

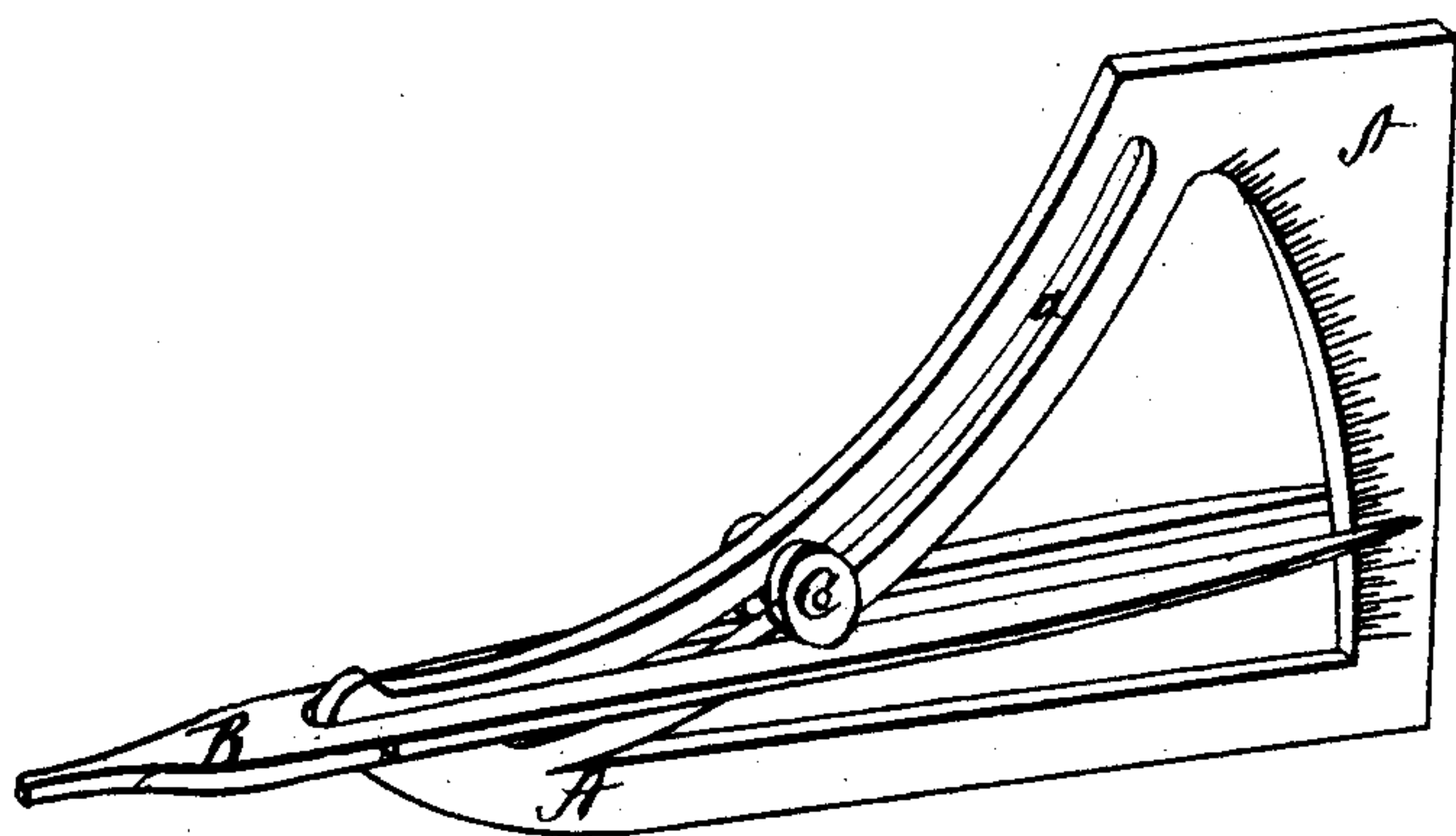
*G. W. King,*

*Balance.*

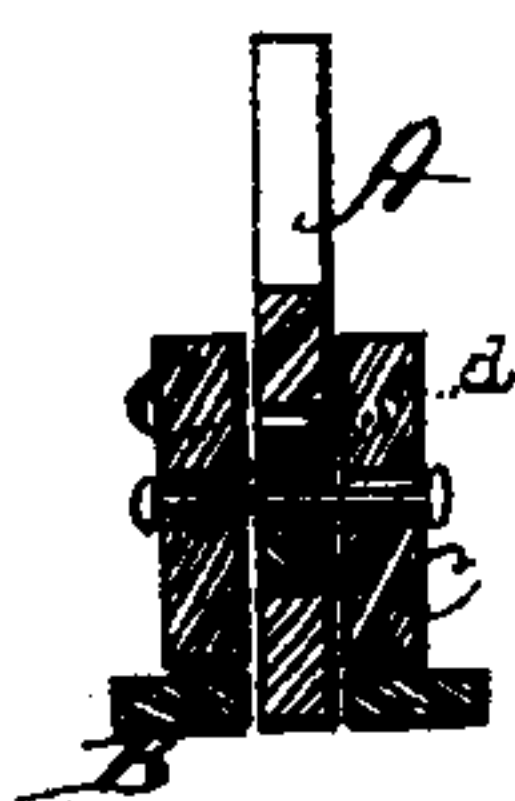
*No. 107,182.*

*Patented Sep. 6. 1870.*

*Fig 1*



*Fig 2*



*Witnesses*

*Harry King*  
*C. L. Hunt.*

*Inventor,*

*George W. King*  
*per*  
*Alexander Mason*

*Atty*

# United States Patent Office.

GEORGE W. KING, OF GEORGETOWN, DISTRICT OF COLUMBIA.

Letters Patent No. 107,182, dated September 6, 1870.

## IMPROVEMENT IN BALANCES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE W. KING, of Georgetown, in the county of Washington and in the District of Columbia, have invented certain new and useful improvements in Scales; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a "scale," as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view of my scale, and

Figure 2 is a sectional view through a portion of the scale, to be described hereafter.

In the drawing I have not deemed it necessary to represent more than what is actually necessary to show and describe properly my invention.

There should, of course, be a stand of suitable construction for my scale, from which stand rises a standard, A.

This standard may be made in any suitable shape, having a curved groove, *a*, as shown in fig. 1, said groove extending from the lower front edge upward and backward.

At the front end of the standard A is pivoted the balance-bar B, which is forked, so as to have an arm on each side of the standard, said arms extending the entire distance or length of the standard, or any desired distance, and are pointed at their rear ends.

Through the slot *a*, in the standard A, is passed a small shaft or rod, *b*, upon which is a friction-roller, *d*, and at each end a wheel, C, of suitable weight, which wheels rest upon the arms of the balance-bar B.

Upon the front or outer end of the balance-bar is placed the usual scoop or plate for scales, with or without a hook, and the rear side of the standard A be-

ing mathematically laid off, I am enabled to weigh any amount desired.

Supposing the scale is set for ounces and pounds, and it should be desired to weigh tens, twenties, &c., or hundreds, or even thousands, it can readily be done in the following manner:

Either by changing the fulcrum of the balance-bar to a certain point, which has to be determined by mathematical calculation; or it can be done by changing the revolving weights C C, or by both these methods combined.

The manner of pivoting the balance-bar B is immaterial, either by a pin passing through the same, or by V-shaped lugs attached to the sides of the standard and notches in the under side of the bar. In either case it is only a moment's work to change the fulcrum of the balance-bar.

It will be observed that this scale is very simple, and that there is no kind of complicated mechanism that can, by any possible means, get out of order, and hence the scale will always remain true.

Instead of having a stand, as a counter scale, the standard A may be hung up, its back resting against any thing solid, and consequently it will be of great advantage in markets, &c.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in scales, of a frame having a curved slot securing one or more weighted rollers acting upon a balance shaft pivoted to the front of the frame, substantially as set forth.

2. The combination of the triangular-shaped frame A, curved slot *a*, shaft *b*, roller *d*, weights C C, and bifurcated balance-shaft B, all constructed to operate substantially as set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 10th day of February, 1870.

Witnesses:

GEO. W. KING.

ARTHUR N. MARR,  
C. L. EVERT.