

No. 887,605.

PATENTED MAY 12, 1908.

W. J. C. DOWNEY.
COMBINED WIND GAGE AND ELEVATOR.

APPLICATION FILED JUNE 11, 1906.

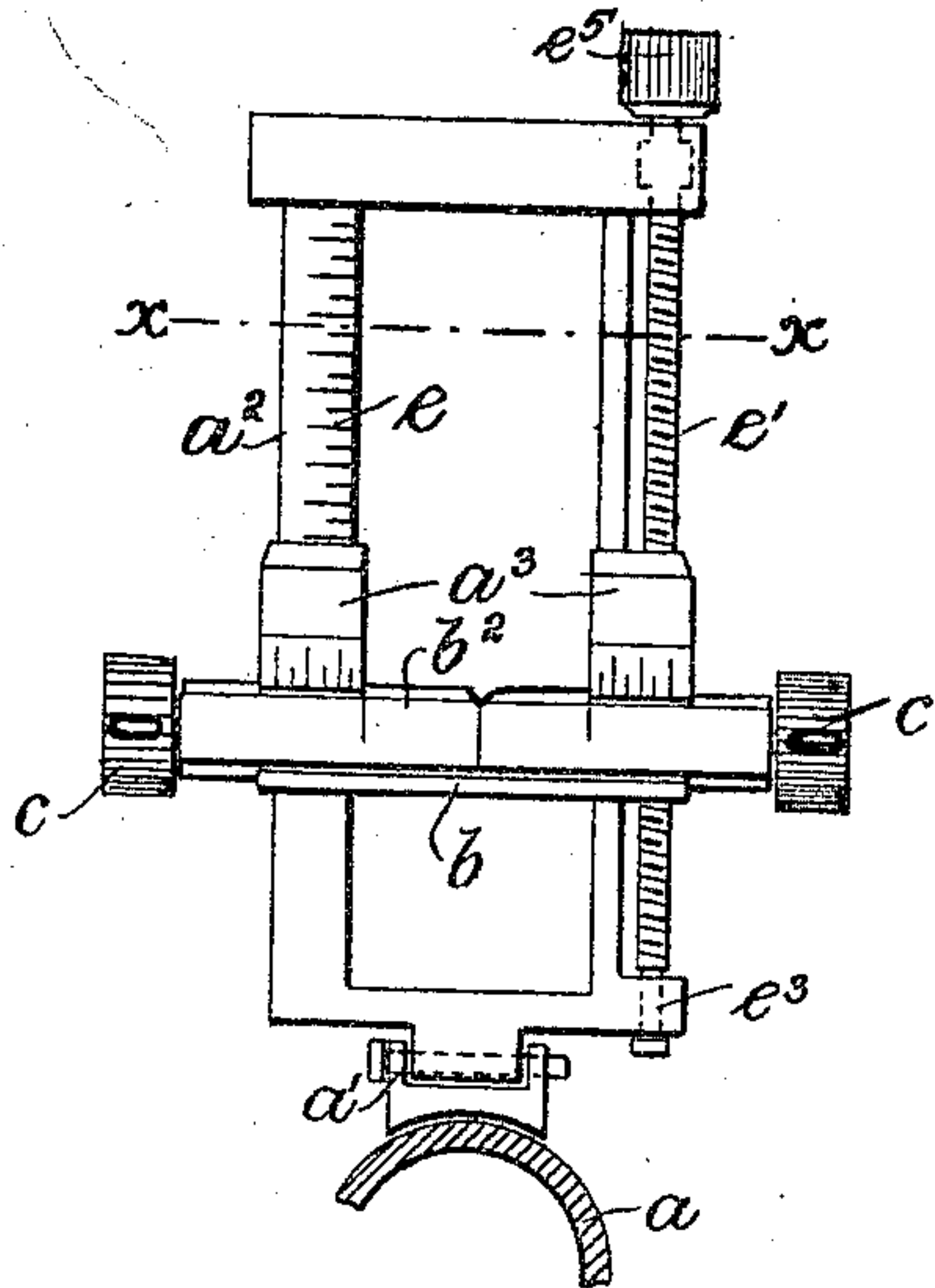


Fig: 1

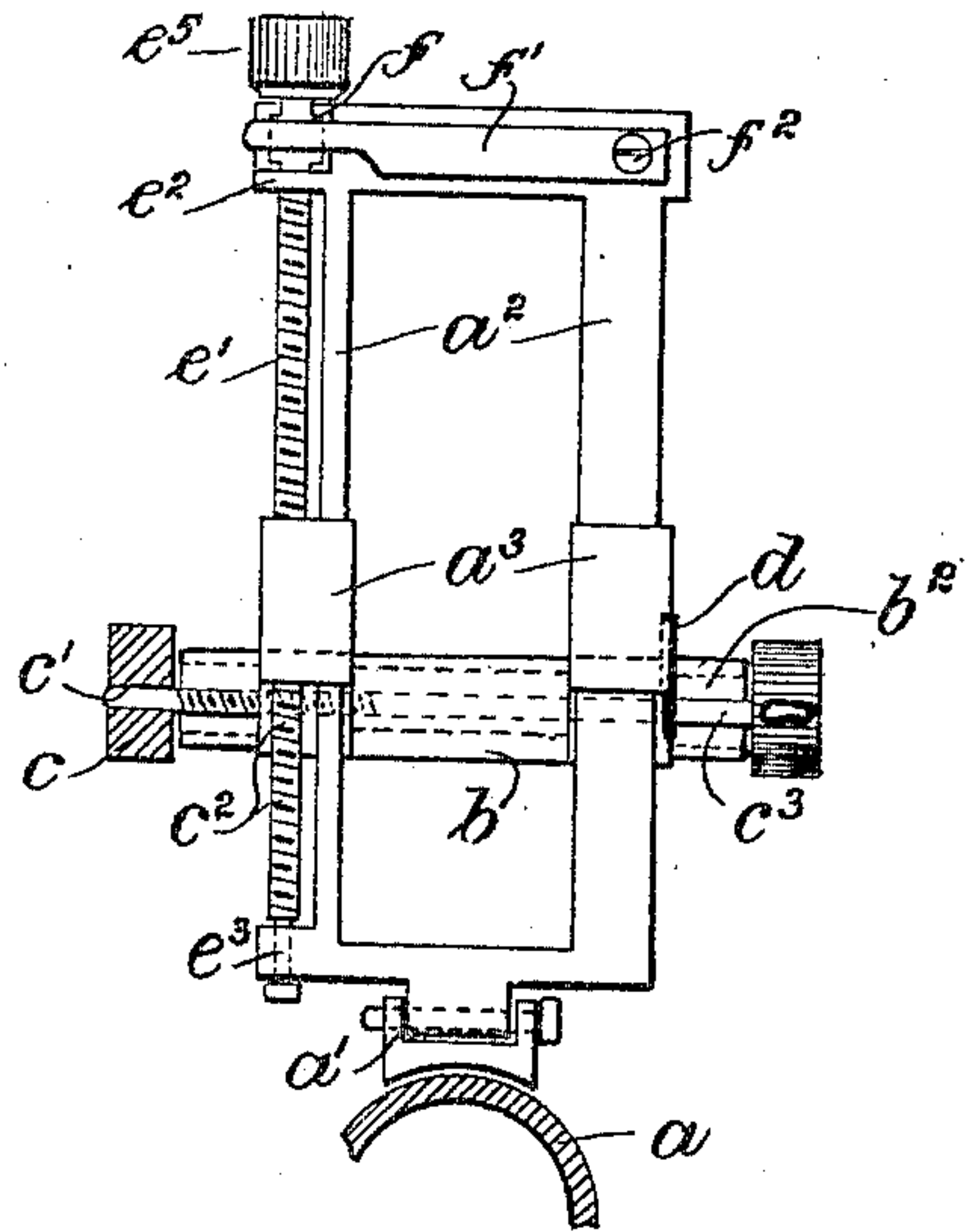


Fig: 2.

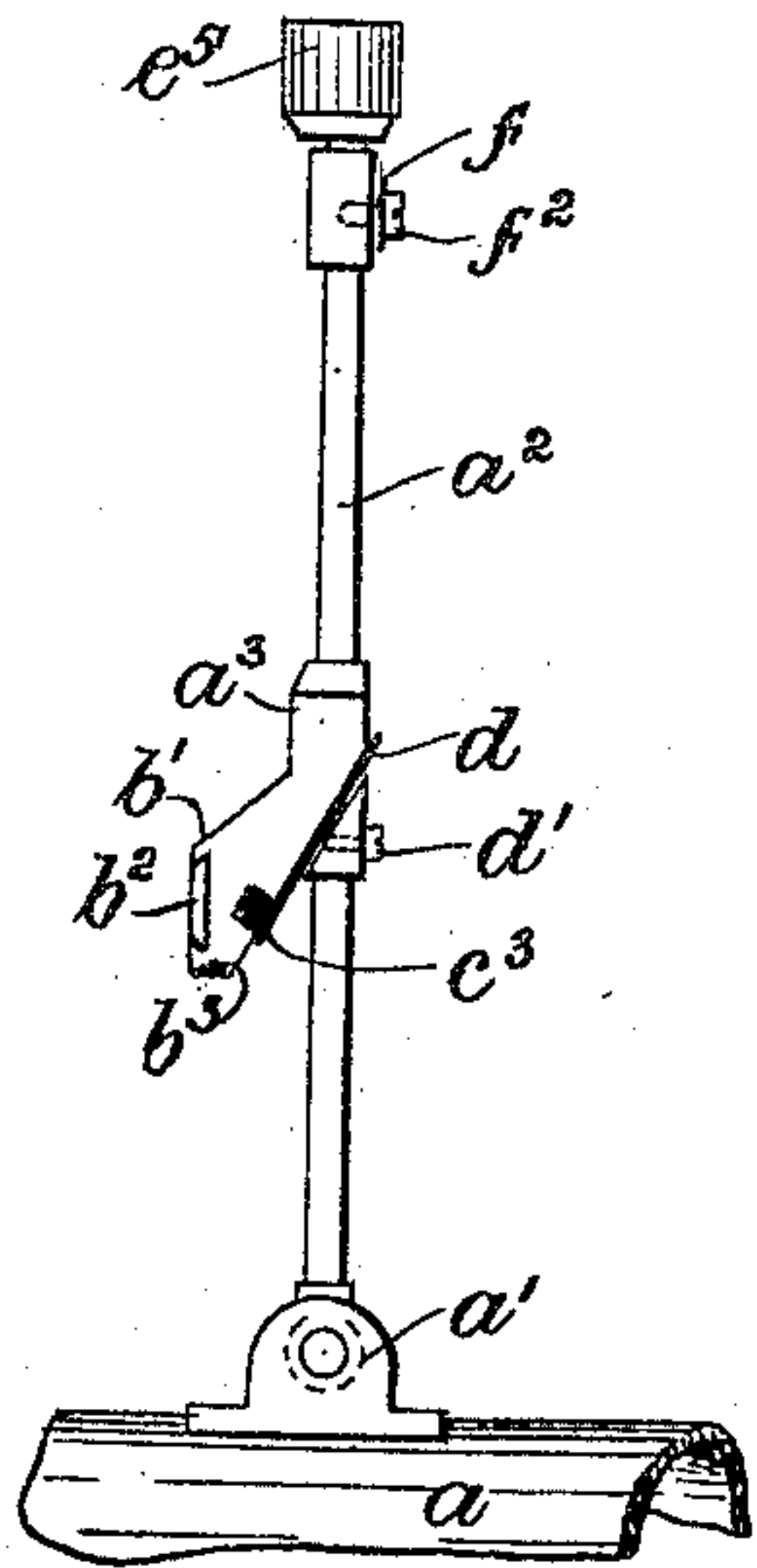


Fig: 3.

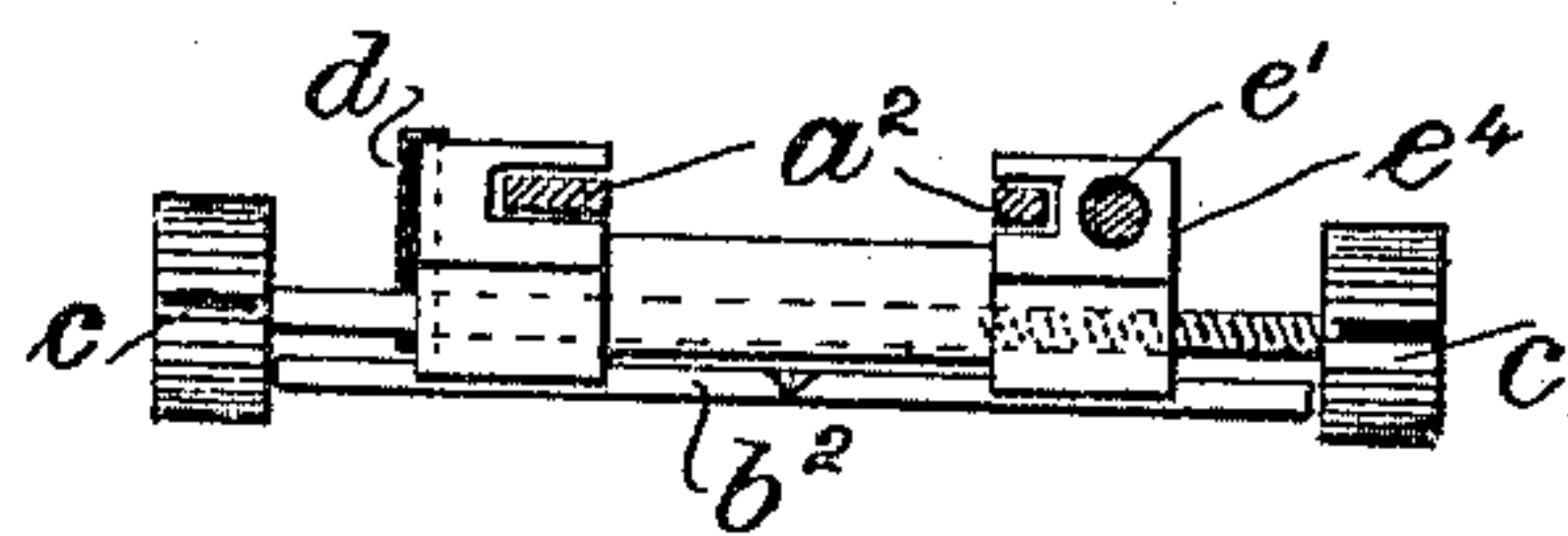


Fig: 4.

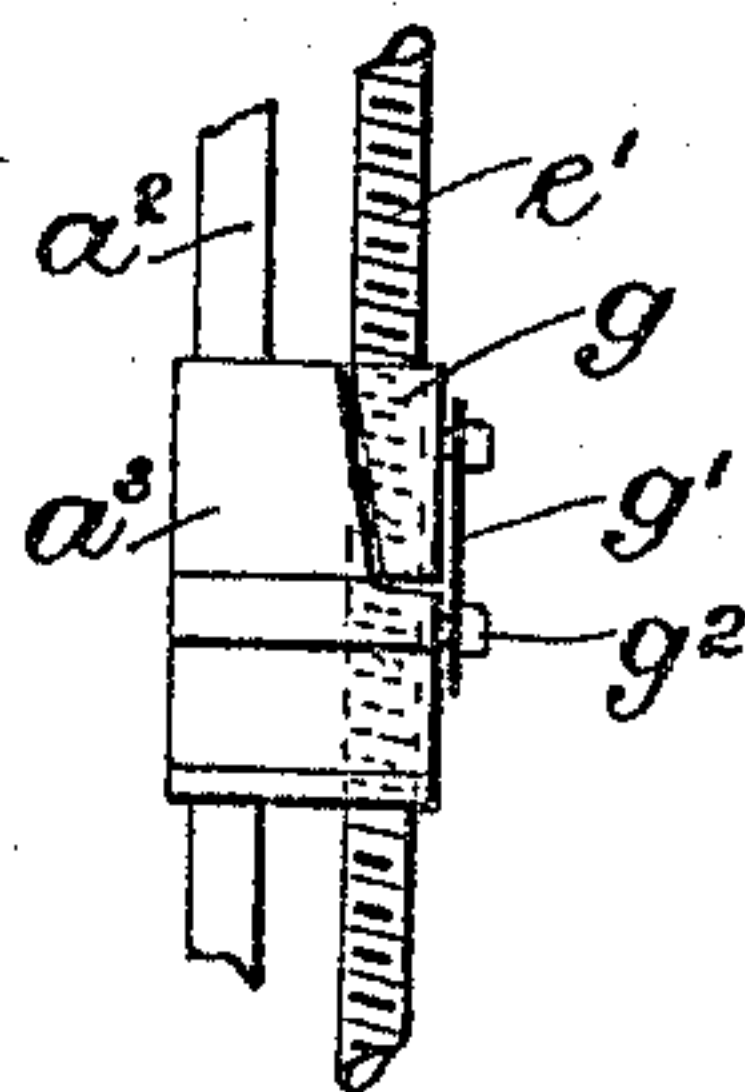


Fig: 5.

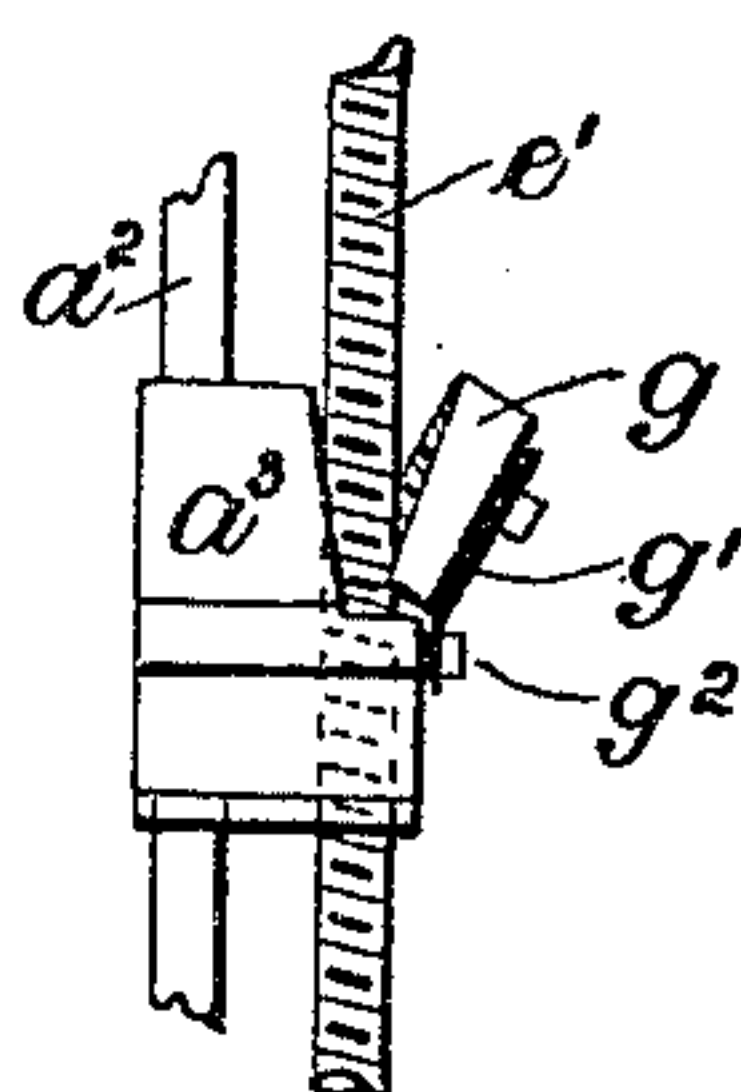


Fig: 6.

Witnesses:

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WILLIAM JOHN CARLIN DOWNEY, OF SOUTH PERTH, WESTERN AUSTRALIA, AUSTRALIA.

COMBINED WIND-GAGE AND ELEVATOR.

No. 887,605.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed June 11, 1906. Serial No. 321,247.

To all whom it may concern:

Be it known that I, WILLIAM JOHN CARLIN DOWNEY, a subject of King Edward VII, and a citizen of the Commonwealth of Australia, residing at South Perth, Western Australia, Commonwealth of Australia, have invented certain new and useful Improvements in a Combined Wind-Gage and Elevator, of which the following is a specification.

The object of this invention is to provide a combined wind gage and elevator for rifles, so that such instrument can be easily and rapidly read and adjusted both vertically for range finding and laterally for windage.

The instrument is so adapted that it can be attached in particular to the Lee Enfield or Martini Enfield service rifle by knocking out the hinge pin of the ladder, removing the latter and substituting my improved instrument which is fitted on to an ordinary back-sight or ladder in a self-contained and compact form.

The construction and adaptation of the instrument in conjunction with rifles will now be described with the aid of the drawings in which—

Figures 1 & 2 are front and back face views showing the instrument as connected to the rifle. Fig. 3 being a side elevation and, Fig. 4 a plan on X X of Fig. 1. Figs. 5 & 6 show the alternative means for the engagement and release of the wind gage with and from the elevator screw so as to permit of the gage being independently and freely moved up and down the ladder; the gage being shown as engaged in Fig. 5 and as released in Fig. 6.

In Figs. 1 to 4 the instrument and ladder are directly mounted on the barrel a of the rifle by means of the usual hinge pin and bracket a^1 ; the wind gage portion of the instrument being held on the legs a^2 of the ladder by means of grooves formed in the shoulder pieces a^3 of the gage. These shoulders are thereby adapted to grip the legs of the ladder and so form guides for the up and down travel of the gage as particularly shown in Figs. 1 and 2. The cross bar portion b of the wind gage is made with a dove-tail groove as b^1 in which the sight bar b^2 traverses. This sight bar is formed with a sight line and V notch and is adapted to be turned face about if required. This cross bar at its lower side is made of an overhung form b^3 —see Fig. 3—so as to allow the gage to freely come down clear of the hinge a^1 of the ladder

and thereby permit of short range firing. On these shoulders a^3 scale means is provided, beginning flush with the inside line of the legs a^2 of the ladder, the said scale means being for the right and left side readings in conjunction with the sight bar b^2 and having a large number of divisions; said scale means being for windage purposes. This traversing sight bar b^2 is operated by being moved in either direction by means of the milled wheels c , and said bar lightly butts up against the inside flush faces of such wheels. These wheels are secured upon the right hand threaded traversing spindle c^1 having preferably $37\frac{1}{2}$ threads to the inch; this spindle engages and works within a correspondingly threaded nut formed in one end as c^2 of the cross bar portion b of the wind gage. These wheels on their rim faces are marked at the four opposite points with naughts and dashes respectively indicating even and odd numbers, and thereby permitting the wheels to be read in either direction.

In order to set the wind gage by feel in addition to that of sight, I form portion of the traverse spindle c^1 of a square section as c^3 for engagement with a spring d which is suitably held by set screw d^1 in the wind gage as shown clearly in Fig. 3. By means of this spring and square, I obtain an indicator or escapement action as the click at each quarterly rotation is distinctly felt by the rifleman.

The legs a^2 of the ladder are formed with a scale as e whose purpose is to give the vertical readings in conjunction with the shoulders a^3 for range finding. The ladder at its right hand side is mounted with the elevator means consisting of a spindle as e^1 , formed with a left hand thread—this spindle is held in the top and bottom bearings e^2 and e^3 and suitably interscrews as at e^4 into the body of the wind gage. The spindle being operated by the milled wheel e^5 as shown and whereby an up and down traverse is given to the wind gage for vertical reading purposes. At its upper bearing the spindle is formed of a square section as f similar in construction and purpose to that of the traverse screw already referred to, and said square makes contact with the spring f^1 which is secured by the set screw f^2 in such a manner that the spring may be turned aside to allow of the rapid rotation of the spindle e^1 .

Reverting to Figs. 5 & 6 in which is shown the means for engagement and release of

the gage with the elevator screw e^1 , said means consist of a partly circular contact piece as g which is threaded so as to correspond with the thread of the spindle e^1 .

5 This contact piece is secured by a spring as g^1 to the shoulder a^3 of the gage and in a pivotal manner by the set pin g^2 so that such contact piece g may be held tight home (and thereby the gage) on the screw e^1 and adapted
10 to be turned aside and removed free of operative contact with said screw so allowing of the release of the gage for its independent and rapid movement up and down the ladder and vice versa for its operative engagement
15 with such spindle when desired.

The use and operation of the instrument is apparent and it will be seen that the instrument as a whole is compactly mounted and self contained, and that both vertical and
20 lateral readings may be readily and accurately obtained.

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

1. An instrument of the class described,
25 including a ladder, an off-set cross bar having grooves for engagement with the said ladder, said cross bar having shoulders provided with scales said cross bar further provided in its face with a dove tailed groove, a sight bar
30 movable in said dove tailed groove and having a sight notch and also index lines to cooperate with the scales on the shoulders, a spindle movably mounted in the cross bar and having means operative upon the sight
35 bar to cause the latter to traverse the cross bar in a transverse direction, a threaded spindle having its bearings in the ladder at the

top and bottom thereof, a threaded contact piece associated with the cross bar and for engagement with the threaded spindle carried by the ladder, and a spring member co-
40 operative with the contact piece.

2. In an instrument of the class described, a frame forming a ladder, a movable cross bar having an off-set and shoulders, said
45 shoulders provided with grooves for engagement with the ladder, said off-set portion of the cross bar having a dove tailed groove, a sight bar transversely movable in said groove, said off-set portion further provided
50 with a threaded opening, a threaded spindle mounted in said cross bar for engagement with the threads of the opening and having means operative upon the sight bar to cause transverse movement of the latter, a rota-
55 table screw threaded spindle carried by the frame and passing through one of the shoulders of the cross bar to move the latter longitudinally of the frame, a threaded contact piece associated with one of the shoulders for
60 engagement with the screw threaded spindle, and a spring member for normally holding the contact piece in engagement with said spindle, said contact piece being movable
65 out of engagement with said spindle to allow free movement of the cross bar on the ladder independently of said spindle.

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

WILLIAM JOHN CARLIN DOWNEY,

Witnesses:

RICHARD SPARROW,
ROSS EAST.