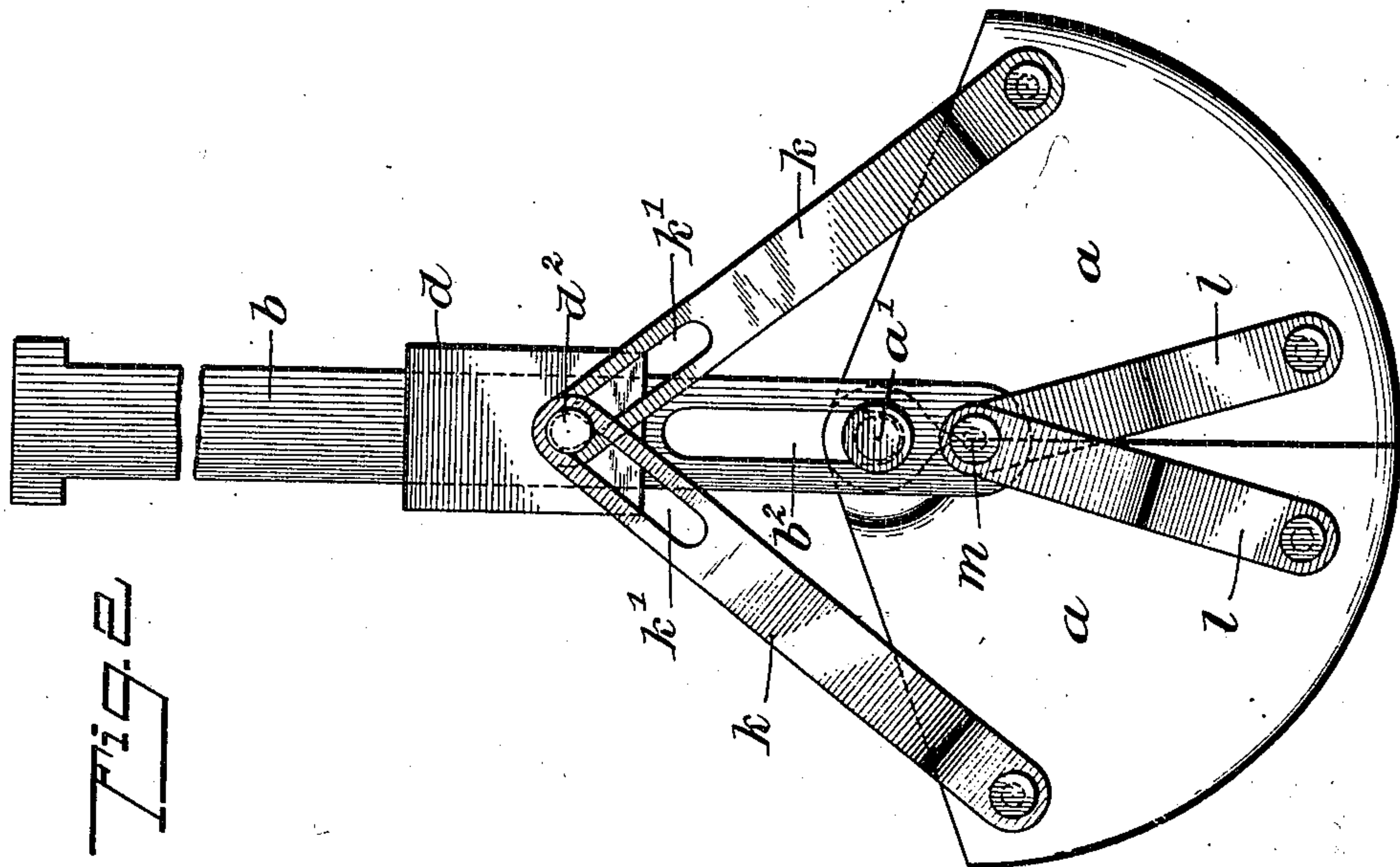
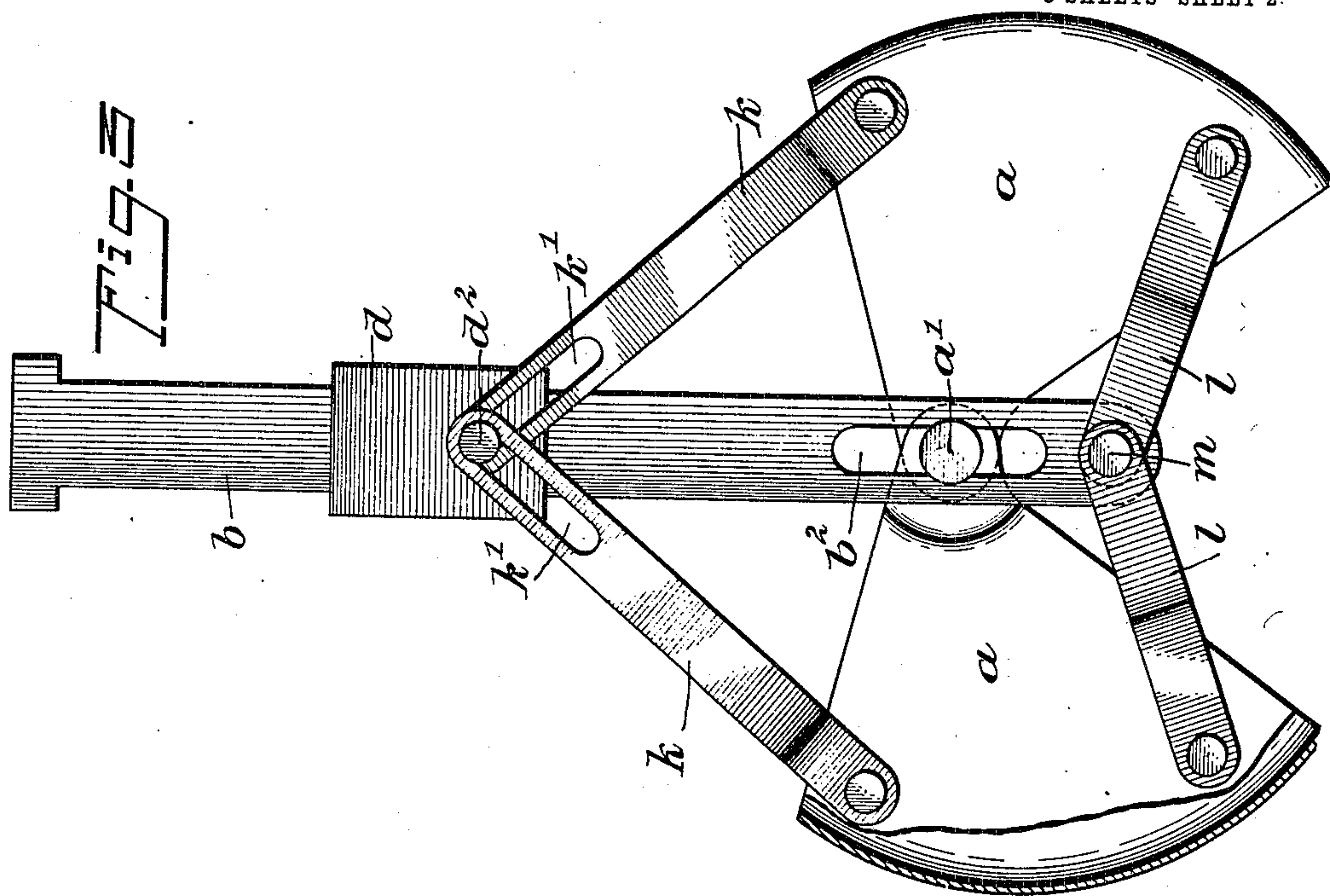
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3 SHEETS—SHEET 2.



WITNESSES:

J. A. Brophy
A. E. Ray

INVENTOR

Victor E. Lane

BY

Mumuk

ATTORNEYS

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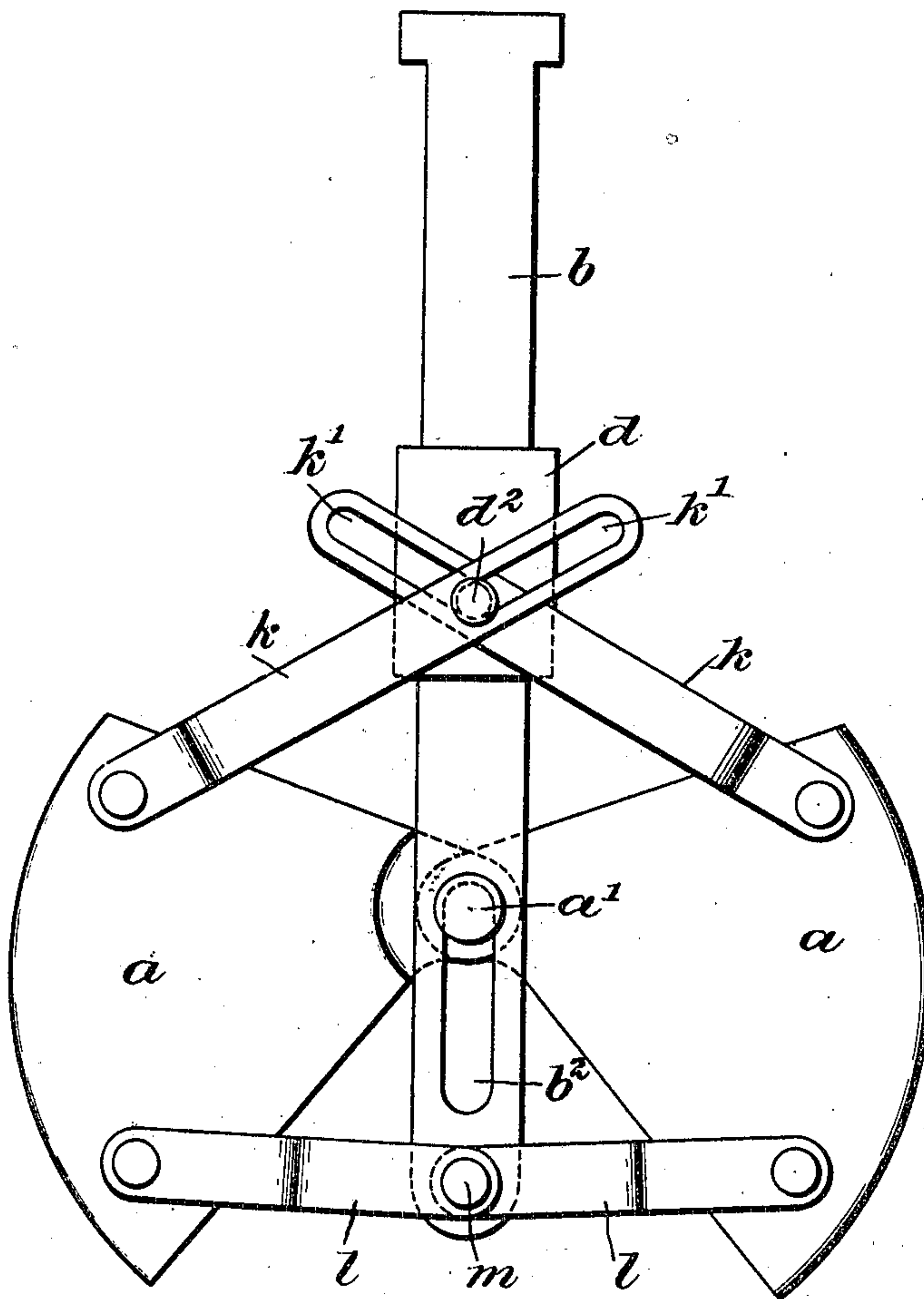
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APPLICATION FILED MAY 18, 1904. RENEWED OCT. 6, 1906.

3 SHEETS—SHEET 3.

Fig. 5



WITNESSES:

J. A. Propoy
A. H. Fay

INVENTOR

Victor E. Lane

BY

Munn
ATTORNEYS

UNITED STATES PATENT OFFICE.

VICTOR EDW'D LANE, OF ALLEGHENY, PENNSYLVANIA.

CLAM-SHELL BUCKET.

No. 837,079.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed May 18, 1904. Renewed October 6, 1906. Serial No. 337,821.

To all whom it may concern:

Be it known that I, VICTOR EDW'D LANE, a citizen of the United States, and a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Clam-Shell Bucket, of which the following is a full, clear, and exact description.

My invention relates to a bucket for dredges and for similar excavating and conveying machines, said bucket being of the clam-shell type.

The main objects of the invention are to provide a bucket of the character mentioned which will be self-filling and which will be capable of being emptied by a very simple operation.

A further object is to provide automatic closing mechanism for a bucket of this character, thus doing away with the necessity of the auxiliary drum or hoist commonly used.

Further objects of the invention will appear in the course of the subjoined description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of a preferred form of my invention, showing parts in section. Fig. 2 is an end elevation thereof with the bucket in closed position. Fig. 3 is a view similar to Fig. 2, with the bucket in partly open position and a portion thereof appearing in section. Fig. 4 is a fragmentary sectional view of a modification, and Fig. 5 is an end elevation showing the bucket in extreme open position.

In Figs. 1, 2, and 3, which illustrate my invention by a practical embodiment thereof, *a a* represent the two scoops or shells of the bucket. These shells are directly attached to a pair of reciprocating bars *b*, which by means of pivoted catches *c* are movably supported by a bail or supporting element *d*. The bars *b* are provided with perforations *b'*, in which these catches are designed to engage, and the bail is provided with slots *d'*, through which the bars *b* are designed to pass. The catches are operated by means of two links *e*, one of which is pivoted to each catch and which are pivoted together at their inner ends. When the catches are in operative po-

sition with respect to the bars *b*, these links are intended to assume positions shown in full lines in Fig. 1, in other words, to form a straight line between their points of attachment to the catches, and they are held in this position by means of a stop *e'*. When it is desired to release the scoops from the supporting members, the rope or equivalent device *f*, passing over the swiveled pulley *g*, is pulled so as to bring the links to the position shown in dotted lines in Fig. 1. This releases the catches *c* from the openings *b'* and allows the bars *b* to drop.

The bars *b* are provided with slots *b²*, through which pass pivots *a'*, by means of which the two scoops *a a* are pivotally attached together. Upon the ends of the bail *d* are outwardly-projecting studs *d²*, with which engage a pair of links *k* by means of longitudinal slots *k'* therein. Each of these links is pivoted to one of the scoops *a*. An additional pair of links *l l* are pivoted to the two scoops at their outer ends and to each other at their inner ends. They are also pivoted to the lower ends of the bars *b* by means of studs *m*.

When the bars *b* are permitted to drop by means of the operation described above, the bucket being supposed to be loaded and closed, as shown in Fig. 2, the first operation caused by the descent of the bucket and bars *b* will be to simply lower these parts without interfering with their relative positions; but means is provided for causing a further downward motion of the scoops to swing them away from each other on their pivots. When the travel of these parts has been sufficient to cause the upper ends of the slots *k'* to come into contact with the studs *d²*, the links *k k* will bear all of the weight of the bucket. They will not be able to travel downwardly any farther, and consequently the falling of the bucket will cause the two halves thereof to be swung outwardly away from each other on the pivot-rod *a'*, and the action of the links *l l* will assist this motion, as the lower ends of the bars *b* will necessarily be lower with respect to the pivot-rod *a'* than when the parts were in their initial position. The whole device may now be lowered with the parts in the position shown in Fig. 3, and the scoops in that position will strike the material to be conveyed. They will of

course stop at this point; but the bail, which is of considerable weight, will tend to drop still farther down, the result of which will be to cause the studs d^2 to pass downwardly in the slots k' , strike the lower ends thereof, and tend to force the links k downwardly so as to assist in closing the bucket. The bars b will at the same time move upwardly in respect to the scoops, the outer ends of the links l moving inwardly with the lower points of the scoops. When the bail d reaches a sufficiently-low point, the catches c will automatically engage with the perforations b' , so that the whole device may now be lifted by means of the swiveled eye h . Upon lifting the bail the strain will come on the bar b , and this will cause the links l to complete the closing of the bucket and hold it in closed position.

It will be obvious that my invention is capable of embodiment in many forms other than that illustrated in these figures. One modification is indicated in Fig. 4, in which the pulley g is replaced by a swiveled lever g' , the other parts being the same as those shown in the other figures.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A clam-shell bucket comprising two scoops, a supporting member therefor, means for releasing the scoops from said supporting member, comprising a catch and a link for operating the catch, and means for preventing the scoops from becoming entirely disengaged from the supporting member.

2. A clam-shell bucket comprising two scoops having pivotal connection to each other, a supporting member therefor, means for releasing the scoops from said supporting member, comprising a pivoted catch and a pivoted link for operating the catch, and means for preventing the scoops from becoming entirely disengaged from the supporting member.

3. A clam-shell bucket, comprising two scoops, a supporting member therefor, means for releasing the scoops from said supporting member and allowing them to drop a short distance, and means for causing the desired motion of the scoops to move them away from each other; said last-mentioned means comprising a pair of links connected to said scoops and a supporting member, and a second pair of links connected to said scoops and to each other.

4. A clam-shell bucket, comprising two scoops connected with each other, a bail movable with respect to said scoops, and means for causing the movement of said bail toward the scoops to move the latter toward each other; said means comprising a stud on the bail, a pair of links connected with the

scoops and with said stud on the bail, said links having slots in which said stud is free to move.

5. A clam-shell bucket comprising two scoops having pivotal connection to each other, a supporting member therefor, means for releasing the scoops from said supporting member and allowing them to drop a short distance, and means for causing the downward motion of the scoops to swing them away from each other on their pivots; said last-mentioned means comprising a pair of links pivotally attached to said scoops and to the supporting member, and a second pair of links pivotally attached to said scoops and to each other.

6. A clam-shell bucket comprising two scoops having pivotal connection to each other, a bail movable with respect to said scoops, and means for causing movement of said bail toward the scoops to swing the latter together on their pivots, said means comprising a stud on said bail, and a pair of links pivotally attached to said scoops and to said stud on the bail, said links having slots in which said stud is free to move.

7. A clam-shell bucket comprising two scoops having pivotal connections with each other, two bars each having a slot through which said pivotal connections pass, and means for movably supporting said bars.

8. A clam-shell bucket comprising two scoops, a supporting-bail provided with slots, bars slidable in said slots, means on said bars for supporting the scoops, and means for engaging with the bars and holding them in fixed relation to the bail.

9. A clam-shell bucket comprising two pivoted scoops, a supporting-bail provided with vertical slots, bars slidable in said slots, means on said bars for supporting the scoops, and means on the bail for engaging with the bars and holding them in fixed relation to the bail.

10. A clam-shell bucket comprising pivotal scoops, a supporting-bail provided with vertical slots, bars slidable in said slots, connections from said bars to said scoops, and catches on the bail for engaging with the bars and holding them in fixed relation to the bail.

11. A dredging-bucket comprising pivoted scoops, a supporting-bail, bars having sliding connection with said bail, connections between said bars and said scoops, catches on said bail for engaging the said bars, and means for releasing said catches, comprising two links pivoted together and each pivoted to one of said catches, and means for turning said links on their pivotal connections with the catches.

12. A clam-shell bucket comprising two scoops, a supporting-bail provided with two vertical slots, a bar slidable in each of said

slots, a slot in the lower end of each of said
bars, a pivot-rod passing through said slots
and joining the scoops together, a pair of links
pivoted to each of said bars and to the scoops,
5 and a second pair of links pivoted to the bail
and to the scoops.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

VICTOR EDW'D LANE.

Witnesses:

AUGUST GOERINGER,
ANDREW D. ANDERSON.