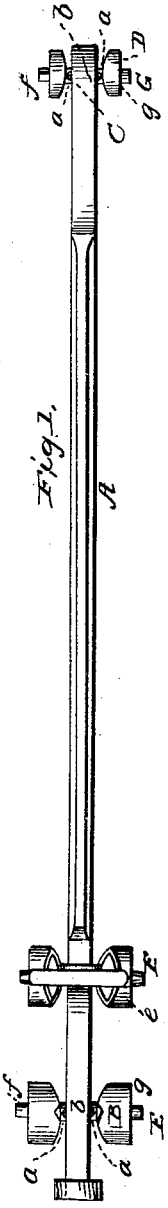
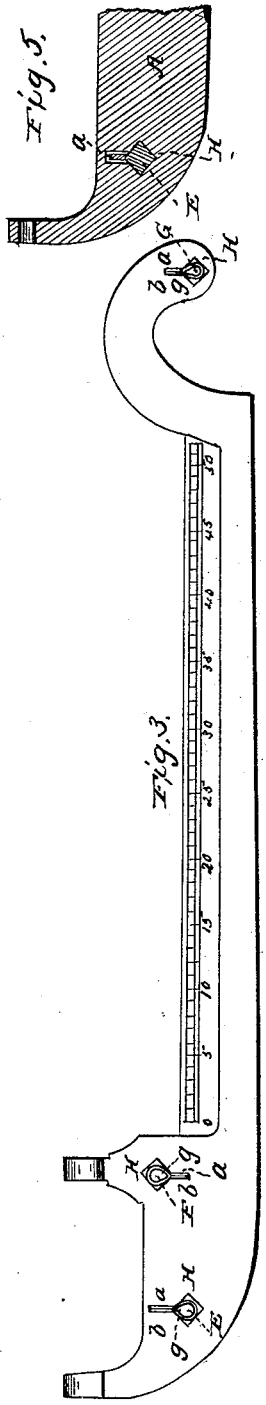
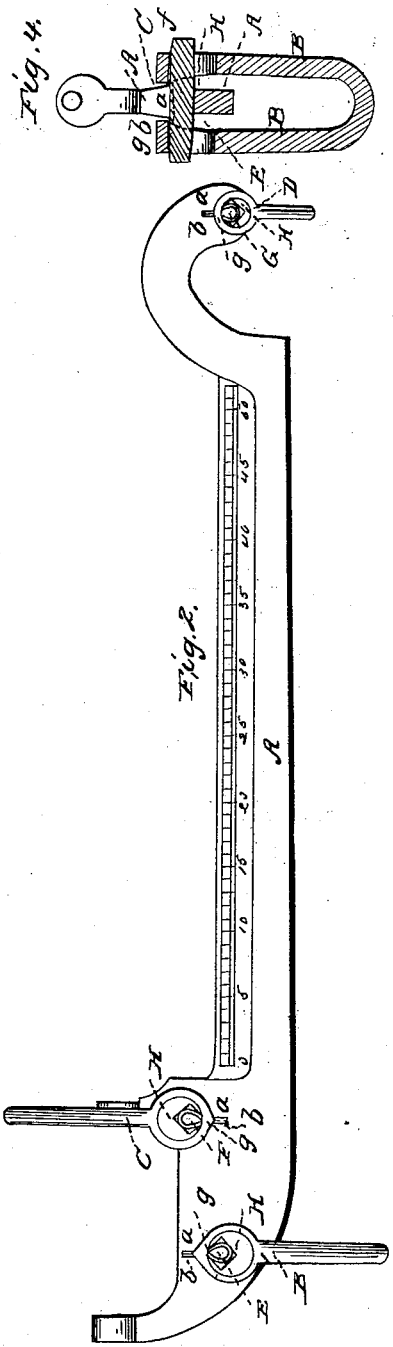
W. P. PIERCE.

Weighing Scales.

No. 7,270. Patented April 9, 1850.







UNITED STATES PATENT OFFICE.

WM. P. PIERCE, OF ST. JOHNSBURY, VERMONT, ASSIGNOR TO E. & T. FAIRBANKS & CO.

SCALE-BEAM.

Specification of Letters Patent No. 7,270, dated April 9, 1850.

To all whom it may concern:

Be it known that I, WILLIAM P. PIERCE, of St. Johnsbury, in the county of Caledonia and State of Vermont, have invented a new and useful Improvement in Scales for Weighing; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1, denotes a top view of a scale balance or beam having my improvement applied to each of its suspension loops. Fig. 2, is a front elevation of it. Fig. 3, is a front elevation of it without the loops. Fig. 4, is a vertical and transverse section of it, taken through one of the knife edge bearings, and the loop hanging thereon.

In the said drawings A, represents the scale beam. B, C, D, the suspension loops thereof. E, F, G, the knife edge bearings of the loops.

A considerable inaccuracy in the operation of weighing is often found to result from the manner in which the hanging loops of the scale beam are usually constructed and applied to it, and this in consequence of the bearing or rubbing of one of the inner faces or surfaces of the loop, against the side of the beam. Whenever this takes place, besides the friction generated, more or less dirt, or foreign matter is liable to collect about or on the rubbed surface in such manner as often to constitute a considerable impediment to the correct operation of a nicely adjusted balance or beam. As scale or steelyard beams are used in commerce, the hands of the weigher are so constantly applied to the loops, and in close vicinity of the knife edges, that more or less of the foreign matter through them will be deposited on the loops and beam, and this getting between the inner sides of the loops, and on the sides of the beam, naturally ends in producing friction and wear of the surfaces of the beam and loop which may be brought into contact. It is customary to make the distance between the legs of the loop, where it rests on the knife edge bearings, somewhat greater than the thickness of the beam between them, but as one of the two inner edges of the eye ends of the loop, most generally is in contact with the side of the beam, the same being produced either by inattention or carelessness of the person who may be using the beam, the above mentioned difficulty cannot always be avoided.

In order to overcome the same, I insert in the bar, and directly above the knife edge bearing E, F, or G, a vertical plate of hardened steel *a*, which is made to extend at each end beyond the surface or side of the bar or beam A, and so as to constitute two salients or projections *b*, *c*, whose two sides are wrought down to angular or knife edges, which are respectively made to stand at an obtuse angle of about ninety five degrees to their respective knife edges *f*, *g*, of the bearings of the loop. They not only prevent the loop from contact with and rubbing against, either face or side of the beam, but should any sugar, dirt, or other material, liable to affect the operation of the loop, get upon the inner side of the loop, or between it and the adjacent surface of the beam, the salient *b*, or *c*, will scrape off the same, when the loop swings.

The plate *a*, is hollowed out on its upper side, and is inserted in the beam in a recess properly formed to receive it, and to cause the beam to project into the hollow of the plate, in such manner that when the piece of metal H, in which the knife edge bearings are made is driven into these places, they serve to hold the plate *a*, in place. This will be more particularly understood, by reference to Fig. 4, which denotes a section of part of the beam, the piece of metal H, and the plate *a*, the same being taken at right angles to the beam.

I claim—

In combination with the beam, and the knife edge bearings, of the loop, the two vertical or nearly vertical projections, salients, or knife edges, *b*, *c*, as arranged with respect to the loop and beam, substantially, in the manner, and for the purpose, herein before specified.

In testimony whereof I have hereto set my signature, this 23d day of January A. D. 1850.

WILLIAM P. PIERCE.

Witnesses:

JOHN H. PADDOCK,

J. P. BANCROFT.