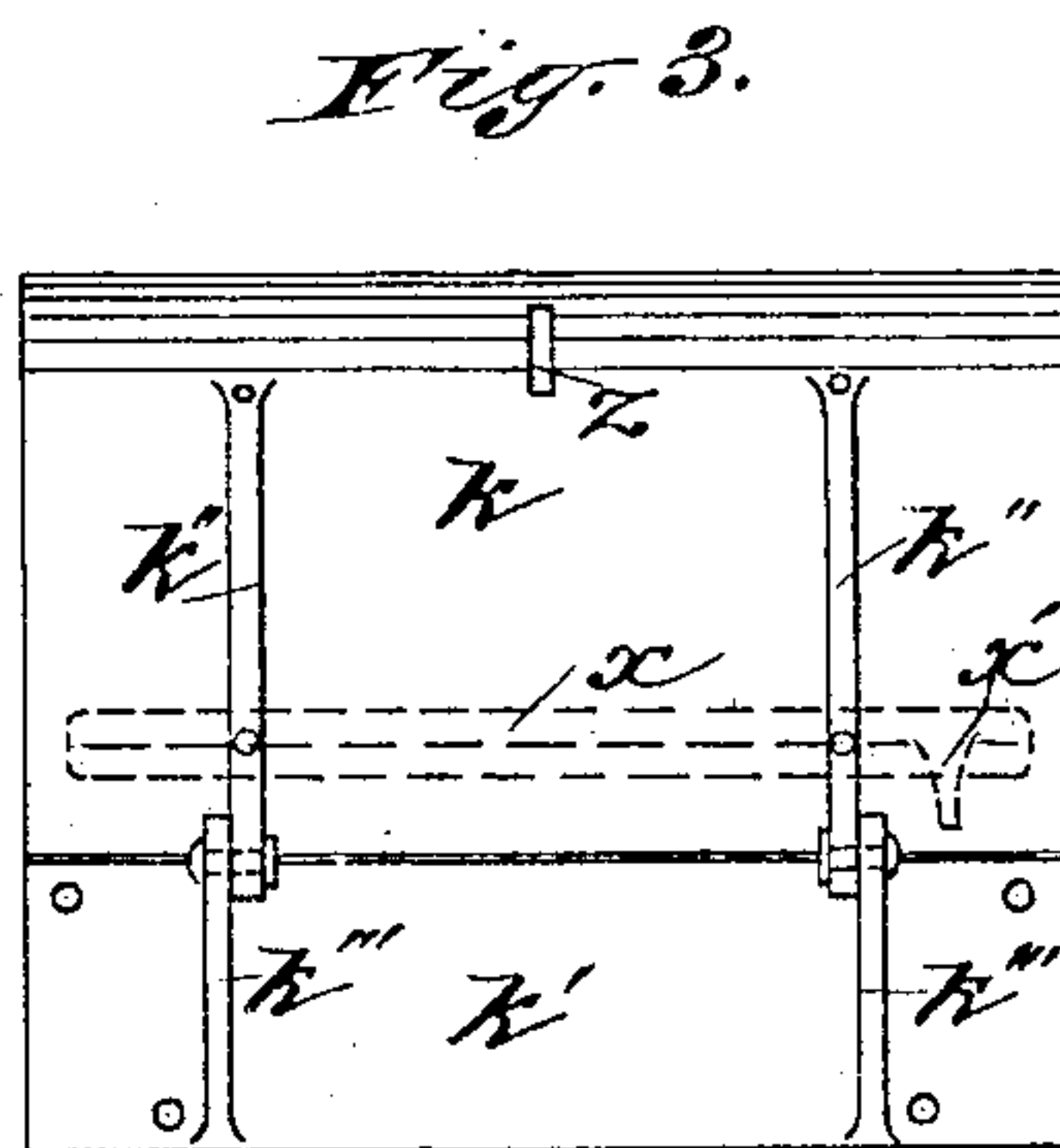
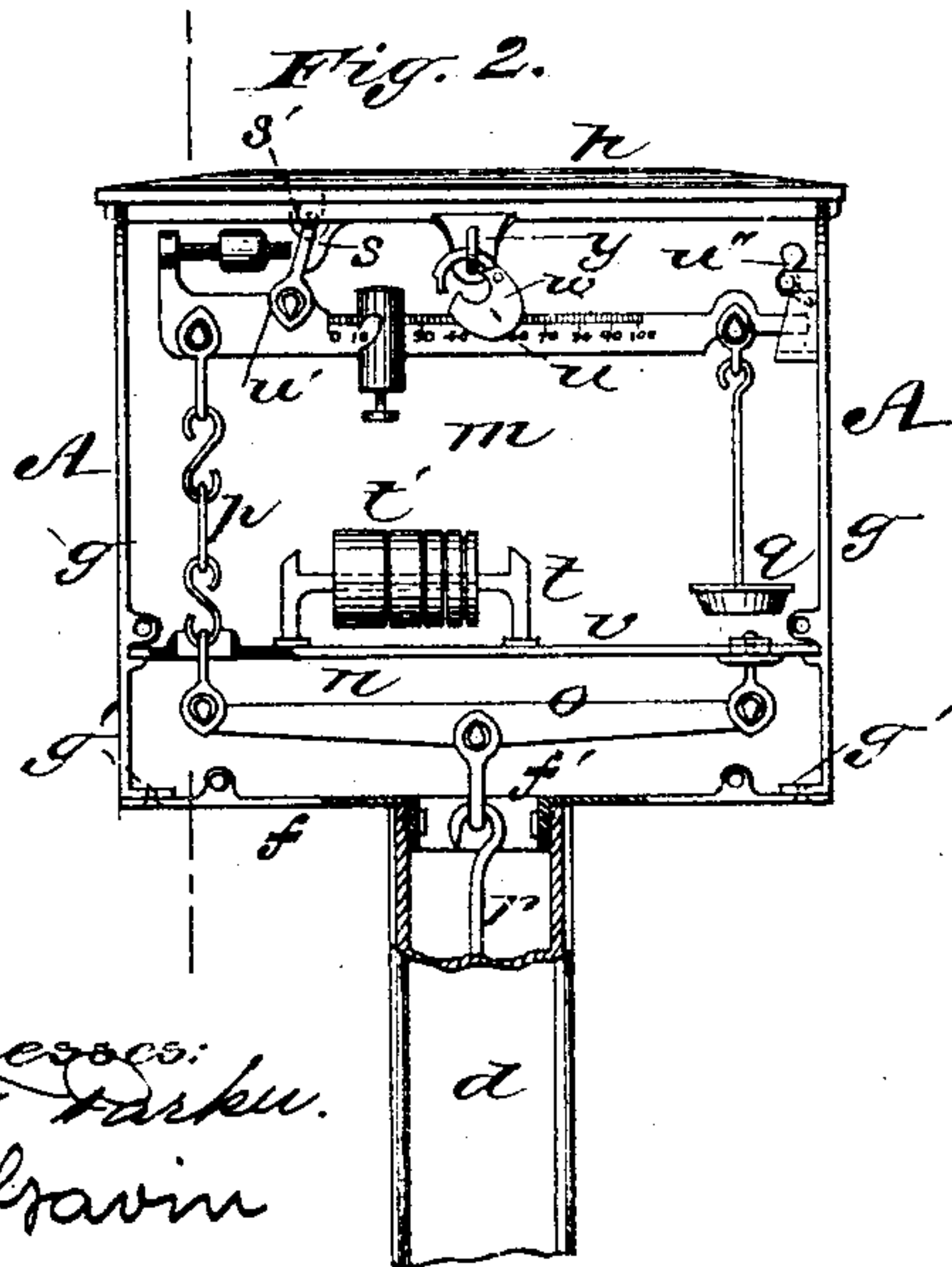
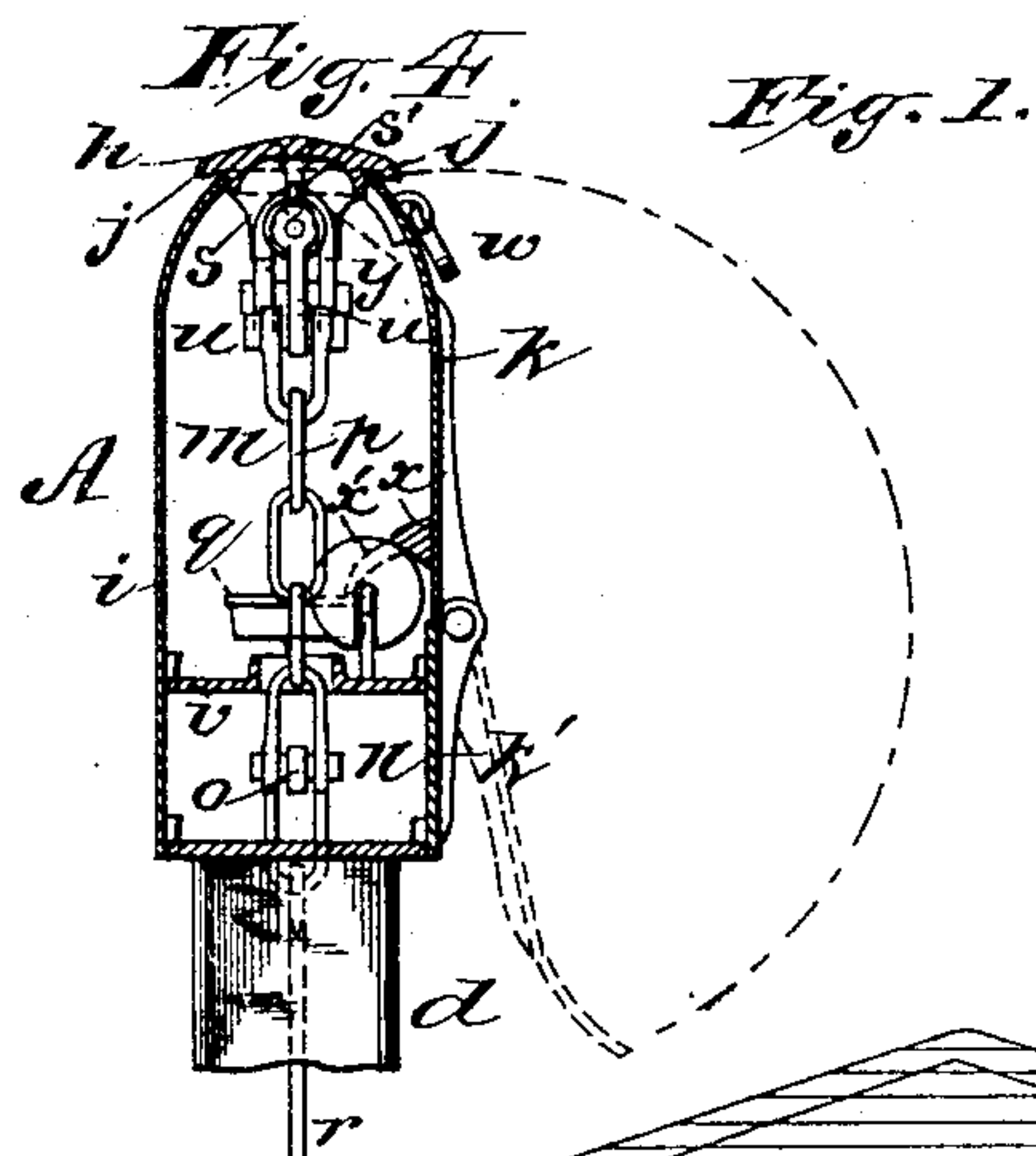
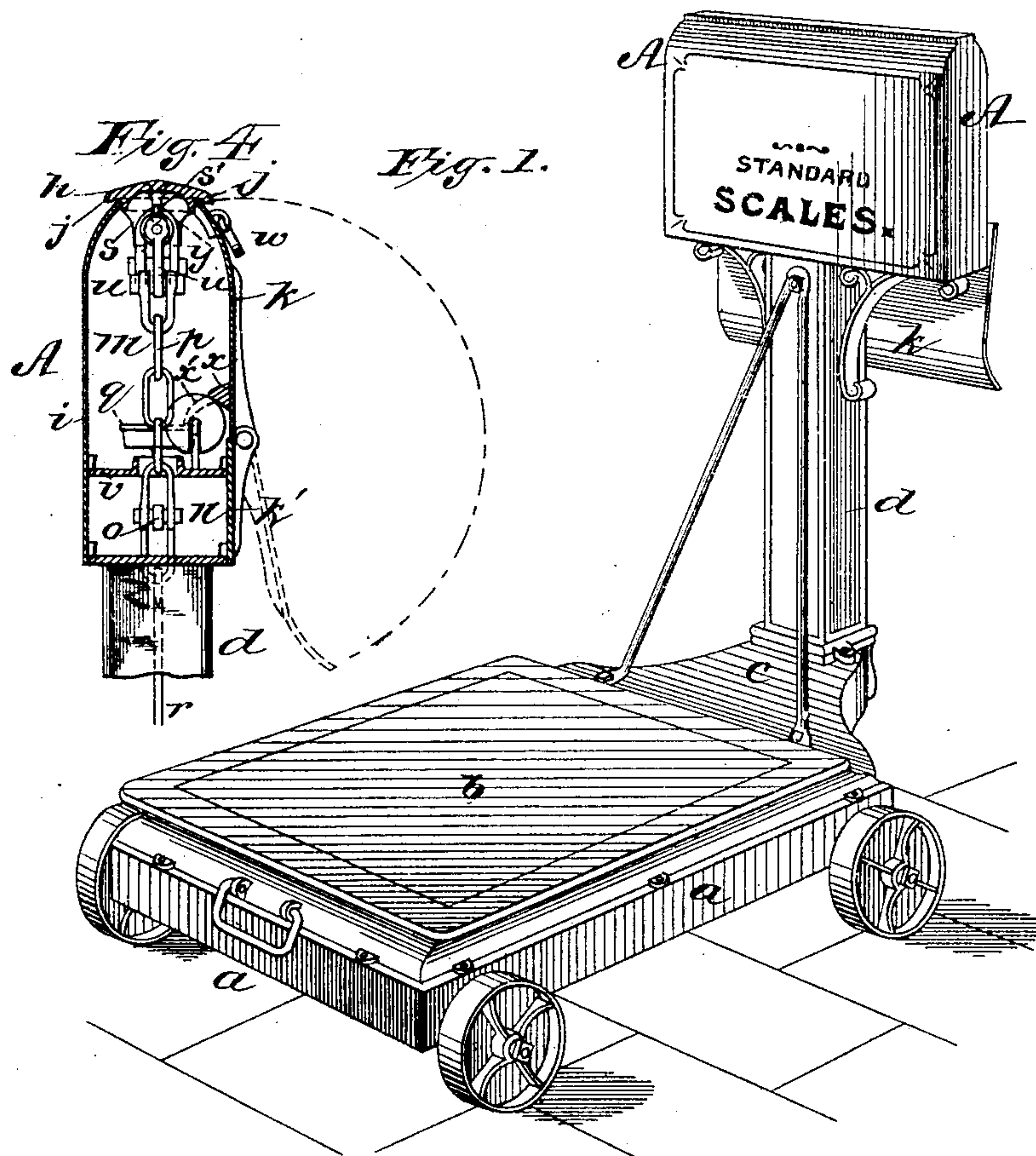


(No Model.)

C. C. MILLER.  
PLATFORM SCALE.

No. 271,726.

Patented Feb. 6, 1883.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

CHARLES C. MILLER, OF BROOKLYN, NEW YORK, ASSIGNOR TO E. & T. FAIRBANKS & CO., OF ST. JOHNSBURY, VERMONT.

## PLATFORM-SCALE.

SPECIFICATION forming part of Letters Patent No. 271,726, dated February 6, 1883.

Application filed July 25, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. MILLER, of Brooklyn, Kings county, New York, (assignor to E. & T. FAIRBANKS & Co., of St. Johns-  
5 burry, Vermont,) have invented certain new and useful Improvements in Platform-Scales, of which the following is a specification.

My invention relates generally to the ordinary form of portable platform-scales, which  
10 are mounted on wheels and adapted to be easily moved from place to place; and it has more especial relation to such scales of this kind as are intended to be used out-of-doors,  
15 about warehouses, or on wharves, levees, or in similar public places, where they are more or less exposed to the attacks of mischievous or dishonest persons.

In the ordinary portable platform-scale used  
20 for these purposes, as is well known, a hollow pillar rises from the neck of the platform-casing in central position, and the pillar is capped by a light overhanging arm, which projects laterally from one side of the pillar, while the  
25 graduated scale-beam is hung in the fulcrum-loop directly from the top of the pillar, where the short arm of the beam projects over the hollow of the pillar, and is connected with the steelyard-rod, which rises through the  
30 same, while the long graduated arm of the beam projects outward under the overhanging arm of the pillar. The loose weights are placed upon a bail projecting from the side of the pillar. Hence in this construction the  
35 beam projects altogether from one side of the pillar, which is unsymmetrical, and, moreover, causes the beam and its projecting arm to extend beyond the base outline of the scale on one side, and thus renders its position some-  
40 times unhandy and incommodious. The chief objection, however, is that this construction leaves the beam, its adjuncts, and the weights entirely exposed and likely to be injured by mischievous persons; or such of the parts as  
45 are loose or capable of being detached are likely to be abstracted by petty thieves, particularly the beam, which is a heavy brass piece having considerable value in their eyes. To prevent these attacks the beam, &c., have

sometimes been boxed in by fixing an im-  
50 proved case or box to the pillar and overhanging arm around the beam; but this forms a clumsy expedient, is a foreign addition to the scale, and is inconvenient and not always secure.

Now, the aim of my invention is to so con-  
55 struct the scale at the outset as to overcome the aforesaid objections and thoroughly protect the aforesaid parts of the scale by a convenient, simple, and effective construction; and  
60 to this end I modify the construction at the top of the pillar considerably—that is, I make the pillar considerably shorter than usual, and I entirely dispense with the usual overhang-  
65 ing arm, and in its place I surmount the pillar with a neat casing, which rises to about the usual height of the pillar. This casing is preferably placed centrally on the top of the pil-  
lar, so as to render the construction symmetri-  
70 cal and convenient, and it is sufficiently large to freely inclose the beam, which is not hung from the pillar, as heretofore, but from the  
said case, preferably from the top of the case, which overlies and incloses it. Across the  
75 case, near the bottom, is extended a partition or shelf, which divides the case into two compartments, the upper and larger of which contains the beam, &c., while in the lower and  
smaller one is hung an intermediate lever,  
80 which is connected at its middle with the steelyard-rod, which rises out of the pillar, while the free end of said lever connects to the short arm of the beam. On the top of the shelf, in  
the upper and larger compartment, is placed a  
85 bail or rack to receive the loose weights, and one side of the case over the upper compart-  
ment is hinged or made movable, so as to swing down or open outward, and thus per-  
90 mit access to the beam and weights when the scales are in use, but which may be closed and locked when the scales are out of use, thus  
completely inclosing and protecting all the  
usually vulnerable or abstractible parts of the  
scales. My invention therefore lies mainly in  
95 the features here outlined, and also consists in certain minor features of construction, as hereinafter fully set forth.

In the annexed drawings, Figure 1 presents



a perspective view of my improved scales, viewed from the platform or loading side, which is the rear side of the beam-casing. Fig. 2 is a front elevation of the beam-case with the lid and side plate removed to expose the internal mechanism. Fig. 3 is a front elevation of the lid and fixed side plate removed. Fig. 4 is a sectional elevation on line *x x* of Fig. 2, looking to the right.

In the drawings, *a* indicates the platform frame or casing, which is mounted upon the usual wheels, as illustrated. *b* indicates the platform; *c*, the neck of the platform-casing, and *d* the pillar, which rises centrally therefrom, as usual. All these parts are presumed to be of the ordinary construction, as is also the internal platform-lever mechanism, which of course need no description here, as they form no part of the present invention.

Now, in my improved construction I much prefer to make the pillar of cast-iron, in the form of a square tube, as usual; but this pillar is made much shorter than usual, and it is surmounted by a neat casing, *A*, which is preferably of about square proportions on the broad side, as shown in Fig. 2, but oblong in cross-section, with a flat base and an arched top, as seen in Figs. 1 and 4, and is of ample size internally to freely inclose the beam, as seen in Fig. 2. This case is preferably set in central position on the top of the pillar, so as to render the construction even or balanced, as well as more compact and symmetrical; and this case is preferably made of metal, similar to the pillar, so as to possess strength and rigidity to sustain the inclosed parts and deter and prevent thievish attacks when closed. The case *A* is preferably made in a number of parts, mostly of cast-iron and partly of sheet-iron.

The base or bottom side, *f*, of the case is a flat plate of cast-iron, with a short central neck or sleeve, *f'*, projecting downward therefrom to fit into the top of the hollow pillar, to which it is screwed or bolted, as best shown in Fig. 2. The end pieces, *g g*, are also flat cast-iron plates of oblong form, with the top rounded or arched and the flat bottom provided with internally-projecting ears *g'*, which are screwed or riveted to the base-plate, as seen in Fig. 2.

The top piece, *h*, is a strong casting of concavo-convex form in cross-section, its under side being concave and its upper side arched or curved like a roof, as it does, in fact, form the roof of the case, and is hence so curved as to quickly shed the rain which may fall on the case when the scales are left out-of-doors. Grooves are formed across each end of the top piece, in which the top edges of the end pieces *g* are socketed, as seen in Fig. 2, and are there held by suitable screws or rivets. The tops of the end pieces are not completely rounded or arched; but the extreme top is cut off flat, as indicated by the dotted line in Fig. 4, so as to obtain a better bearing in the grooved ends of the top piece.

It will be seen that the top piece or roof, *h*,

is formed narrower than the base *f*, and has overhanging lips *j*, which form the eaves of the roof, and these eaves are formed with underlying grooves, in which the top edges of the broad sides *i* and *k* are fitted, as seen in Fig. 4. The sides thus curve inward under the eaves of the top, which hence overhang the sides, so that the rain will readily drip from the overhanging edges of the top and run down the curved sides without tending to run into the joints of the case.

Near the bottom of the case a shelf or partition, *v*, extends across the interior parallel with the base, and is made of a strong cast-iron plate screwed to ears projecting from the end pieces, *g*, as shown in Fig. 1. This shelf thus divides the interior of the case into two compartments, *m n*, the upper and larger one of which incloses the beam *u*, with its several adjuncts, and the stack of loose weights *t'*, while the lower and small compartment, *n*, incloses an intermediate lever, *o*, which is hung or fulcrumed at one end in a loop depending from one end of the shelf *v*, while the free and opposite end of said lever is connected by the chain *p* with the short arm of the beam *u*, which chain rises through an opening in the opposite end of the shelf, as fully shown in Figs. 2 and 4. The middle of this intermediate lever, *o*, lies directly over the top of the hollow pillar *d*, and is there connected with the steelyard-rod *r*, which rises through the pillar from the platform mechanism below. The lever *o* and chain *p* form the indirect connection between the steelyard-rod and beam, which is rendered necessary by the symmetrical arrangement of the case and beam relatively to the pillar, for it will be seen that if the case and beam were arranged all to one side of the pillar the short arm of the beam would be brought directly over the pillar and might be connected directly with the steelyard-rod, as is the case in the more common construction. The intermediate lever and its connections relatively to the beam, &c, are not of course here claimed to be new in themselves. Now, the beam *u*, as will be noted, is not hung or supported from the pillar, as usual, but from the inclosing-case *A*, which surmounts the pillar, and preferably from the top piece, *h*, of the case, which is formed with an inclined downwardly-projecting lug, *s*, (see Figs. 2 and 4,) having a curved hook, *s'*, protruding laterally therefrom. The fulcrum-loop *u'* of the beam is slipped over this hook *s'* and lies against the inclined lug *s*, as seen best in Fig. 2, thus hanging and sustaining the beam in firm position in the top of the case.

One end of the case is provided with an ordinary cam or holder, *u''*, to hold down the free end of the beam when out of poise.

On the top of the shelf *v*, about the middle thereof, is fixed an elongated H-shaped rack, *t*, on which the usual loose weights, *t'*, may be conveniently and securely stacked, as shown in Figs. 2 and 4.



The side *i* of the case, which is the rear or fixed side, is made in one piece, of strong sheet-iron, screwed or riveted to marginal ears on the end pieces, *g*, the shelf *v*, and the base-plate *f*. The opposite or front side, *k k'*, which is the opening side, is made in two sections, *k k'*, the lower section, *k'*, being formed of cast-iron, screwed or riveted over the compartment *n* to ears on the ends and base at the four points shown in Figs. 2 and 3, while the upper section, *k*, is preferably made of sheet-iron, hinged to the lower section, *k'*. The upper section, *k*, thus forms a down-swinging door or lid, which may be readily unlocked or opened when desired, as shown by full lines in Fig. 1 and dotted lines in Fig. 4, thus exposing the interior of the upper compartment, *m*, and thereby affording ready access to the beam and weights when it is desired to use the scale in any weighing operations. On the other hand, when the weighing is concluded the lid *k* may be closed and locked, as seen in Fig. 4, thus completely inclosing the beam and weights, &c., and protecting them from mischievous or dishonest attacks, as well as from exposure to the weather. By this means the scales may be left out-of-doors—on wharves, levees, or other places—over night without danger of loss or injury, which is a great convenience and advantage in many businesses.

The lid of the case, as may be noted, is locked by a padlock, *w*, (see Figs. 2 and 4,) which may be passed through a staple, *y'*, which extends from a lug, *y*, cast on the middle of the top piece, *h*, and which staple projects through a slot, *z*, Fig. 3, in the lid of the case when closed, as seen in Fig. 4.

The lower section, *k'*, on the opening side of the case is provided with the hinge-leaves *k'''*, cast thereon, and the hinge-leaves *k''* of the lid *k* are jointed to the former by bolts, as shown. These hinge-ears *k''* are cast separately and fixed to the outer end of the lid *k*, while along the inside of the lid extends a strong cast-iron bar, *x*, which is fastened to the hinge-leaves *k''* through the lid, thus strengthening and bracing the lid. This brace-bar *x*, as may be noted from Figs. 4 and 3, is so placed and formed as to overlie the stack of weights *t* when the lid is closed, thus holding them firmly in their place, and the bar is also formed with an overhanging horn, *x'*, which projects therefrom in coincident position with the pendent counterpoise or weight-receiver *q* of the beam, so that when the lid is closed, as seen in Fig. 4, this horn bears upon the weight-receiver, and thus holds it down and prevents it from swinging out of position within the case when the scales are moved about. The closing of the lid thus holds both the weights and the counterpoise firmly in stationary position.

What I claim is—

1. A weighing-scale substantially such as set forth, constructed with a casing mounted upon the top of the pillar, with the beam and its adjuncts hung in and inclosed by said case

above the pillar, and a movable door or lid on one side of said case, provided with suitable locking or fastening devices, substantially as and for the purpose set forth.

2. A platform pillar scale constructed with an inclosing-case mounted upon the top of the pillar and placed centrally thereon, or nearly so, with the scale-beam hung in the upper portion of said case above the pillar, and an intermediate lever hung in the lower part of the case over the pillar and connected with the beam and steelyard-rod, the said case inclosing said beam, lever, and connections, &c., and provided on the graduated side of the beam with a movable lid or door, substantially as and for the purpose herein set forth.

3. The combination, with the pillar of a platform-scale, of a beam-inclosing case mounted on the top of the pillar in central position, or nearly so, and formed with a partition or shelf, *v*, extending across said case, dividing it into upper and lower compartments, *m n*, with the beam *u* and its adjuncts hung in said upper compartment and the intermediate lever, *o*, hung in said lower compartment, and connected with the beam and steelyard-rod, with a movable door or lid, *k*, provided with locking or fastening devices arranged to close the upper compartment or permit access thereto, as desired, substantially as herein shown and described.

4. The combination, with the pillar of a platform-scale, of a rigid beam sustaining and inclosing case mounted on the top thereof, having on one side a movable door or lid provided with fastening devices, with the scale-beam hung within and from the top of said case, and connections extending through and within said case from the beam to the steelyard-rod, substantially as and for the purpose set forth.

5. The combination, with the pillar of a scale, of the beam-inclosing case A, mounted thereon, and formed with the shelf *v* extending across said case, with the intermediate lever, *o*, hung below said shelf, the beam *u* and its adjuncts, hung above said shelf and connected with the said lever, with the side plate, *k'*, fixed over the compartment below said shelf, and the hinged or movable lid *k*, arranged to cover or uncover the beam-compartment above said shelf, substantially as herein shown and described.

6. In a weighing-scale substantially such as set forth, a beam-inclosing case formed with a rigid top piece constructed with a downwardly-projecting hook or lug, from which the beam is directly fulcrumed or suspended, substantially as herein shown and described.

7. The combination, in a scale substantially such as set forth, with a beam-inclosing case and a hinged or movable lid arranged to open and close the case, of a projecting horn or claw on said lid, coincident with the pendent weight-pan of the scale-beam, adapted to press upon said pan when the lid is shut, and there-

by prevent its swinging or moving out of place when the case is closed, substantially as herein set forth.

5 8. In combination with a scale-beam, the inclosing-case A, formed with the top piece, *h*, constructed with the overhanging lips *j*, with underlying grooves, and with the sides

*i* *k* bent or curved at the top into said grooves under the lips, substantially as and for the purpose set forth.

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