T. Fairbanks.

Balance Scales.

No. 34,676. Patented Mar. 18, 1862.

Fig. 1.

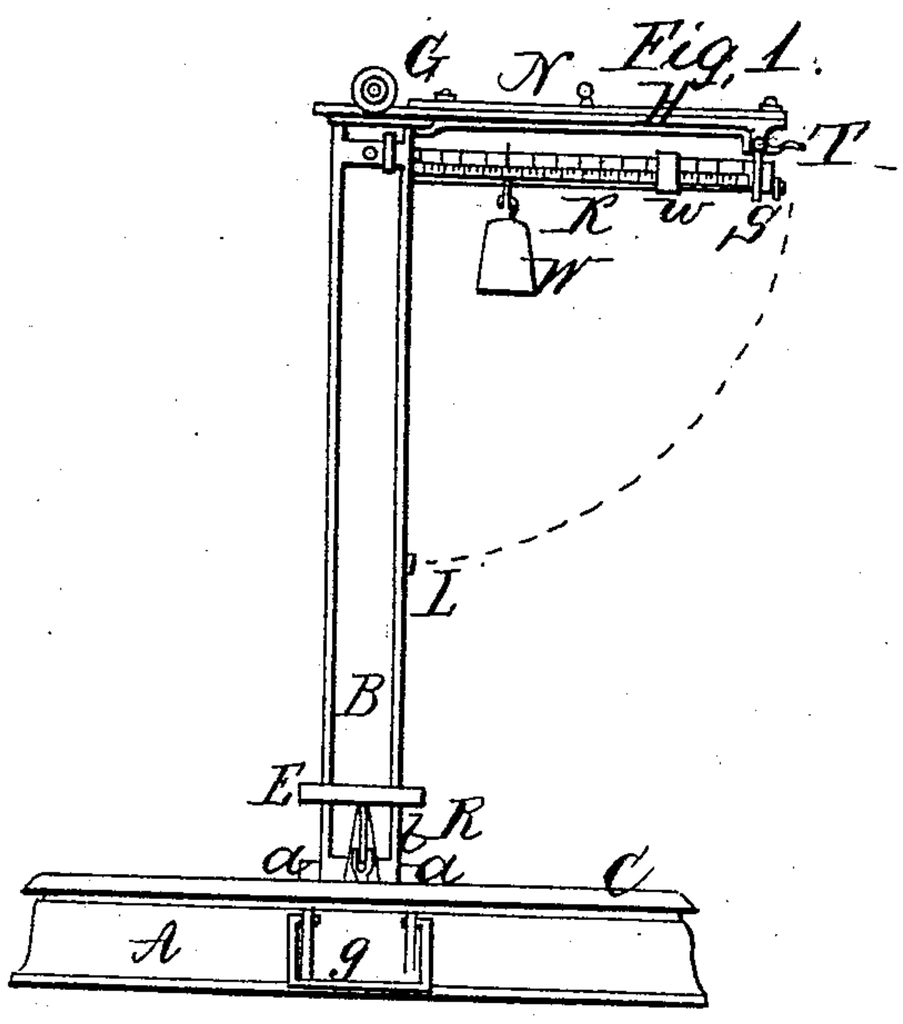


Fig. 2

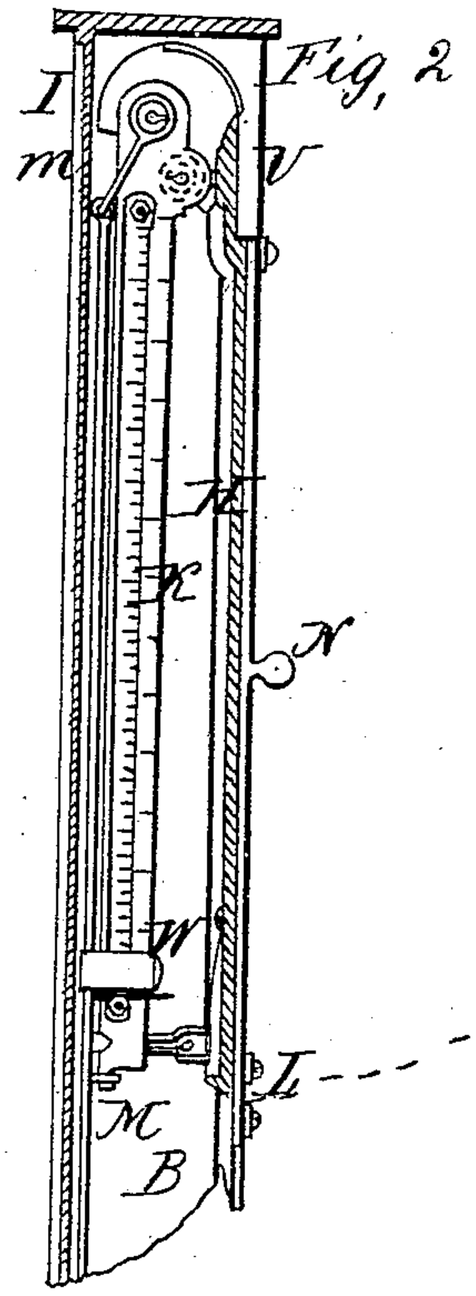


Fig. 4.

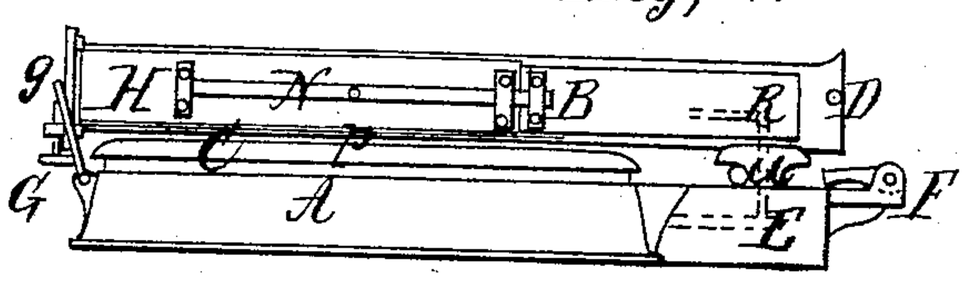


Fig. 5.

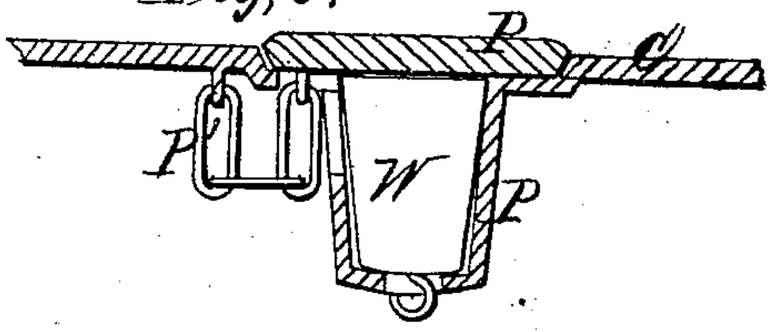
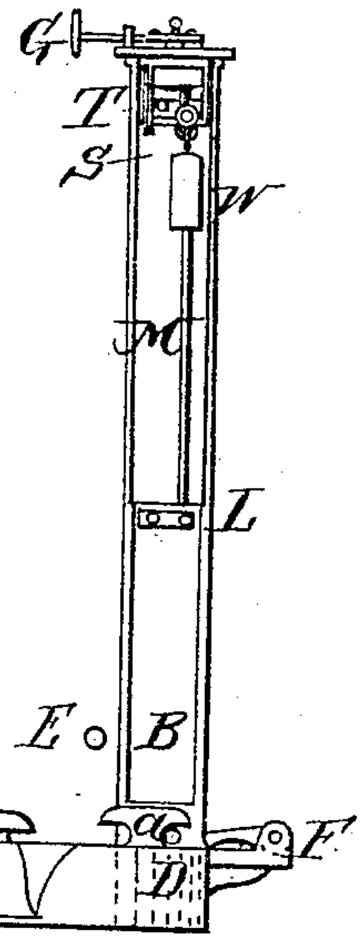


Fig. 3



Witnesses,
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UNITED STATES PATENT OFFICE.

THADDEUS FAIRBANKS, OF ST. JOHNSBURY, VERMONT.

IMPROVEMENT IN PLATFORM-SCALES.

Specification forming part of Letters Patent No. **34,676**, dated March 18, 1862.

To all whom it may concern:

Be it known that I, THADDEUS FAIRBANKS, of St. Johnsbury, in the county of Caledonia and State of Vermont, have invented certain new and useful Improvements in Scales, forming what I term a "Commissary Scale;" and I hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

By my invention the scale is capable of being reduced at will to a more compact form than that required when in use, and is in this condition capable of being locked with any degree of security. By these features the scale is rendered more portable and is adapted for use in places where the ordinary scale is objectionable on account of its bulk—as, for instance, for commissary and general army purposes. It may also be allowed to stand unwatched on wharves and other exposed places with little danger of the loss of any of its parts by theft.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by the aid of the drawings and of the letters of reference marked thereon.

Figure 1 is a front elevation of my improved scale when extended for use, in which state it may resemble very closely in appearance and be identical in its action with what is known as the ordinary "Fairbanks platform-scale." Fig. 2 is a section of the upper portion of the pillar with the beam and cap with their connections folded down and secured therein. Fig. 3 is a side elevation with the parts in the same position, showing the manner in which the pillar is supported in its vertical position. Fig. 4 is a similar view with the pillar folded down and secured upon the platform so as to occupy little room and be convenient for transportation; and Fig. 5 is a section of a portion of the platform, showing the means provided for stowing the poise when the scale is thus folded.

Similar letters of reference indicate like parts in all the figures.

A represents the base or hollow case which forms the foundation and main body of the structure. The manner in which the platform C is mounted and supported on levers and loops within the base A is similar to that in the ordinary well-known Fairbanks platform-scale, and does not require particular description.

The pillar B, which is usually fixed permanently upon the base and made to carry a permanently-horizontal arm or "cap," is in my invention made capable of assuming several different conditions, and involves, with its connections, the principal novelties of my invention. It is cast hollow, as usual, and of about the size usually adopted for scales of corresponding capacity. It is provided with four lugs or projections, two on each side, as at D E, Figs. 3 and 4. Two ears *a* are cast upon the vase A, one on each side of the place where the pillar B is to stand. These ears are fitted to receive the lugs D in the manner represented, and thus hold the pillar in an upright position, as shown in Fig. 3, and also to receive the lugs E when inserted from the opposite direction, and thus to confine one end of the pillar when in the horizontal position, as shown in Fig. 4. A dog or pawl F, attached to the base A, is made to press against the foot of the pillar when in the upright position, and thus to prevent the lugs D from being removed from the ears *a*, as is shown in Fig. 3. At the other end of the pillar a screw G is passed through a lug cast on the pillar for that purpose, and so arranged that when the pillar is in a horizontal position, as shown in Fig. 4, the ordinary loop-formed handle *g* may be placed over the end of said screw, and by turning the latter the pillar be bound fast to the base, lying across the platform C.

The cap H is not bolted fast to the pillar, as in ordinary scales, but is hinged at the point I, and the side of the pillar B is left open in such a manner that the cap H may be folded down into the same similarly to the blade of an ordinary pocket-knife, and when thus folded it comes flush with and fills the recess in the side of the pillar, as shown in Fig. 2.

The beam K may be constructed the same as in ordinary scales, and is hung in the same manner, except that the beam-loop U is fixed to or forms a part of the same casting as the hinged cap H, and turns therewith, and the beam is so hung relatively to the cap that the knife-edges *m*, by which the steelyard-rod M is attached to the beam K, lie in or near the

axis of the hinge I, so that when the cap H and beam K are folded within the pillar B, as shown in Fig. 2, the position of the steelyard-rod M is not affected materially thereby, but is rather lowered than otherwise. I prefer to use the double beam K, as represented, the sliding poise *w* remaining upon the beam when folded, and the heavy poise W being the only piece which requires to be detached to prepare the parts for stowage.

On the cap H, I place a bolt N, extending lengthwise of the cap, and capable of sliding within proper straps thereon. This bolt is slid over the top of the pillar B when the cap H is in the horizontal position, as in Fig. 1, and thus holds the said cap extended ready for use. When the beam K and its attachments are stowed away by H being folded into the pillar, as described, the bolt N is slid into a socket L provided for that purpose on B, and thus holds the cap firmly in that position also. A joint R is provided in the steelyard-rod M at the proper point to allow the pillar B to be folded down upon the platform without disconnecting the said steelyard-rod or requiring other attention thereto, and a slot *b* is provided in the pillar B to allow of the said rod assuming its proper position when the pillar is thus folded down.

The ordinary arrangement of the levers in the base of the Fairbanks scale is such that there is a vacant space in the center of the platform, and I take advantage of this fact for providing a place for stowing the heavy poise W when the scale is folded for transportation. I form a pocket P, Fig. 5, in the center of the platform C, fitted to receive the poise W, and fit a cover *p* thereto, which is hung by a short chain *p'* in such a way as to allow the insertion and removal of W, but so that it cannot be itself lost. This cover may have a raised surface, as represented, so that when the pillar is folded upon the platform it will bear upon and confine both *p* and W.

The operation is as follows: Supposing the scale to be in the condition shown in Fig. 1, ready for use, and it be desired to prepare it for transportation. First the heavy poise W is unhooked and stowed in the pocket P, the trigger T is turned down to hold the beam snug in the cap-loop S, the cap-bolt N is unlocked from B, and the cap, with al lthe parts attached thereto, is thus released and ready to be folded into the pillar B and locked therein by means of the bolt N and the socket L, as represented in Fig. 2. The dog F is then turned back, and the base of the pillar B moved outward sufficiently to release the lugs D from the ears *a*. The pillar B is then laid down across the center of the platform C, the lugs E are slipped beneath the ears *a*, and the handle *g* is turned over the screw G. Next, by turning the screw G tightly against the handle *g*, the pillar B is bound fast to the base A, pressing with such force upon the platform C that the slack of the levers is taken up and everything is snug and ready for removal. By reversing the operation the scale is prepared for use in a very short period.

It will be seen that the poise W is the only loose part which can become detached and mislaid, and that, the loss of this being guarded against with ordinary care, there is very little liability of the parts becoming deranged.

When adjusted for use, my improved scale may possess all the valuable qualities of any of the well-known varieties, and may be made as accurate as the most approved form. When folded, it is very compact, and the parts are so confined that they are not only secure against breakage and derangement from the handling and concussions incident to transportation, but the vulnerable parts are concealed and out of the reach of mischievous or evil-disposed persons. If desired, in exposed situations a lock may be provided for further confining the cap within the pillar, so as to prevent any access to the interior of the pillar by any person not provided with a key. This latter advantage will be appreciated by those who know the liability of loss of the brass beam of the ordinary scale by theft.

Having thus fully described my improvements, what I claim as new therein, and desire to secure by Letters Patent, is—

1. Securing the pillar B to the base and supporting it in both the upright and horizontal positions by means of the lugs D E and ears *a* or their equivalents, substantially in the manner herein described.

2. The employment of the dog F, in combination with the folding pillar B, for the purpose of readily securing and releasing the latter when in the upright position.

3. Folding the beam K and its attachments against or within the pillar B, substantially as and for the purpose herein set forth.

4. The double-acting cap-bolt N, in combination with the folding cap H, and pillar B for fastening the said cap H in both the folded and extended positions by the same bolt, substantially as herein specified.

5. The combination of the loop or handle *g* and screw G for tightly confining the pillar B to the base when in the folded condition, substantially as herein shown.

6. Stowing and confining the poise W within a pocket or recess P in the platform, substantially as and for the purpose herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THADDEUS FAIRBANKS.

Witnesses:

THOMAS SPOONER,

D. O. KINSMAN.