

(No Model.)

3 Sheets—Sheet 1.

C. G. STRUBLER.  
SCALE.

No. 596,727.

Patented Jan. 4, 1898.

Fig. 1.

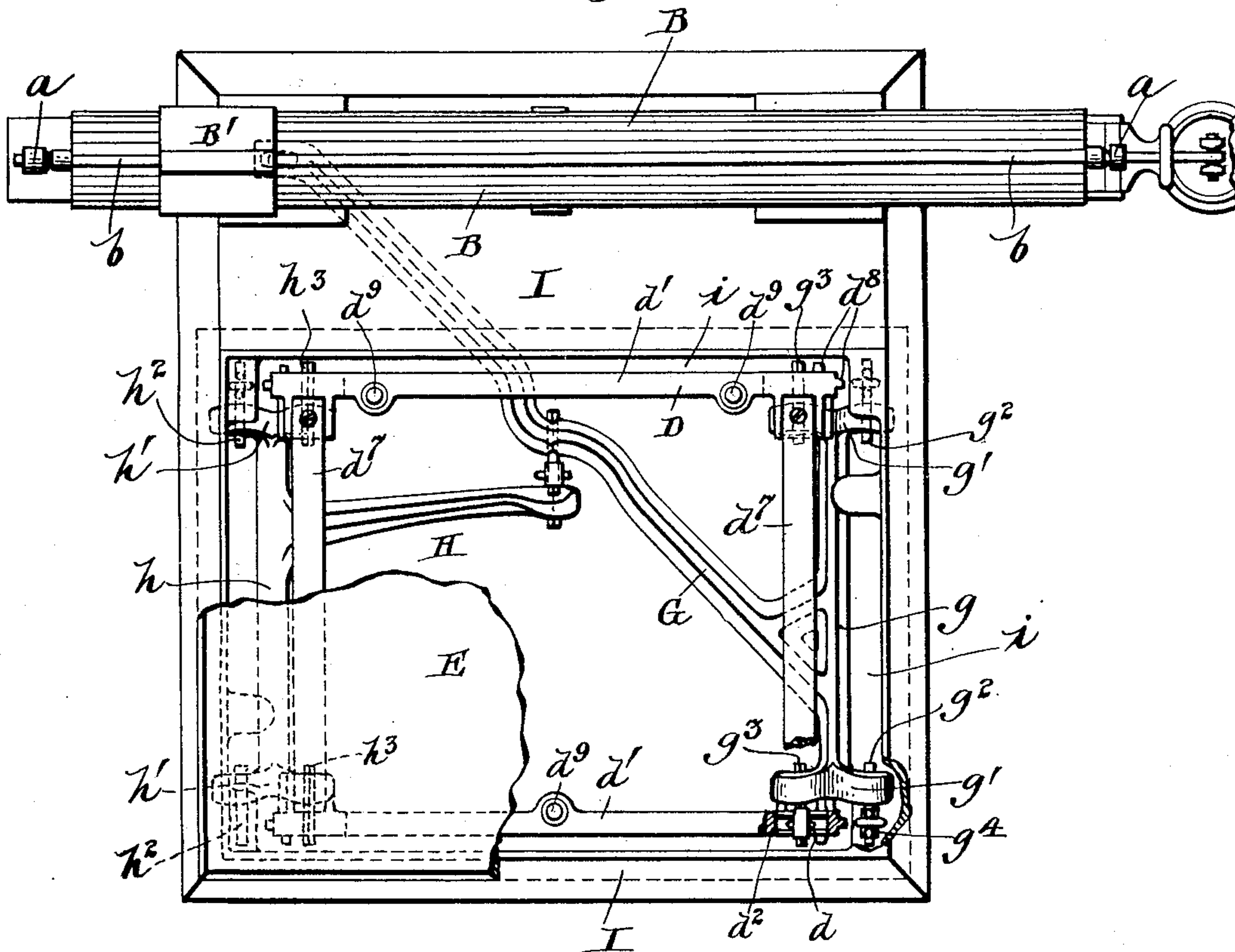
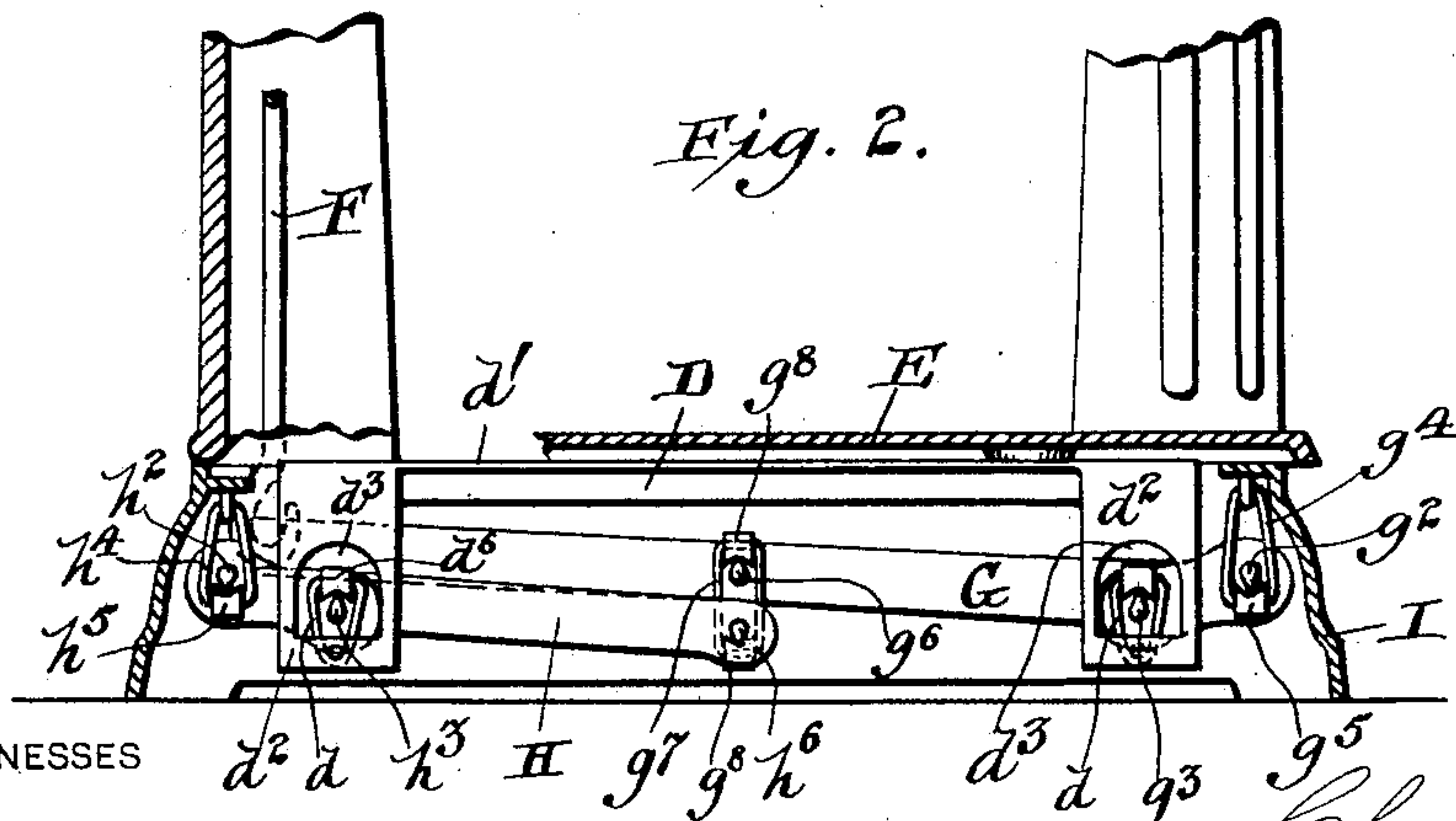


Fig. 2.



WITNESSES

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INVENTOR

*Charles G. Strubler*  
*by his Atty*  
*Man Frederick Everance*

(No Model.)

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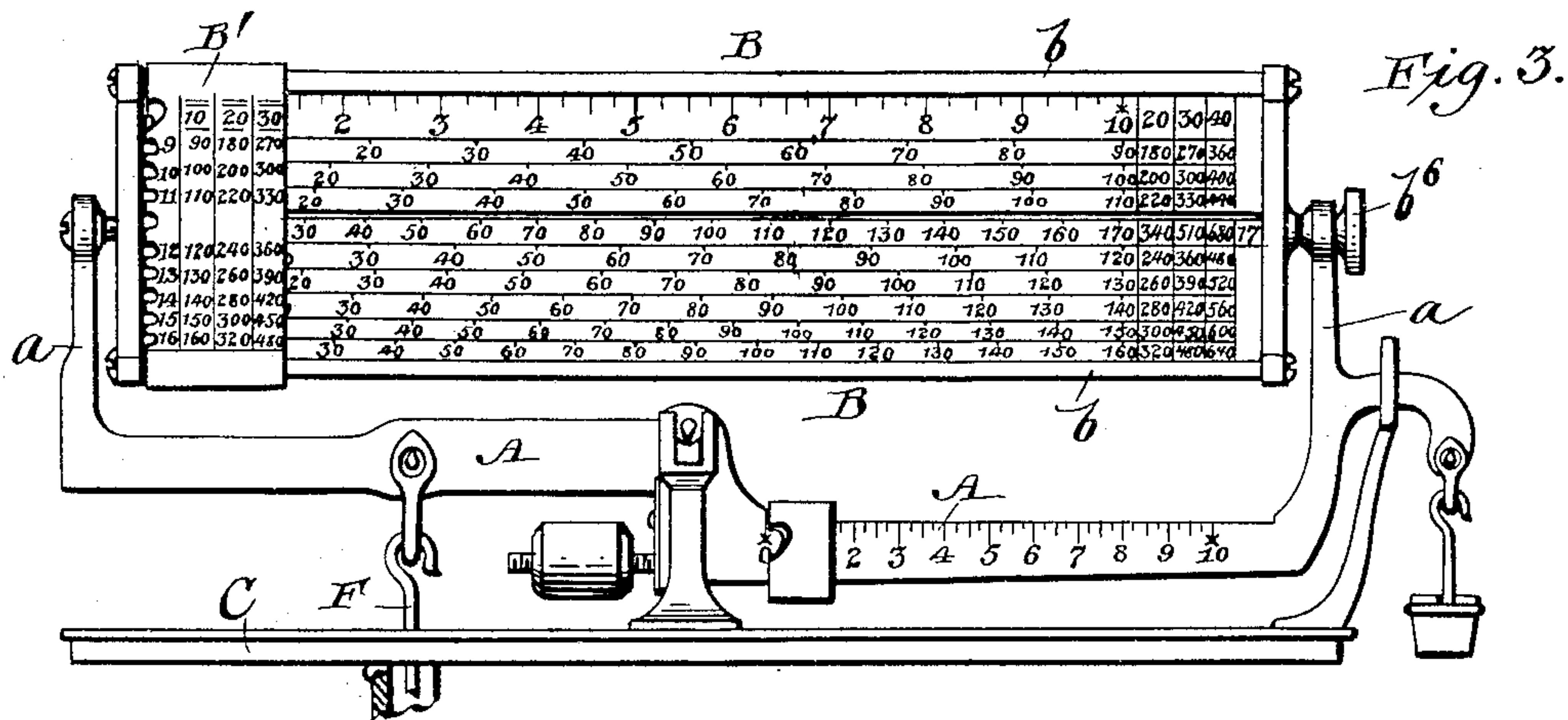


Fig. 4.

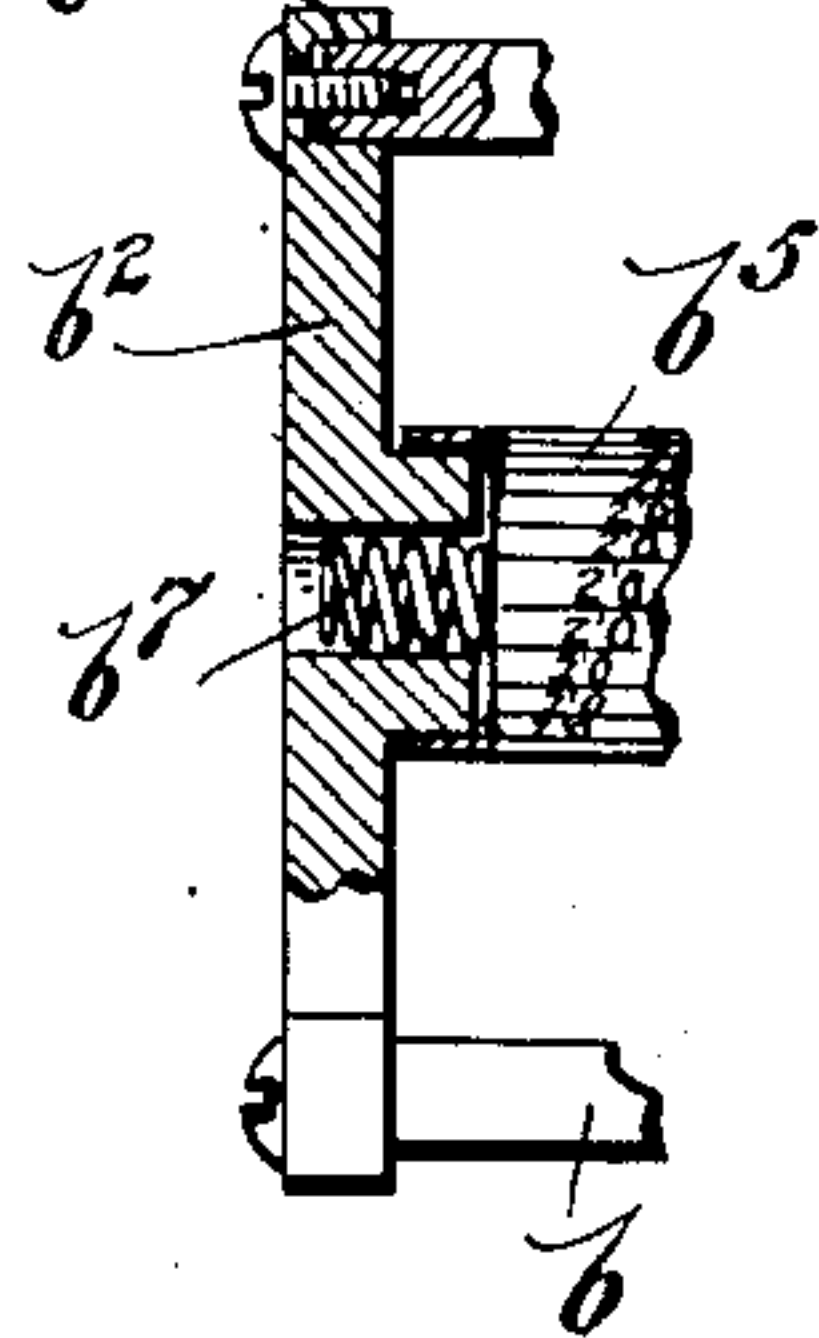


Fig. 5.

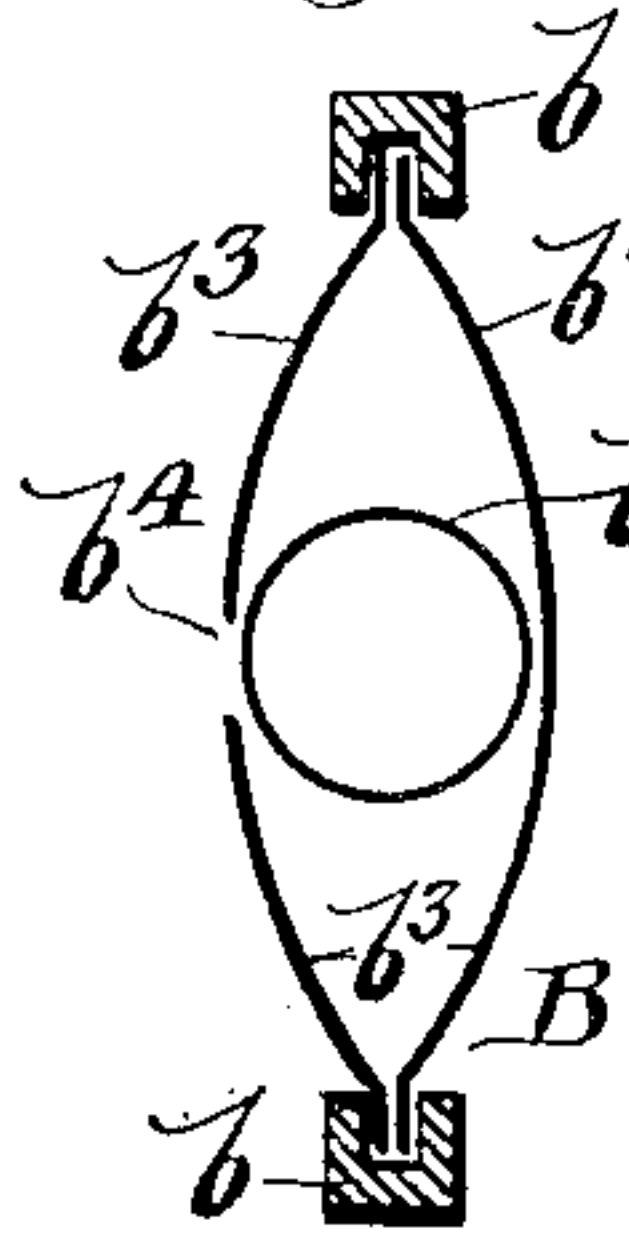


Fig. 6.

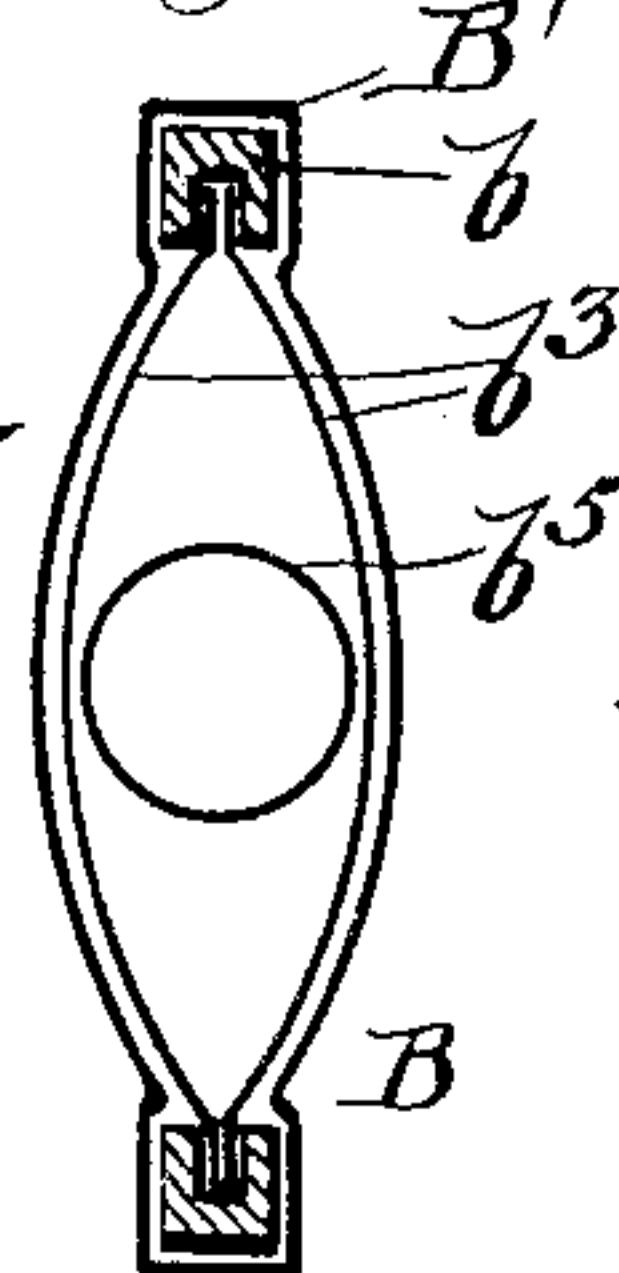


Fig. 7.

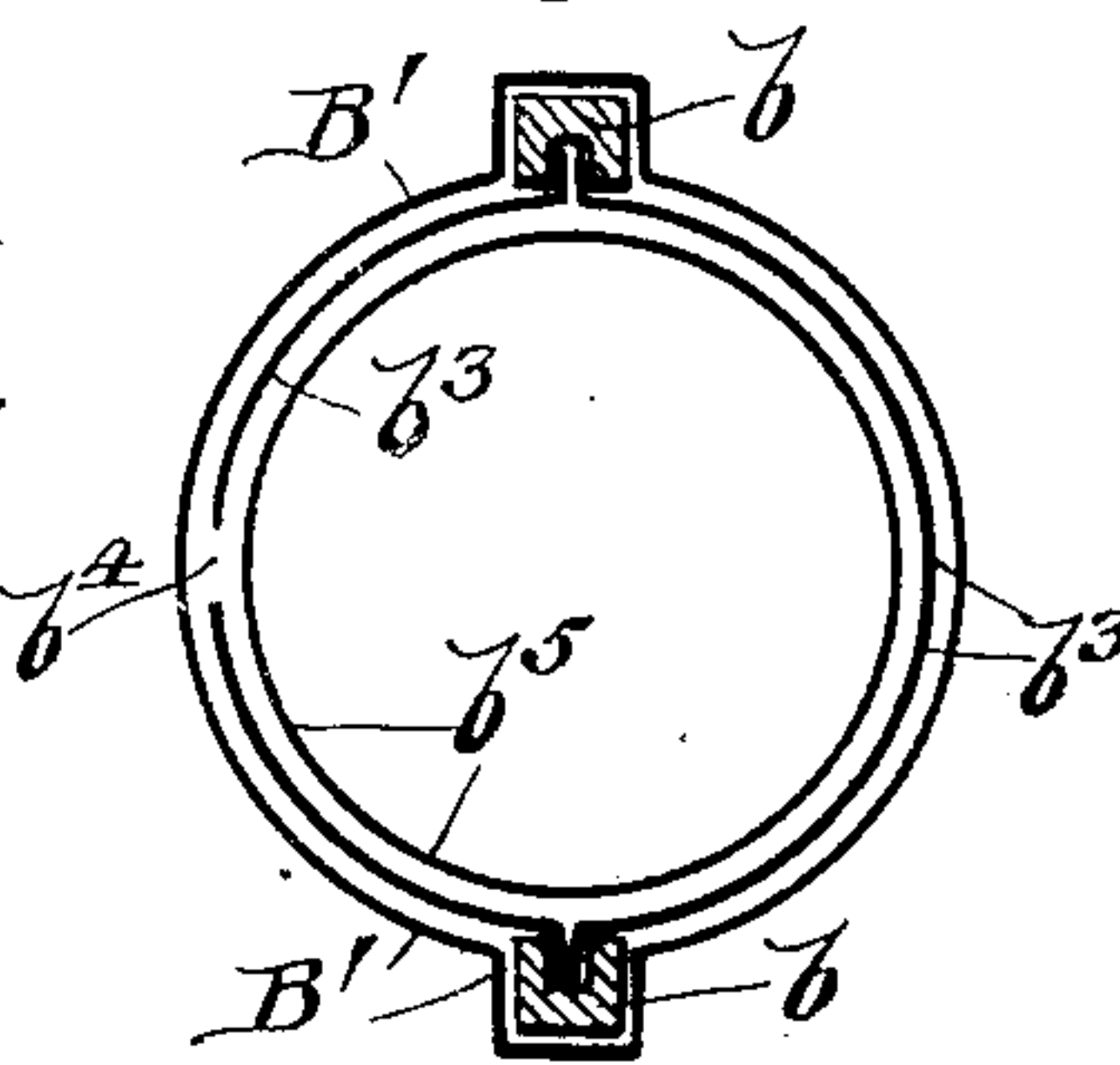


Fig. 8.

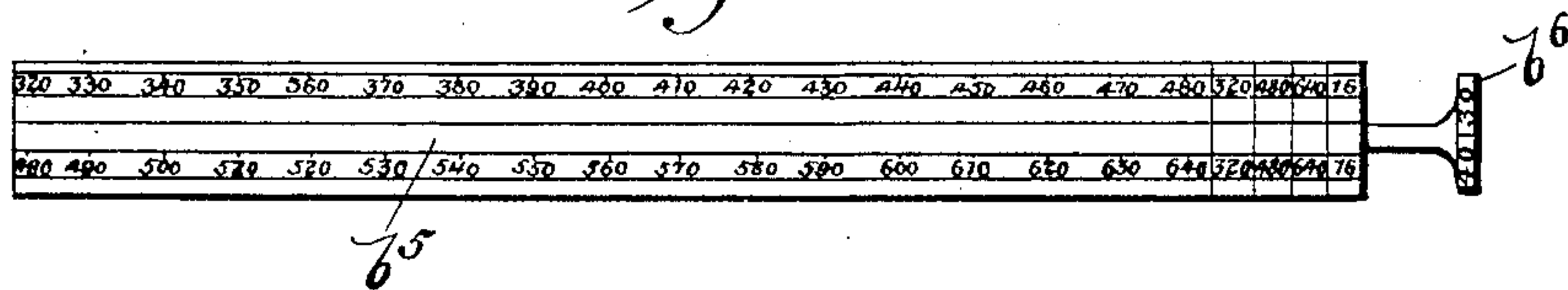
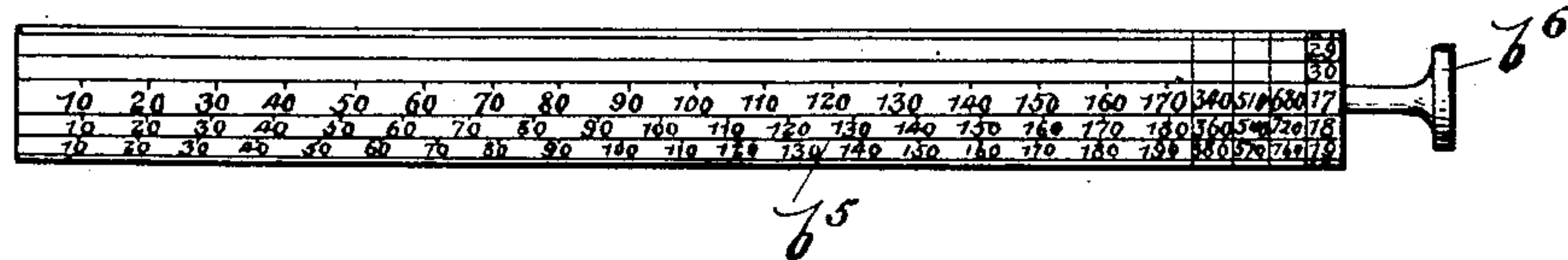


Fig. 9.



Witnesses:-

W. E. Averance.  
L. P. Clift.

Inventor:-

Charles G. Strubler  
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Mason Fennell Lawrence

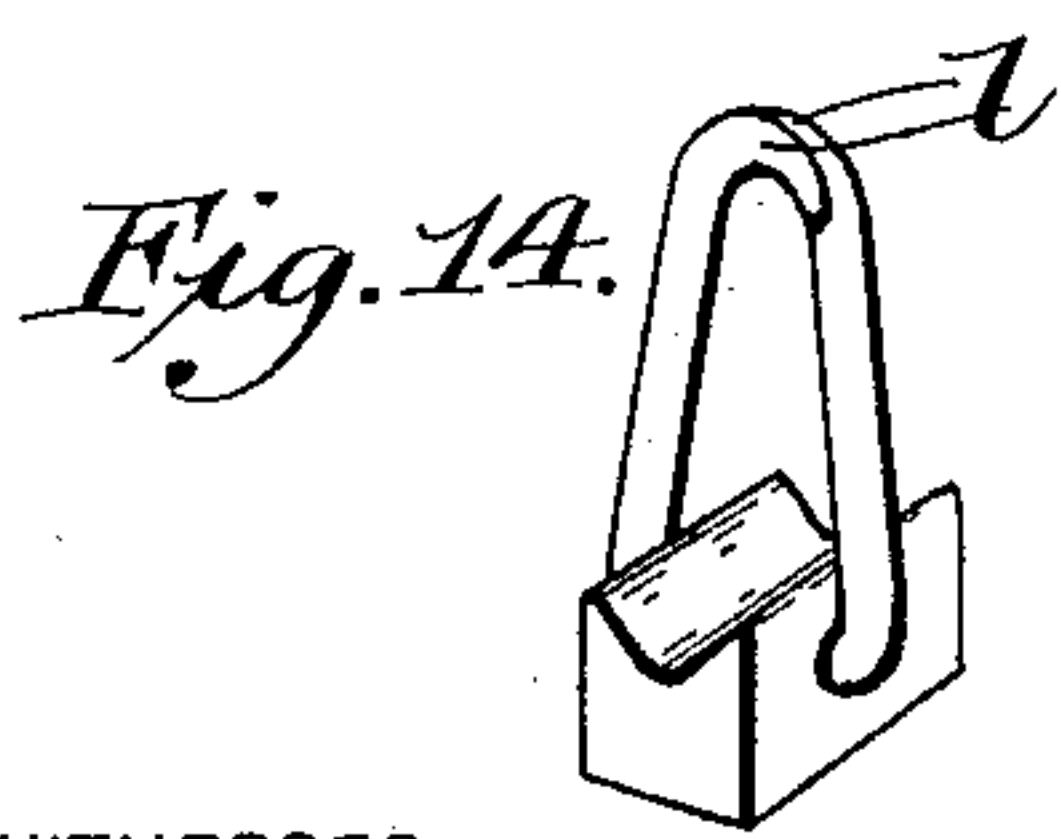
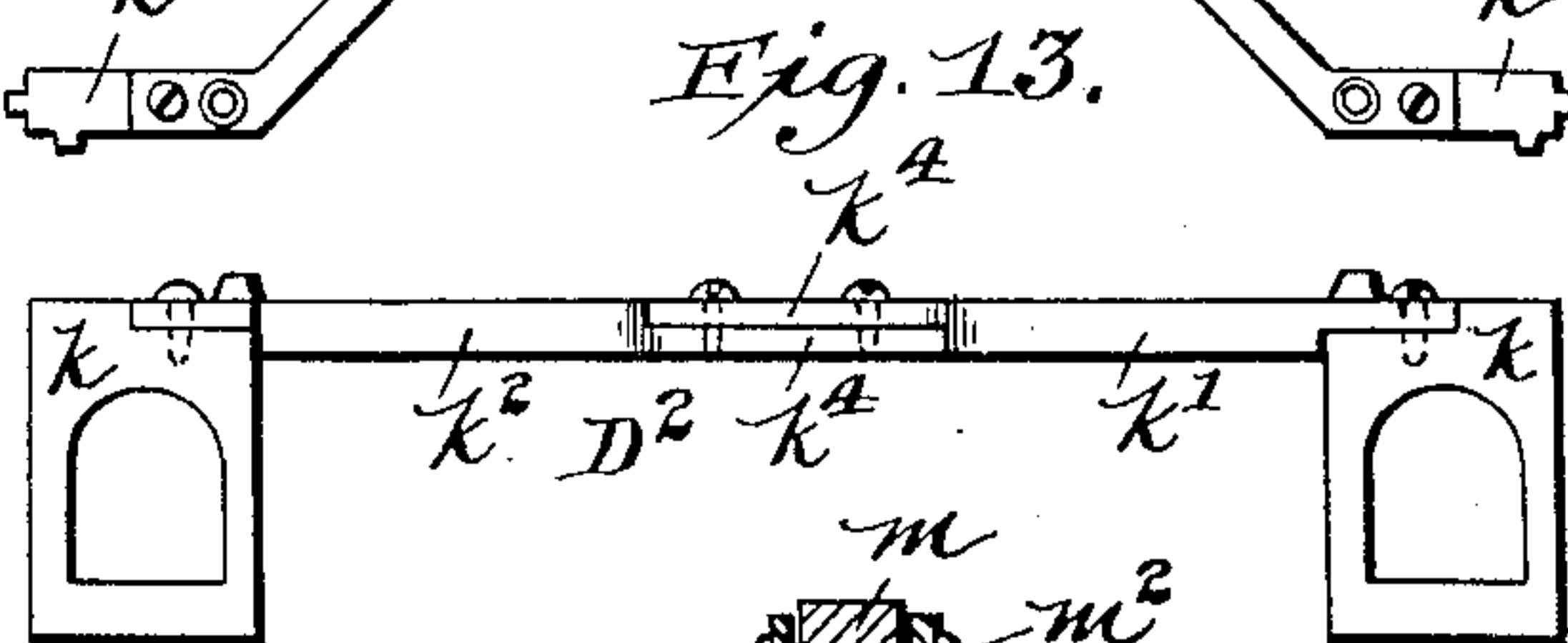
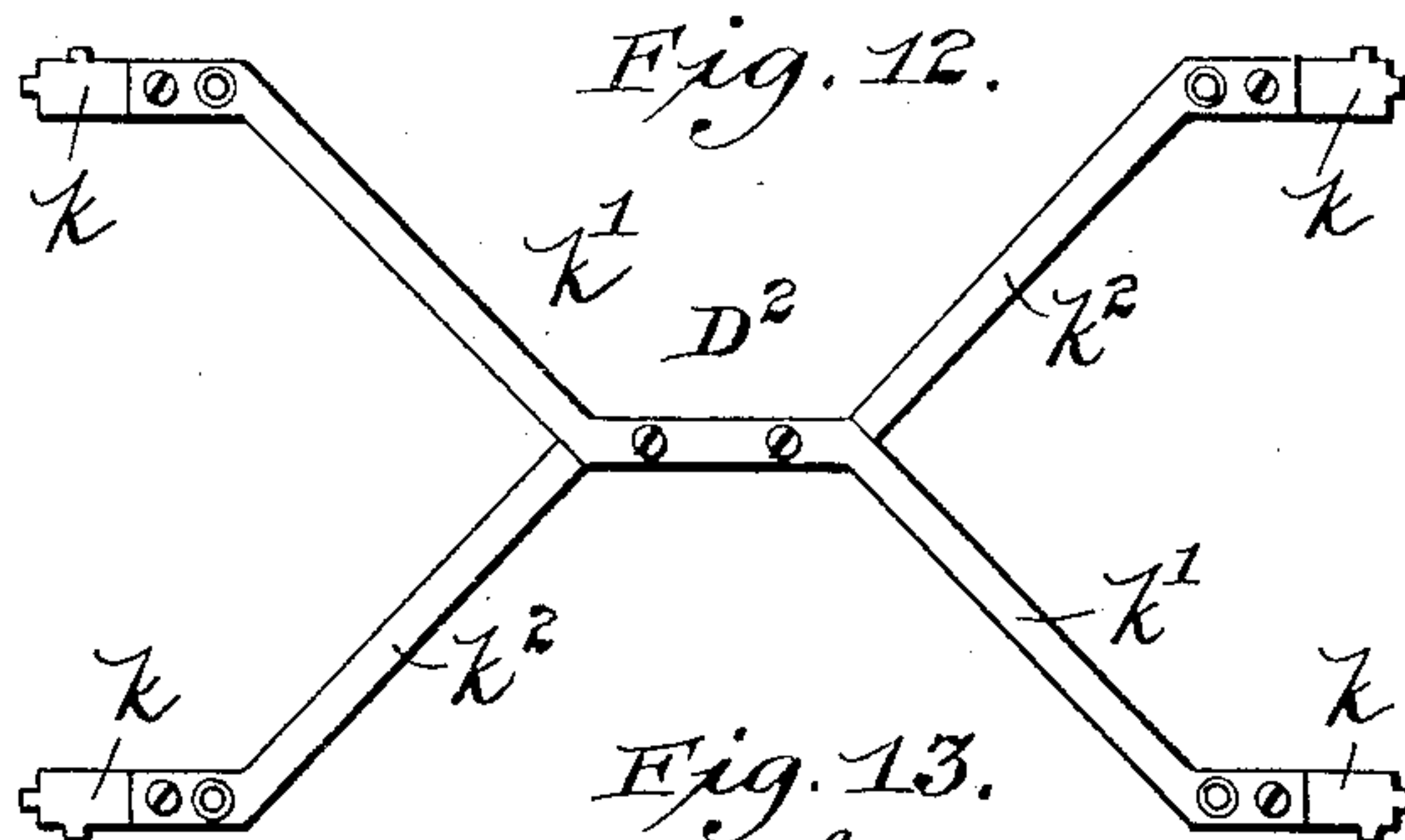
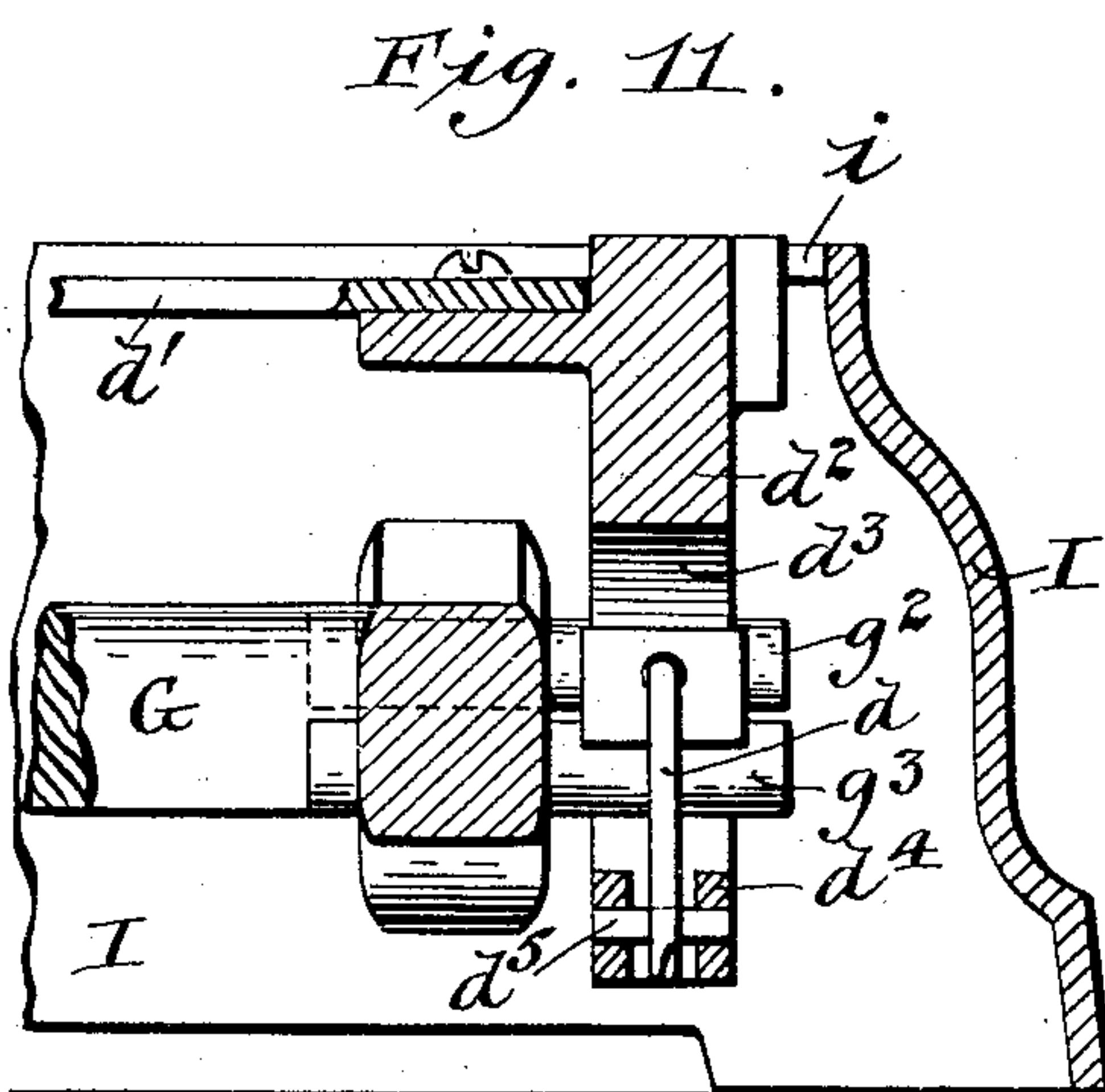
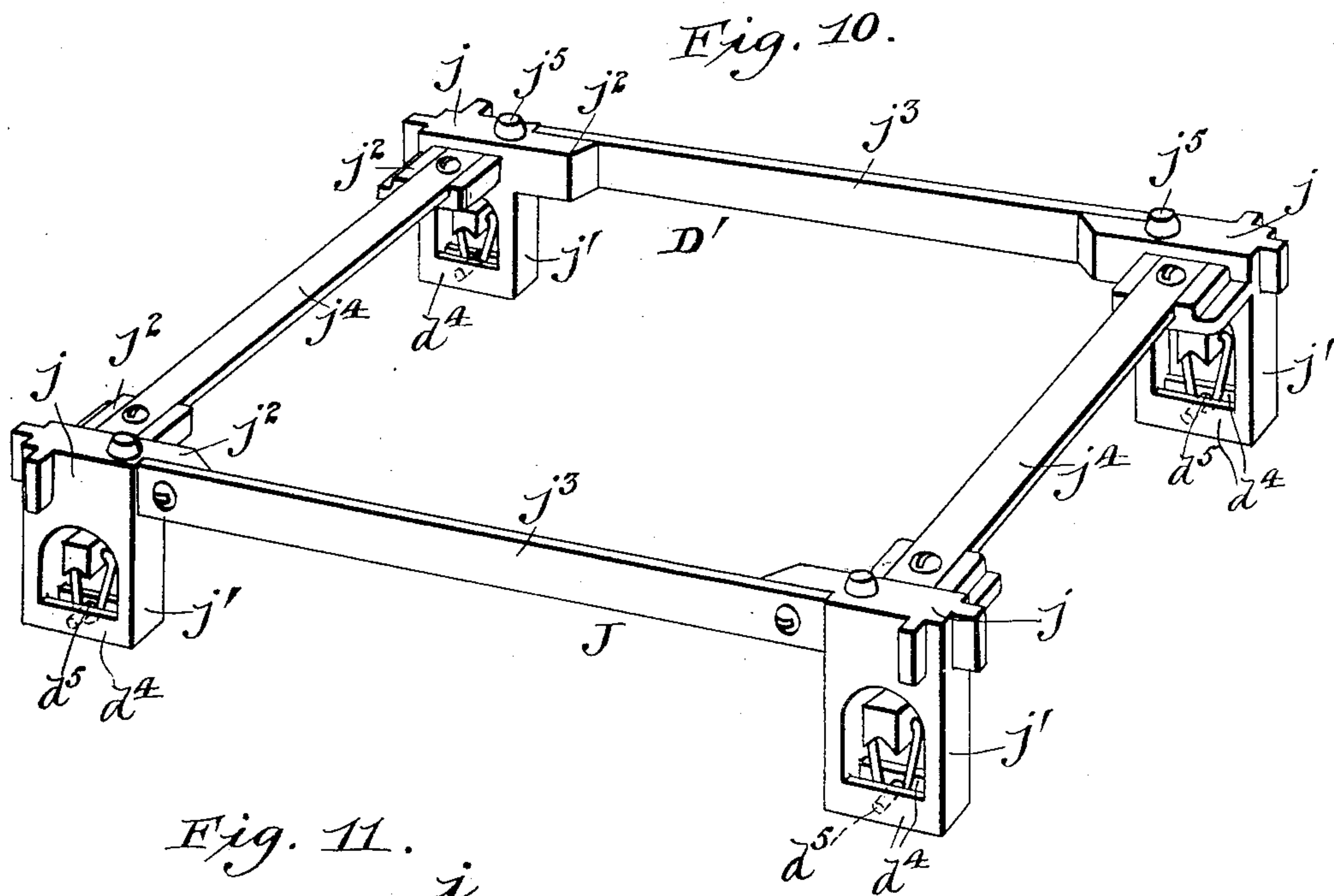
(No Model.)

3 Sheets—Sheet 3.

C. G. STRUBLER.  
SCALE.

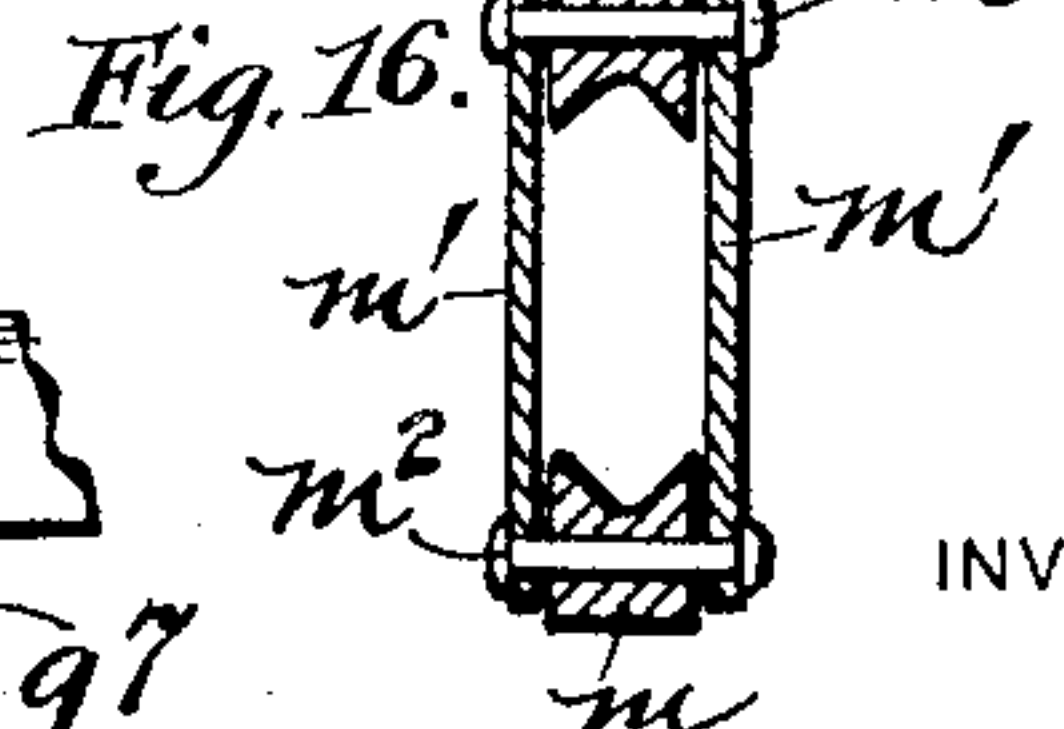
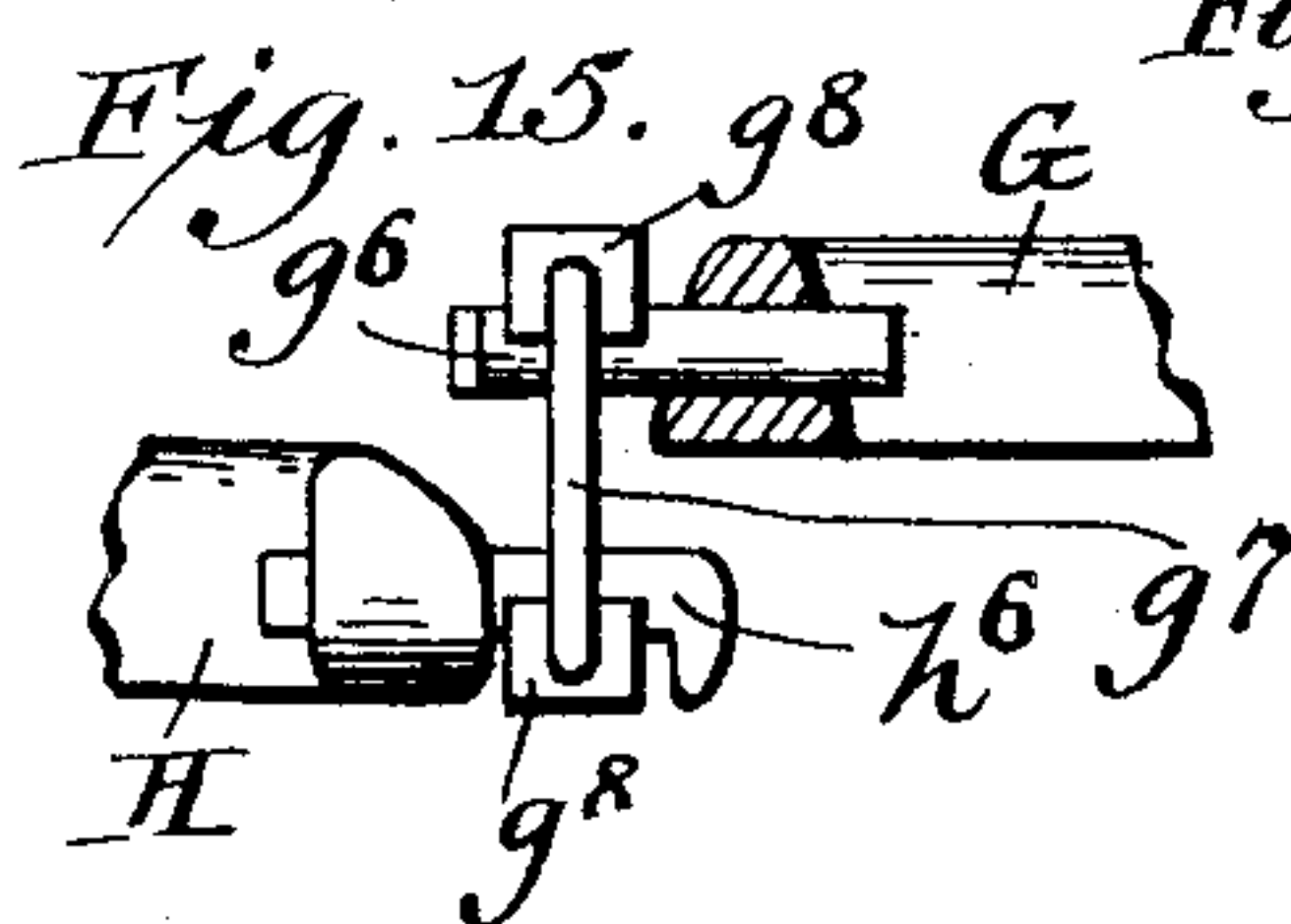
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WITNESSES

*Everance*  
*E. P. Clift.*



INVENTOR

*Charles G. Strubler*  
*by his Attys*  
*Max F. French & Samuel*



# UNITED STATES PATENT OFFICE.

CHARLES G. STRUBLER, OF ELKHART, INDIANA.

## SCALE.

SPECIFICATION forming part of Letters Patent No. 596,727, dated January 4, 1898.

Application filed April 1, 1897. Serial No. 630,287. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES G. STRUBLER, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Scales; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in scales, and particularly to that class of scales which are adapted to indicate the price of different numbers of pounds at different prices per pound, the construction being such that the operation required to weigh an article indicates at the same time the price thereof.

It consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings, Figure 1 represents a top plan view of my improved scale, a portion of the platform being broken away to better show the operating parts. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a front elevation of the weighing-beam and the price-per pound chart. Fig. 4 is a detail sectional view of one end of the chart. Fig. 5 is a cross-section of said chart. Fig. 6 is a cross-section of the chart and the poise used thereon. Fig. 7 is a cross-section of a chart constructed in a little different form. Fig. 8 is a side elevation of the interior revolving cylinder of the computing-chart. Fig. 9 is a similar view showing a different arrangement of computing-figures arranged upon the periphery of said cylinder. Fig. 10 is a perspective view of one form of the platform-supporting frame. Fig. 11 is a detail vertical section of a portion of the base of the scale and the platform-supporting frame. Fig. 12 is a modified form of my platform-supporting frame. Fig. 13 is a side elevation of the same. Fig. 14 is a detail perspective view showing a preferred form of construction for the loop-hangers. Fig. 15 is a detail sectional view showing the connecting loop-hanger employed between the levers of the scale, and Fig. 16 represents a modified form of said connecting loop-hanger.

A in the drawings indicates a weighing-beam; B, a computing-chart mounted thereon; C, the base of the scale; D, a frame for supporting a weighing-platform E; and F is a rod connecting the levers of said platform with the weighing-beam.

In adapting my scale to the purpose of readily indicating the price per pound of articles weighed I construct the weighing-beam A with upwardly-extending arms *a a* and journaling the computing-panel B between the upper ends of said arms. In this respect the construction of the beam or weighing-arm is similar to that shown and described by me in my application for Letters Patent filed the 15th day of January, 1896, Serial No. 575,629.

The chart B is preferably formed of a rectangular frame having longitudinal side bars *b b* grooved on their inner sides, the side bars being provided with journal-shaped end portions *b' b'*, adapted to extend into and be journaled in end pieces *b<sup>2</sup> b<sup>2</sup>*. The side bars *b b* are secured in place by screws passing through the end pieces *b<sup>2</sup>* and extending into the ends of the side bars *b b*. Between the side bars *b b* is mounted the computing-panel *b<sup>3</sup>*, consisting, preferably, of two curved pieces so arranged that their concaved sides are turned toward each other, their upper and lower edges meeting and extending into the grooves in the side bars *b b*, by which they are effectually held in place. One of said curved pieces *b<sup>3</sup>* is provided with a longitudinal slot, upon one side extending nearly the full length of the panel. This slot *b<sup>4</sup>* exposes a portion of the surface of an interior cylinder *b<sup>5</sup>*. This cylinder *b<sup>5</sup>* is mounted between the end pieces *b<sup>2</sup> b<sup>2</sup>*, the shaft of said cylinder being adapted to extend through one of the end bearings and having an operating disk or wheel *b<sup>6</sup>*, mounted upon the outer end of the same. Each side of the panel is provided with scale-indicating marks and longitudinal spaces having total-price numerals placed thereon. One end of said panel also is provided upon each side with columns of total-price numerals indicating the total prices of higher weights than those indicated upon the remainder of the chart, and each of these columns of numerals is provided with numbers at the head of the column indicating the number of



pounds for which the prices in that column are computed.

A poise B', consisting of an inclosing band of metal conforming to the shape of the panel, is mounted upon the said panel and is adapted to be moved back and forth upon the same for indicating the different weights and total prices. The poise B' is also provided with projections or fingers upon one edge which coincide with the longitudinal spaces upon the panel and point to various indications upon said panel. The poise is provided upon each side with numerals indicating the different prices per pound which it may be desired to use in computing values of different numbers of pounds. The prices per pound upon one side of the said poise are preferably higher prices than those indicated on the other side, one side being a continuation of the other. To the right of this column of figures are preferably arranged additional columns of figures indicating the computed prices of higher numbers of pounds similar to the figures upon the right of the panel, as above described.

In order to increase the capacity of the price-indicating chart, I have devised my improved form of chart having a centrally-arranged revolving cylinder. This cylinder is preferably provided with spaces carrying computed prices of different weights at higher prices per pound than those indicated upon the poise B', as shown in Fig. 9 of the drawings. The prices per pound which this cylinder is adapted to indicate are placed at one end of the cylinder and preferably, as shown in the drawings, at the right-hand end thereof. It will be apparent that upon weighing an article, if it is desired to find the price thereof when the price per pound at which it has been sold is greater than that indicated by the poise recourse may be had at once to the interior cylinder, which may be turned so as to bring the desired price-per-pound mark opposite the slot  $b^4$  of the panel. Corresponding computations for the different pounds will appear opposite the said slot. It will be seen that by this means the capacity of the computing-panel may be increased to almost any desired extent. The capacity of the chart also may be further increased, as shown in Fig. 8 of the drawings, by providing the cylinder  $b^5$  with spaces having two or more computations at the same price per pound, but for different numbers of pounds, the said numbers of pounds being indicated upon the disk or wheel  $b^6$ , by which the cylinder is operated. This will clearly appear from Fig. 8 in the drawings, which shows two lines of computations at sixteen cents a pound, the "16" being indicated at the right-hand end, one of said lines of computations being adapted to indicate the amounts for thirty pounds and up and the other being adapted to indicate the amounts for forty pounds and up, the "30" and "40" being in-

dicated upon the edge of the disk or wheel  $b^6$ . In this case the price-per-pound numerals on the inner beam or cylinder may be duplicated for the different numbers of pounds.

When the inner cylinder is made large, as in Fig. 7 of the drawings, both of the above-described methods of computation may be employed, for the computations, as shown in Fig. 9 of the drawings, may occupy a portion of the periphery of the cylinder, while the computations shown in Fig. 8 may occupy the remainder of the said periphery; but, if preferred, only one plan of computations may be used on the single cylinder, the other plan being placed upon another cylinder.

It will be apparent that the panel can be arranged to increase the price-per-pound capacity of the scale or the computing capacity of the panel when the price per pound remains the same.

I do not wish to be confined to the shape of the inner and outer panel as I have described them above, so that it will be apparent that I may construct the same of different shapes—for instance, as shown in Fig. 7 of the drawings, in which both are cylindrical in shape; but I might form them of six or eight or more sides without departing in the least from the spirit of my invention, the principal requisite being that the inner panel may be adapted to revolve within the outer one. The outer panel should also be adapted to revolve.

It will be seen that my computing-chart is a double revolving chart or panel—that is, a revolving computing-chart within a revolving chart.

In order to prevent the computing-panel from shifting its position longitudinally with relation to the weighing-beam, I interpose a spring, as  $b^7$ , between one of the journals and one end of the computing-panel, as illustrated in Fig. 4 of the drawings. The feature of taking up the end movement or thrust of the chart by means of a spring is an important one in this class of beams in order to keep the scale in perfect balance. It can be seen that should the beam shift from one end to the other it would throw the scale out of balance. The weighing-beam A is provided with the usual poise and counterpoise and is mounted upon its fulcrum at a point immediately below the computing-chart. To one side of the fulcrum and also beneath the computing-chart the load is attached to said beam, being connected thereto by a rod F. The rod F extends downwardly through one of the supporting-pillars of the frame and is connected at its lower end to the platform-levers.

The novel construction and arrangement of my platform-supporting frame and levers connected therewith form a very important feature of my invention. The platform is separable from the frame which supports it, which is of great advantage where there is liability of breakage or where it is desired to



use a different style of platform, and the frame which supports the platform is so constructed that the suspending-loops upon which it is hung cannot drop off of the knife-edges or out of their proper position, no matter which way the scale may be tipped. In carrying out this feature I employ supporting-levers G and H. The lever G extends diagonally across the base of the scale and is connected at the rear end to the lower end of the rod F. The other end of said lever is provided with a horizontally-arranged shaft  $g$ . This shaft is provided with T-shaped end portions  $g' g'$ , carrying knife-edges  $g^2 g^3$ . The knife-edges  $g^2$  are adapted to engage and rest upon supporting-loops  $g^4 g^4$ , hung from the base-frame I, as illustrated in Fig. 2 of the drawings. The loops  $g^4 g^4$  consist of a piece of wire bent so as to form a loop and carrying at its lower end a pivoted block  $g^5$ , the upper surface of which is concaved and forms the bearing-surface for the knife-edge  $g^2$ . The upper end of the loop preferably engages a pendent eye formed upon the under side of the overhanging portion of the base-frame I. The knife-edges  $g^3 g^3$  are arranged with their bearing edges upon the upper side or just opposite the arrangement of the bearing-surfaces on the knife-edges  $g^2 g^2$  and are adapted to engage supporting-loops  $d$ , by means of which the platform-supporting frame is suspended upon the said knife-edges. The lever H is similar in construction to the lever G, but is much shorter, the inner end of which extends to a point at about the center of the scale. The outer end is provided with a horizontal shaft  $h$ , similar to the shaft  $g$ , but arranged upon the opposite side of the scale. The shaft  $h$  is provided at its ends with T-shaped portions  $h' h'$ , carrying the knife-edges  $h^2 h^3$ . The outer knife-edges  $h^2 h^2$  have their bearing-surfaces on the under side and engage suspending-loops  $h^4$ . The loops  $h^4 h^4$  are similar to the loops  $g^4 g^4$  and carry the bearing-blocks  $h^5$ , provided with concaved upper surfaces to receive the bearing-surfaces of the knife-edges  $h^2 h^2$ . The knife-edges  $h^3 h^4$  engage the loops  $d$ , which support the platform-supporting frame D.

The platform-supporting frame D, as shown in Figs. 1 and 2 of the drawings, is constructed of two side bars  $d' d'$ , which are provided upon their under sides at each end with depending legs  $d^2 d^2$ . Each of these legs is provided with an opening  $d^3$ , the said opening  $d^3$  being closed at its lower end by two parallel cross-bars  $d^4 d^4$ . A cross bar or pin  $d^5$  is secured in the bars  $d^4 d^4$  and forms the bearing by which the platform is suspended from the loops  $d$ , the said loops carrying at their ends the bearing-blocks  $d^6 d^6$ , which engage the knife-edges  $g^3 h^3$ . The side bars  $d' d'$  are preferably connected together by cross-bars  $d^7 d^7$ , which are adapted to be connected to said side bars by screws or other suitable means. The cross-bars  $d^7 d^7$  are preferably made of flat metal and not very thick, so that

a wrench may be applied to said cross-bars and by twisting the same to a greater or less extent the platform-supporting frame D may be trued, so that every corner thereof will rest squarely upon the bearing-loops. This is a very important construction, as in weighing a great many articles scale-platforms or the supporting-frames thereof are liable to become warped out of shape or twisted. I have found that by this simple construction the frame can be quickly adjusted and restored to its proper alinement. The frame D occupies an opening  $i$ , formed in the upper surface of the base I. The frame D is preferably provided with outwardly-extending lugs  $d^8 d^8$  at its corners, the lugs extending in close proximity to the bounding walls of the opening  $i$ , so as to limit the vibration of the frame to a small amount.

It will be seen from the above description that I am enabled to suspend the platform-supporting frame directly over its pivotal supporting-points and it would not be possible to place the frame thus in position without constructing the frame of separable parts, as described. It will also be apparent that when each one of the side bars  $d' d'$  of the frame is placed in position upon the supporting-bearings and they are connected by cross-bars, forming a rigid frame, the loops suspending the same upon the knife-edges are held in such a position as to be effectually prevented from slipping out of place when the scale is moved or tipped in any way.

The inner end of the lever H is provided with a knife-edge  $h^6$ , and this knife-edge is connected with the knife-edge  $g^6$ , arranged centrally of the lever G, by means of a connecting-loop  $g^7$ . The loop  $g^7$  carries two bearing-blocks  $g^8 g^8$ , provided with concaved surfaces to engage the bearing-surfaces of the knife-edges  $g^6 h^6$ . In this manner the whole supporting-frame is suspended in such a manner as to have the proper leverage upon the connecting rod or bar F and the weighing-beam A. The side bars  $d' d'$  are provided upon their upper surface with bosses  $d^9 d^9$ , which engage corresponding recesses upon the under side of the platform proper, E, and thus hold the said platform in proper position upon the top of the frame D. It will be apparent that platforms of different material or of different sizes may be mounted upon the frame, as desired.

As shown in Fig. 10 of the drawings, I also contemplate constructing the platform-supporting frame D' by using corner-pieces  $j j$ , having depending legs  $j'$ , similar to the legs  $d^2$ , and having laterally-extending lugs  $j^2$  at their upper ends, by which they may be connected together with longitudinal connecting-bars  $j^3$  and cross connecting-bars  $j^4$ . These bars  $j^3 j^4$  are preferably flat bars like the bars  $d^7$  and afford the same means of truing the platform as that above described. The bars  $j^3 j^3$  are preferably arranged vertically with respect to their thickness, while the bars  $j^4 j^4$



are horizontally arranged. In this construction the bosses  $j^5 j^5$  are formed upon the upper surface of the corner-pieces  $j j$  to receive the platform proper.

5 As shown in Figs. 12 and 13 of the drawings, the supporting-frame  $D^2$  for the platform may be also constructed by connecting the corner-pieces by diagonal bars without departing in the least from the spirit of my  
10 invention. In this construction of platform the corner-pieces  $k k$  are connected by diagonally-arranged bars  $k' k^2$ . The bar  $k'$  connects the diagonally opposite corner-pieces  $k$ , and the bar  $k^2$  connects the other two diagonally opposite pieces  $k k$ . The bars  $k' k^2$  are  
15 provided with short coinciding central portions  $k^4$ , which are made thinner than the remaining portions of the bars and lie one upon the other, and screws or rivets are passed  
20 through the same for holding them together.

In each of the constructions of platforms above described it will be evident that by inserting longer or shorter connecting-bars the platform-frame may be made of different  
25 lengths or widths to correspond to the size of scale upon which they are to be used. The suspending-loops used upon the frame and supporting-levers may be constructed by bending a loop of wire the desired shape and  
30 inserting the bent-up ends into the aperture in the bearing-blocks; but I also contemplate forming the said loops by passing a wire through the aperture in the bearing-block, as shown in Fig. 14 of the drawings, and bend-  
35 ing the upper ends so as to overlap each other, as at  $l$ , the said ends being flattened slightly to make them fit nicely and at the same time not to destroy the continuity of the wire. This forms a very effective construction for  
40 the loops and one that enables the loops to be easily put in position.

The connecting-loop  $g^7$  for connecting the levers  $G$  and  $H$  may be constructed, as shown in Figs. 1, 2, and 15 of the drawings, by pass-  
45 ing a single piece of wire through one of the bearing-blocks and bending these ends so as to extend into the aperture in the other bearing-block. In Fig. 16 may be seen another manner of forming the connecting-loop. In  
50 this construction the bearing-blocks  $m m$  may be connected by side bars  $m' m'$ , rivets  $m^2 m^2$  passing through the said bars and blocks for holding them together.

It will be found that my improved scale is  
55 so constructed as to enable one to weigh articles of great range of weight and to compute the price thereof at different rates per pound with the simple process necessary to be gone through with for weighing any article. The  
60 manner of forming the platform-supporting apparatus is so simple and yet so well arranged as not to be liable to get out of order and yet to be so delicately and carefully hung as to make the work of the scale reach  
65 a high degree of perfection.

I do not wish to confine myself to a single inner revolving beam, as two or more cylin-

ders could be used, if desirable, one within the other, without departing from the spirit of my invention.

While I have shown a slot or opening on only one side of the outer chart, it is obvious that the chart could be provided with open-  
70 ings on both sides, if desired.

Having now described my invention, what  
75 I claim as new, and desire to secure by Letters Patent, is—

1. In a scale, the combination with a suitable platform-supporting means, of a weighing-beam connected therewith and provided  
80 with upwardly-extending arms, a weighing and computing panel pivoted between said arms consisting of a frame, a chart mounted therein, said chart being hollow and provided with a slot in one side, a revoluble cylindrical  
85 chart mounted within said outer chart and adapted to reveal computations opposite to the said slot and a sliding poise upon said panel, substantially as described.

2. In a scale, the combination with plat-  
90 form-supporting means, a tare-beam connected therewith having upwardly-extending arms, a computing-panel pivotally mounted between said arms consisting of a suitable  
95 frame, a chart mounted in said frame comprising outwardly-curved pieces having scale divisions and longitudinal spaces upon their outer surface, said spaces being provided with monetary divisions for indicating the  
100 different prices of different weights, one of said curved pieces being provided with a longitudinal slot, a central cylindrical chart mounted interiorly of said curved pieces and having one end of its shaft extending beyond  
105 one of the supporting-arms and a disk upon the end of said shaft for revolving the said cylindrical chart, substantially as described.

3. In a scale the combination with platform-supporting means, a tare-beam connected  
110 therewith having upwardly-extending arms, a computing-panel pivotally mounted between said arms above the fulcrum-point of the said beam consisting of a suitable frame journaled in the ends of the arms, a chart  
115 mounted in said frame comprising outwardly-curved pieces having scale divisions and longitudinal spaces upon their outer surface, said spaces being provided with monetary divisions for indicating the different prices of  
120 different weights, one of said curved pieces being provided with a longitudinal slot, a central cylindrical chart mounted interiorly of said curved pieces and having upon its exterior surface longitudinal spaces provided  
125 with price-per-pound numerals and computations for different numbers of pounds, means for revolving said chart to bring the required computations opposite the said slot, a poise adapted to slide upon said panel having price-  
130 per-pound numerals thereon and computations of prices for different numbers of pounds, substantially as described.

4. In a scale the combination with suitable platform-supporting means, a tare-beam con-



5 nected therewith having upwardly-extending  
arms at each end, a panel pivotally mounted  
between said arms consisting of a frame hav-  
ing side grooved bars for holding a chart be-  
neath them and end bars for connecting the  
said side bars and a spring adapted to be in-  
terposed between the end of the chart and  
the end of one of the journals therefor, where-  
by the chart is adapted to be held longitudi-  
nally with relation to said tare-beam for pre-  
venting the throwing out of balance of the  
said beam, substantially as described.

15 5. In a scale, the combination with an in-  
closing base, of a platform-supporting frame  
having side bars provided with depending  
legs, bearings mounted in said legs for sup-  
porting them upon knife-edges, the construc-  
tion of the inclosing base and legs of the sup-  
porting-frame being such that the said bear-  
ings cannot slip from the knife-edges upon  
tipping the scale, and connecting-bars for  
joining the said side bars whereby the said  
platform may be mounted in said base and  
suspended upon the said knife-edges, sub-  
stantially as described.

30 6. In a scale, the combination with an in-  
closing base, of a platform-supporting frame  
having side bars provided with depending  
legs, bearings mounted in said legs for sup-  
porting them upon knife-edges, the construc-  
tion of the inclosing base and the said legs  
being such that the bearings will not become  
detached from the knife-edges upon tipping  
the scale, and flat connecting-bars for join-  
ing the said side bars whereby upon twisting  
the said connecting-bars the supporting-  
frame may be adjusted and trued and the  
platform may be mounted in the base, sub-  
stantially as described.

40 7. In a scale, the combination of a separa-  
ble platform-supporting frame having pend-  
ent projections at the corners and loops loosely  
mounted in said projections for supporting  
the said platform-supporting frame, the con-  
struction of the said pendent projections be-  
ing such that the said loops cannot be acci-  
dentally displaced and means for supporting  
the said loops upon the base of the scale, sub-  
stantially as described.

50 8. In a scale, the combination with an in-  
closing base, of a platform-supporting frame  
comprising side bars provided with depend-  
ing legs, bearings mounted in the said legs  
for supporting them upon knife-edges, the  
construction of the inclosing base and the  
legs of the supporting-frame being such that  
the bearings will not become disengaged from  
the knife-edges upon tilting the scale, and  
connecting-bars for joining the said side bars  
whereby the platform may be mounted in the  
base and the sides of the platform may be  
varied to suit different scales by making the  
connecting-bars of different lengths, substan-  
tially as described.

65 9. In a scale, the combination with a plat-  
form, of a supporting-frame having depend-  
ing legs adapted to inclose and engage sup-

porting-loops, said frame comprising connect-  
ing-bars adapted to connect the said depend-  
ing legs whereby the frame may be made  
larger or smaller by inserting different-length  
bars, levers for supporting the said loops,  
loops for suspending the said levers from the  
base of the scale and means for connecting  
the said levers, substantially as described.

75 10. In a scale, the combination with a plat-  
form, of a platform-supporting frame having  
depending legs provided with inclosing re-  
cesses, loops mounted in said recesses and en-  
gaging knife-edges for supporting the said  
frame in the scale-base, the construction of  
the depending legs being such that the loops  
will not become disconnected from the knife-  
edges upon tipping or moving of the scale,  
substantially as described.

85 11. In a scale, the combination with a plat-  
form, of a platform-supporting means com-  
prising levers having horizontally-arranged  
shafts, oppositely-extending end portions  
upon said shafts, knife-edges secured in said  
end portions, suspending-loops pivotally hung  
from depending eyes on the base of the scale,  
said loops being adapted to support the outer  
knife-edges of the said levers, a platform-  
supporting frame having depending legs pro-  
vided with inclosing recesses, loops pivotally  
mounted in said recesses and adapted to en-  
gage the inner knife-edges of said levers for  
supporting the said platform-frame upon the  
same and means for connecting the said le-  
vers, substantially as described.

12. In a scale, the combination with a plat-  
form, of a platform-supporting frame, com-  
prising depending legs adapted to engage  
knife-edges for supporting the said frame in  
the scale-base, connecting-bars for joining  
said depending legs whereby the frame may  
be adjusted and projecting lugs near the cor-  
ners of the frame for limiting its lateral and  
longitudinal movement, substantially as de-  
scribed.

13. In a scale, the combination of one or  
more revolving computing-charts mounted  
within an outer revolving chart, said outer  
and inner charts being provided with weights  
and monetary divisions upon their outer sur-  
faces, the outer revolving chart or charts hav-  
ing sight-openings, substantially as described.

14. In a scale, the combination with a plat-  
form, of a platform-supporting frame having  
depending legs provided with recesses par-  
tially inclosing the loops which are pivoted  
therein and which engage knife-edges for  
supporting the said frame, the frame having  
center connecting means for connecting the  
depending legs, substantially as described.

15. In a scale, the combination with an in-  
closing base, of a platform-supporting frame  
provided with recesses at its corners, and  
loops loosely mounted in the said recesses and  
adapted to engage knife-edges for supporting  
the said frame, the construction of the sup-  
porting-frame being such that the bearings  
will not become misplaced with respect to



the knife-edges upon tipping the scale, substantially as described.

16. In a scale, the combination with an inclosing base, of a platform-supporting frame  
5 provided with recesses at its lower corners, loops pivotally mounted in the said recesses and partially inclosed by the same and adapted to engage knife-edges for supporting the said frame, and bearing-surfaces upon the  
10 upper part of the supporting-frame for supporting a platform, the construction of the

supporting-frame being such that the bearings will not become misplaced with respect to the knife-edges upon tipping the scale, substantially as described.

15

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES G. STRUBLER.

Witnesses:

JAMES B. ROWLEY,  
BEN THARP.