

No. 854,285.

PATENTED MAY 21, 1907.

T. GAGNON.
WEIGHING SCALE.
APPLICATION FILED DEC. 24, 1906.

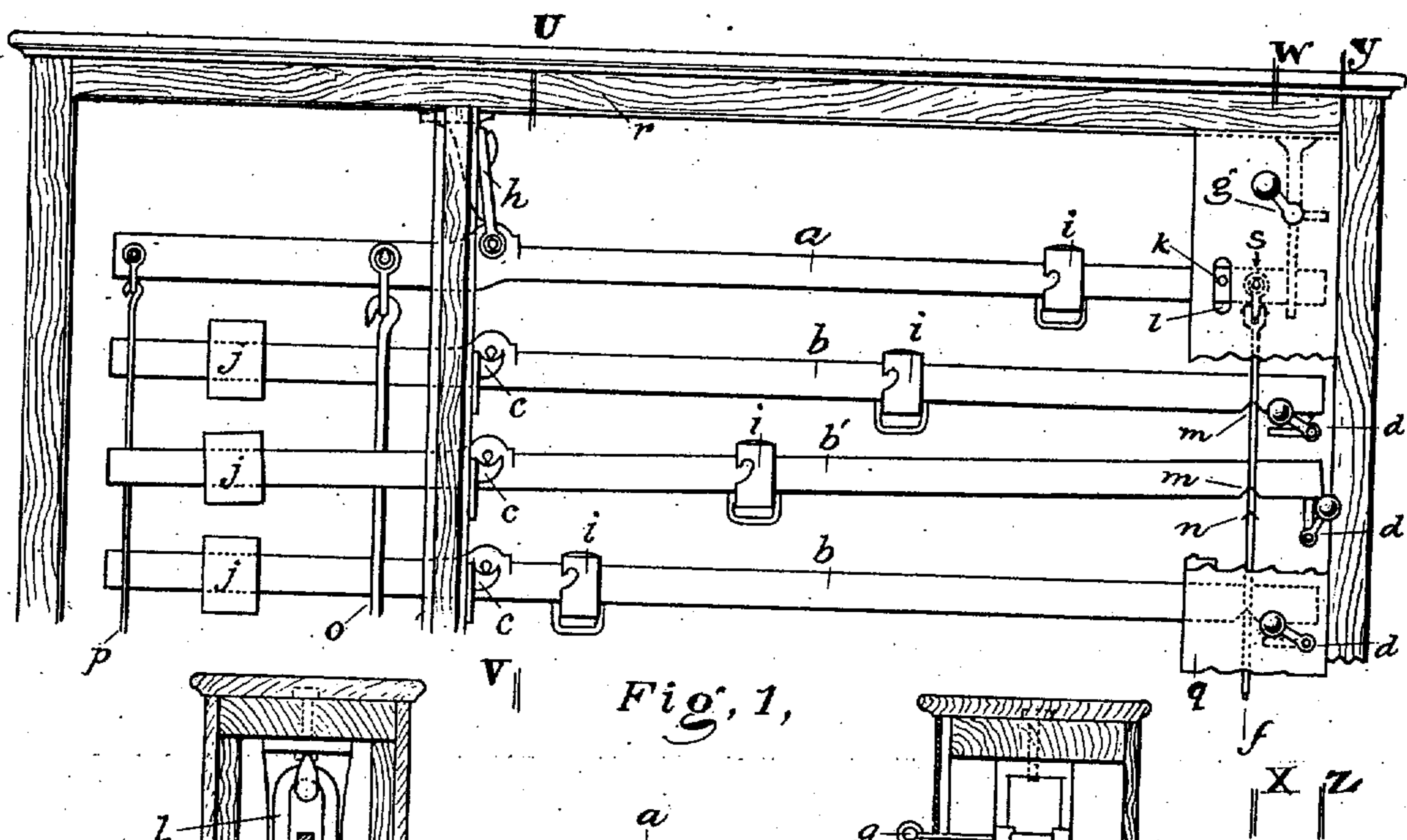


Fig. 1,

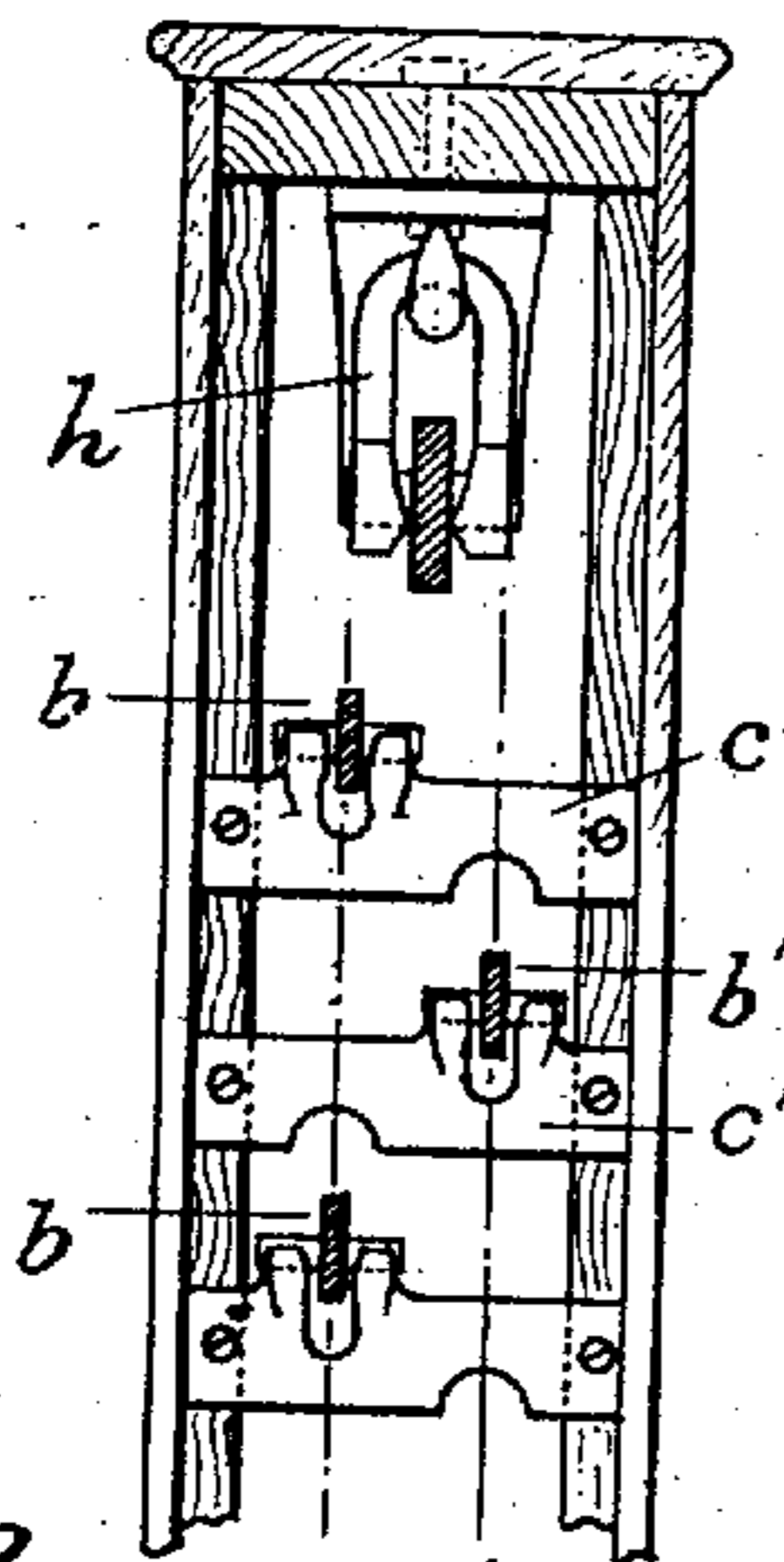


Fig. 2.

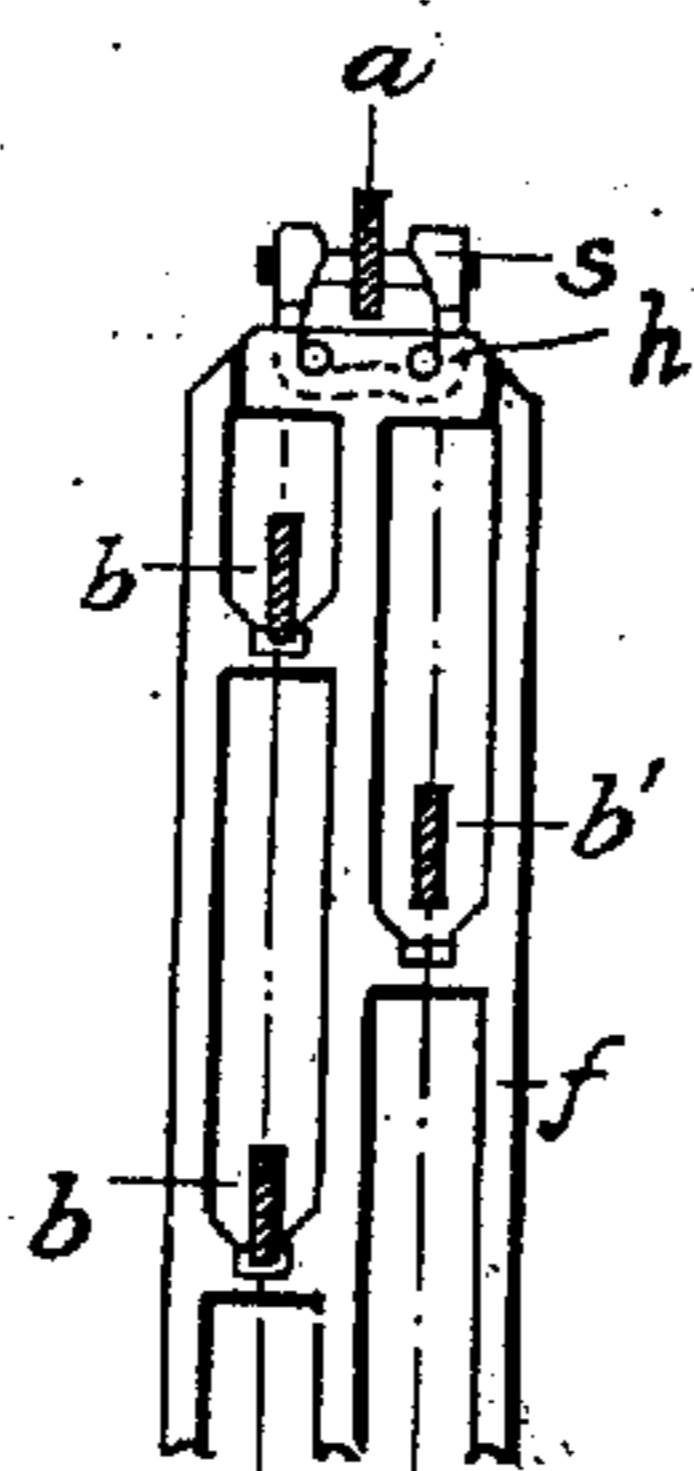


Fig. 3.

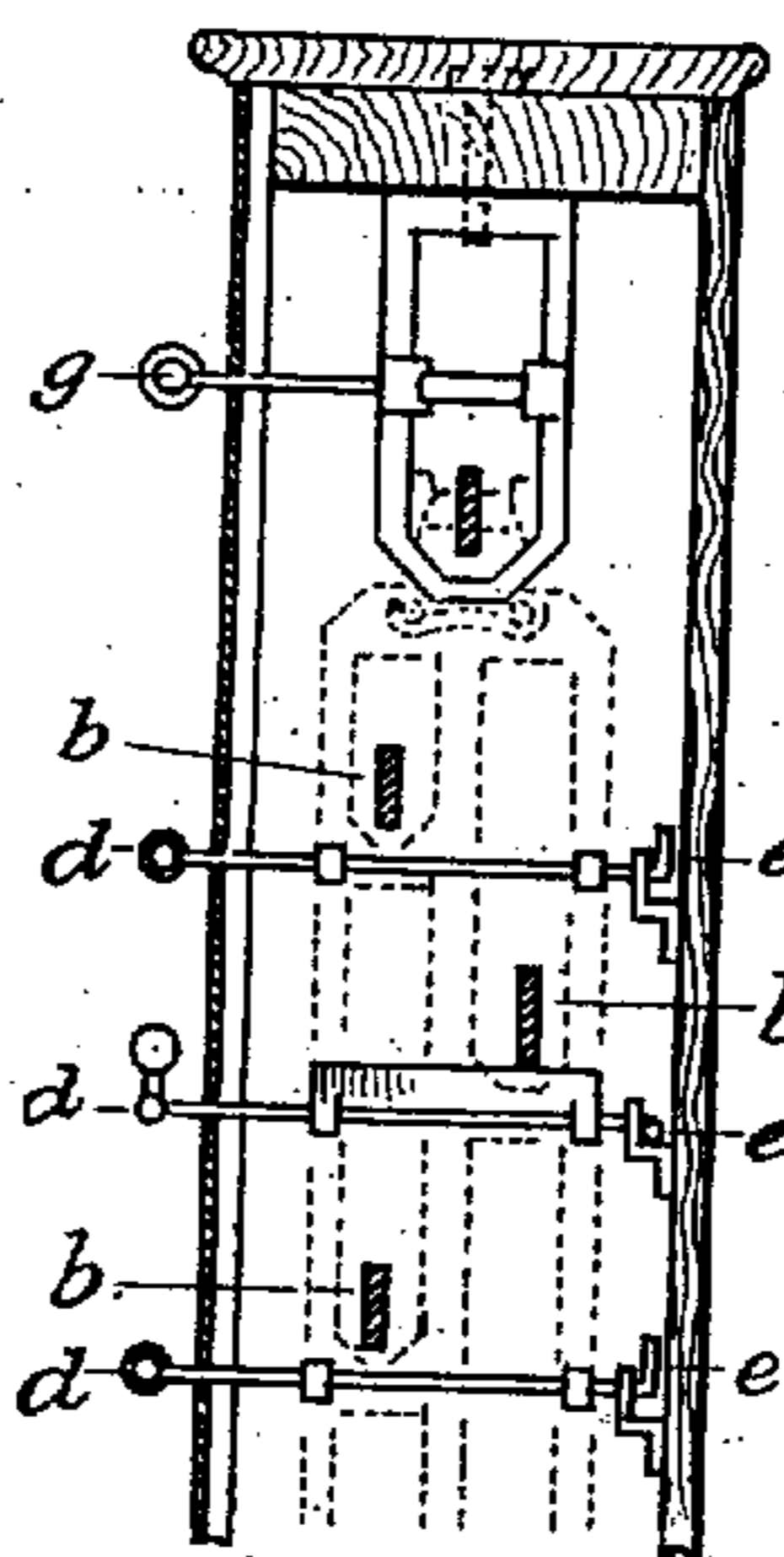


Fig. 4.

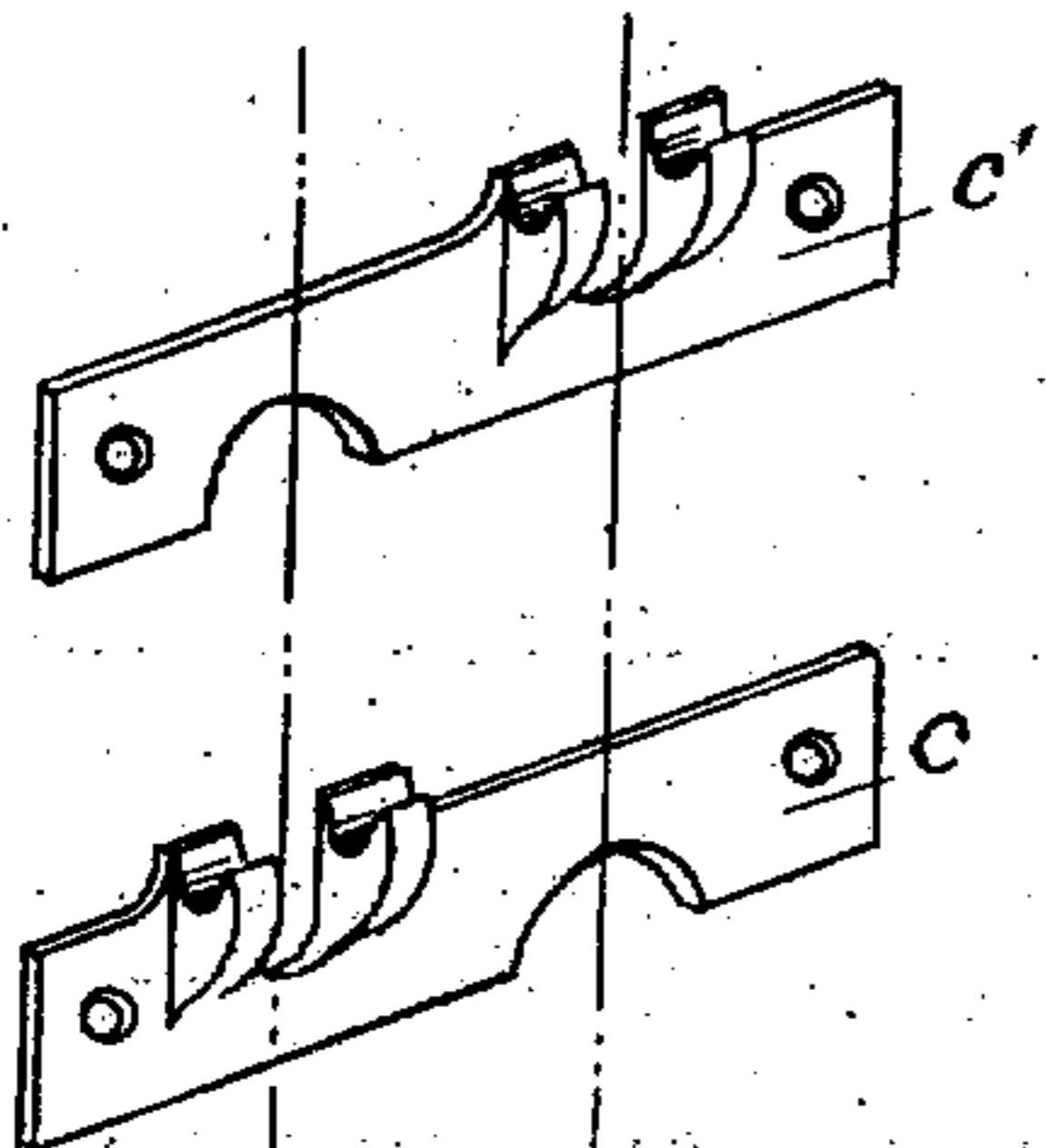


Fig. 5.

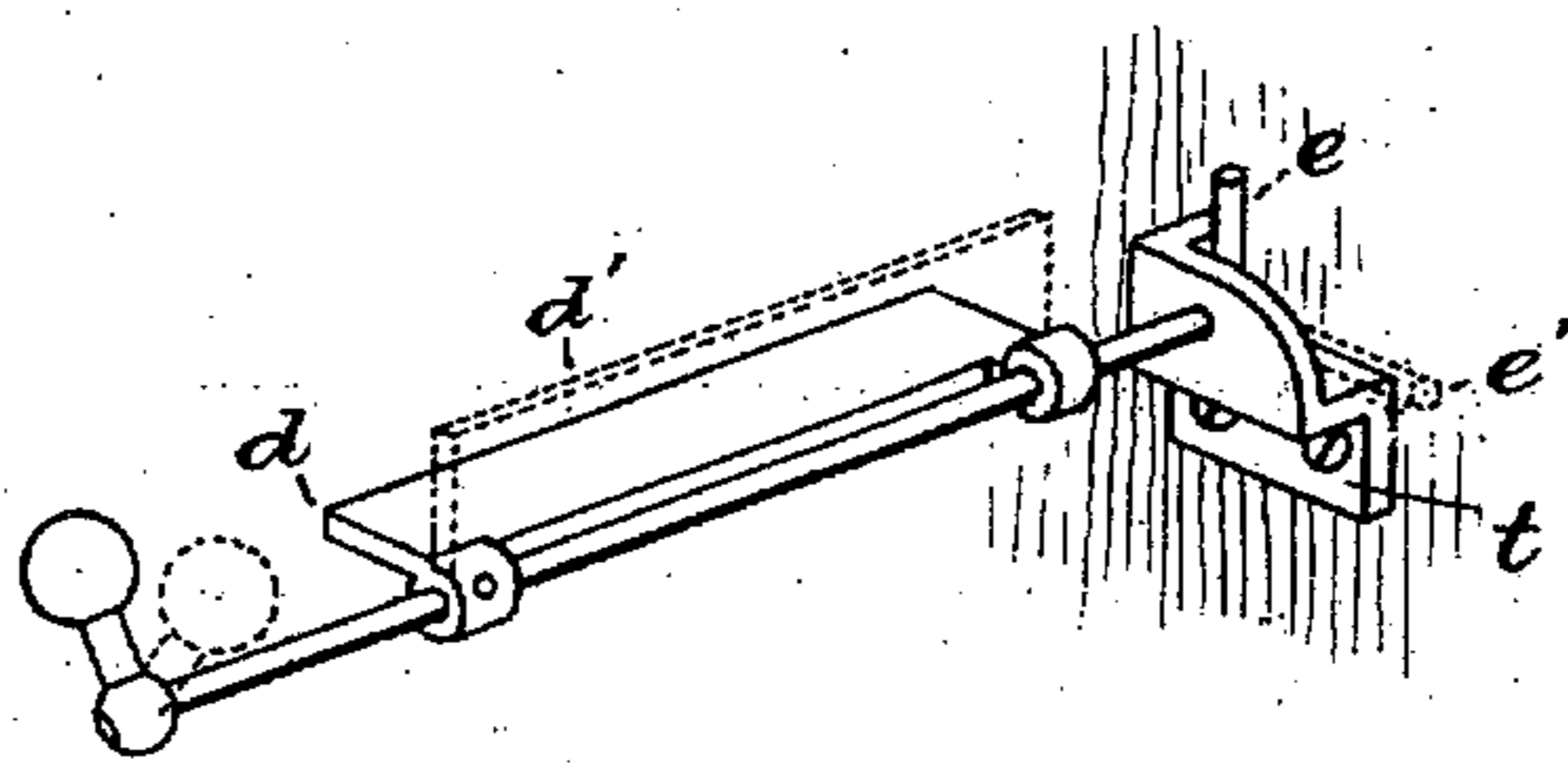


Fig. 6.

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WEIGHING-SCALE.

No. 854,285.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed December 24, 1906. Serial No. 349,223.

To all whom it may concern:

Be it known that I, THOMAS GAGNON, a subject of the King of Great Britain and Ireland, residing at St. Johnsbury, in the county of Caledonia, State of Vermont, have invented certain new and useful Improvements in Weighing-Scales, of which the following is a description, reference being had to the accompanying drawings and to the letters and figures of reference marked thereon.

My invention relates to an improvement in weighing scales, and has been especially designed as an improvement on charging or ingredient scales in which beneath an independent main beam are supported a series of ingredient beams any one of which can be disengaged from its support and attached to the main beam.

It has been found in practice that where more than a limited number of beams must be used, and the beams are one directly beneath the other, that the upper beam or beams are difficult of access.

One feature of the present invention, therefore, relates to the arrangement of the beams in two series, one each side the center line, thus staggering them, and taking up just one half the vertical space as before.

Another feature of the present invention relates to a novel means for disengaging the ingredient beams from that position in which they really form a part of the main beam.

The invention also comprises various details, as hereinafter referred to in the appended claims.

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

Figure 1 is a front view of the beam box, showing the main beam and a few ingredient beams; Fig. 2 is a section on line U—V; Fig. 3 is a section on line W—X; Fig. 4 is a section on the line Y—Z; Fig. 5 is a detail of the bearings in which the beams rest; and Fig. 6 is a detail view of the latch by which the beams are thrown into and out of operation.

In these drawings, the main beam is shown at *a*, and it is connected with the scale by the rod *o*. A loop *s* and pivot are carried by the other end of this beam, from which hangs what I have termed a ladder *f*. This ladder is hung from the loop by two pins *h*, so that as the load is applied first to one side and then

to the other, the ladder will not swing but hang plumb.

The ingredient beams are arranged in two series *b*, *b'*, each having a knife edge support on the bars *c*, supported by the beam box *r*, and each having near its opposite end a notch *m* adapted to engage a knife edge *n* on the ladder *f*, and when so engaged really forms a part of the beam *a*, and is then in position to weigh.

It will be seen that each of the bars *c*, supports alternately a beam *b* and beam *b'*, thus giving a staggered effect to the beams, each bar being notched on its under side above the beam attached to the next lower bar, so also the knife edges on the ladder *f* are correspondingly arranged. By this construction, a maximum number of beams may be arranged in the box, without objectionably increasing the height.

As a further improvement, I have provided a special construction of latch for raising and lowering the beams *b*, *b'*, from engagement with the ladder, thus rendering it inoperative, or operative as a part of the beam *a*.

Referring particularly to Figs. 4 and 6, *d* represents the latch which is shown in full lines as turned down allowing the beam to rest on the ladder. The holder *t* which supports one end of the shaft to which the latch is fixed, is formed to act as a stop against which the bent end *e* of the shaft bears. When the latch is turned to the position shown in dotted lines in Fig. 6, the holder also acts as a stop for the shaft.

An indicator *k*, attached to the beam *a*, projects through an opening *l* in the front of the beam box, so that when the entire box is closed, the motion of the beam may still be observed.

The poises *i* are of usual construction, and have the customary latches.

g is the trigger to fasten the beam when not in use; *j* is a poise to balance up the empty beam and *p* is a rod to which balance weights may be attached.

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

1. In combination, a main beam, a plurality of sets of auxiliary beams, those of one set being disposed in staggered relation to the

beams of the other set, and means for connecting and disconnecting the main and auxiliary beams.

2. In a scale of the class described, a main beam, a plurality of sets of auxiliary beams disposed in staggered relation, a connecting ladder for the auxiliary beams and a ladder suspension means including a plurality of spaced supports to prevent side swaying of the ladder.

3. In weighing scales, the combination of a plurality of beams arranged in series, the beams of each series being arranged vertically, but the beams of one series being staggered with relation to those of the other series, bars carrying pivot supports for the knife edges of said beams, and a ladder carrying knife edges to support the opposite ends of said beams; substantially as described.

4. In weighing scales, the combination of a plurality of beams arranged in series, the beams of each series being arranged vertically, but the beams of one series being staggered with relation to those of the other series, bars *c*, each having on its upper face a beam support, and on its opposite lower face

a notch to allow of movement of the beam beneath, the beam support on one bar being opposite the notch on the bar above; substantially as described.

5. In a weighing scale, an engaging and releasing latch, a carrying shaft therefor, said shaft having a projection or arm at one end, and a shaft holder or support having stop faces with which said projection or arm engages to hold the latch in adjusted position.

6. In combination with the main beam and ladder *f* carried thereby, a beam box, a shaft holder carried thereby, a series of ingredient beams adapted to be engaged or disengaged from the latter, a latch *d* and a latch shaft having a projection at one end adapted in both raised and lowered positions to engage the holder; substantially as described.

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

THOMAS GAGNON.

Witnesses:

PERLEY F. HAZEN,
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