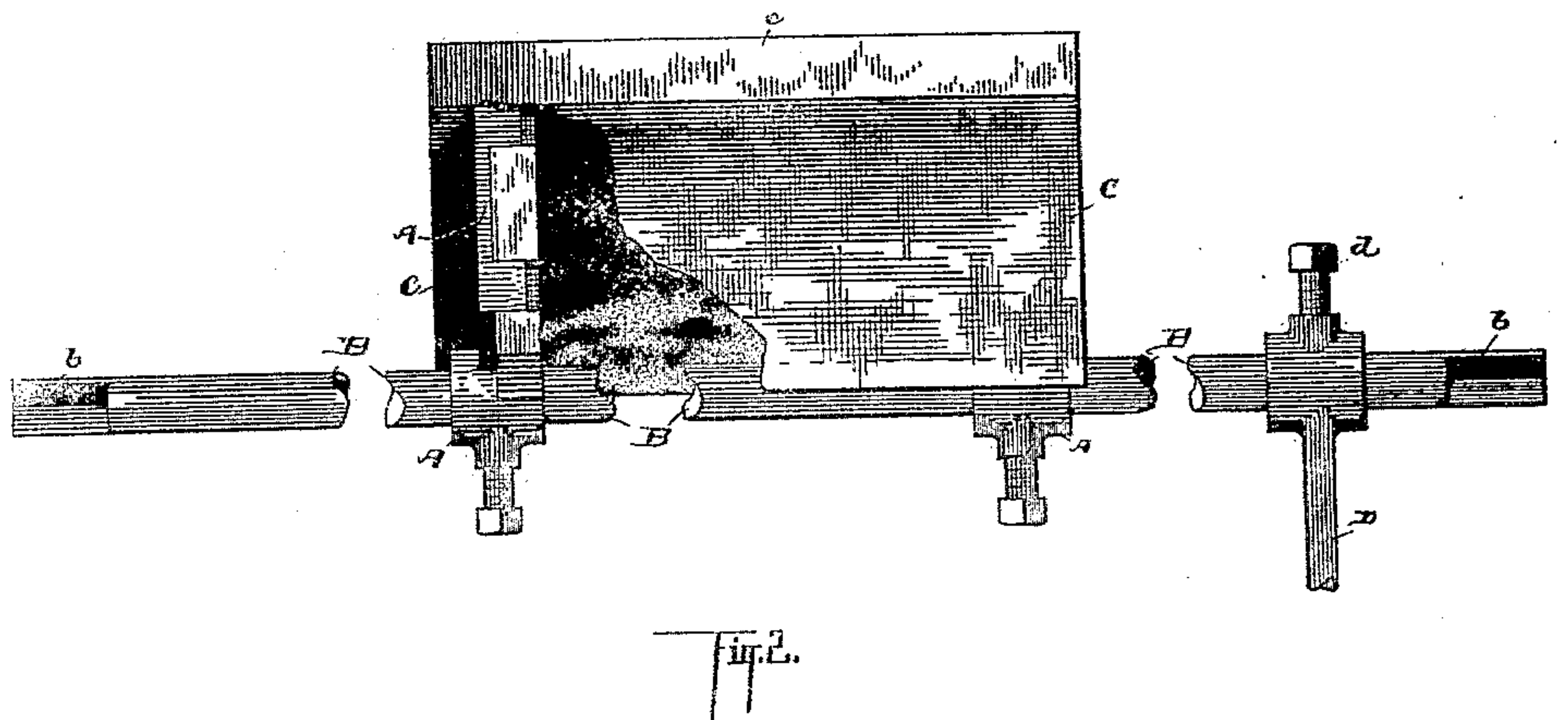
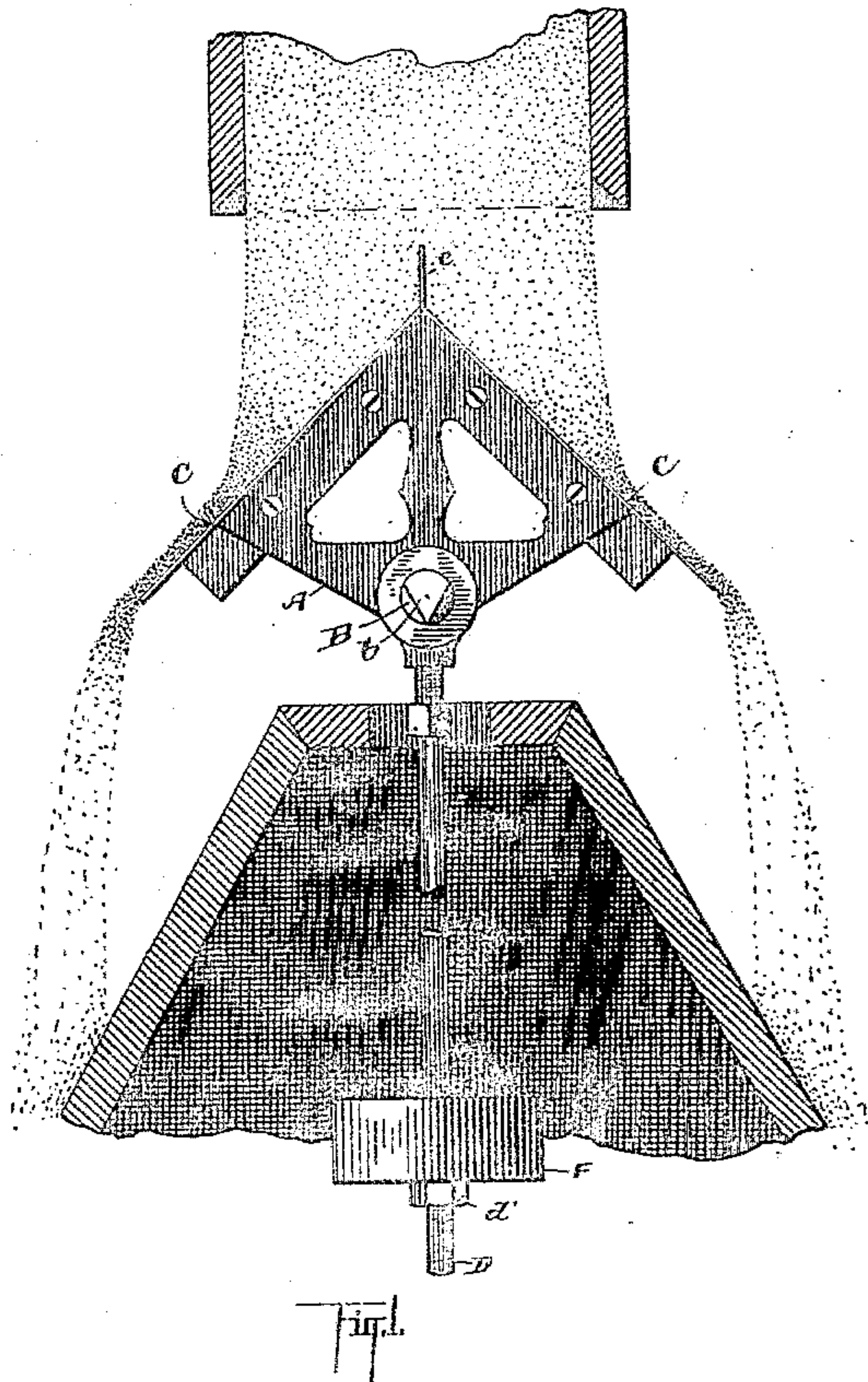


(No Model.)

W. CAMPBELL.  
TILTING VALVE FOR DIVIDING GRAIN, &c.

No. 359,918.

Patented Mar. 22, 1887.



WITNESSES

W. S. Amstutz

*W. S. Amstutz*

William Campbell INVENTOR

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Attorneys



# UNITED STATES PATENT OFFICE.

WILLIAM CAMPBELL, OF CLEVELAND, OHIO, ASSIGNOR TO WILLIAM F. PUTNAM, OF SAME PLACE.

## TILTING VALVE FOR DIVIDING GRAIN, &c.

SPECIFICATION forming part of Letters Patent No. 359,918, dated March 22, 1887.

Application filed May 13, 1886. Serial No. 202,128. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM CAMPBELL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and  
5 useful Improvements in Tilting Valves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

10 My invention relates to an improved tilting valve for dividing a falling column of material—such, for instance, as grain, liquid, &c.—in which an apron having inclined wings and a sharp angular ridge is mounted on an oscillating bar, the latter being pivoted on knife-  
15 edges. A depending arm is secured to the oscillating bar and made adjustable circumferentially of the latter, said arm having preferably a poise attached that is made adjustable  
20 lengthwise of the arm, to the end that an extremely sensitive and automatic valve is had that will divide the falling column of material uniformly and into equal or unequal parts, according to the adjustment of the valve.

25 In the accompanying drawings, Figure 1 is an end elevation, partly in section, of a tilting valve embodying my invention. Fig. 2 is a side elevation, portions being broken away to show the construction.

30 A represents angular brackets, usually two or more in number, according to the size of the valves. These brackets are mounted and arranged in line on an oscillating rod, B, the latter having knife-edges *b*, that may rest upon  
35 any suitable supporting plate or block. On top of the brackets is secured the apron C, that may be of any suitable material, according to circumstances, but is more usually made of sheet or plate metal. The ridge *c* of the apron  
40 should form a sharp angle, and the ridge may be extended upward, forming a knife edge, as shown in Fig. 1. The wings of the apron slope, preferably, on an angle of about forty degrees, more or less.

45 A depending arm, D, is mounted on the rod B, and secured by a set-screw, *d*, by loosening which the arm may be turned on the rod and set in the desired position relative to the apron.

If the falling column of material, E, is to be

divided into equal parts, the axis of the arm 50 D should be in line with the ridge *c* of the apron. With such adjustment, so long as the descending column is divided equally by the ridge *c* the valve will remain stationary. If  
55 more of the descending column fall upon one wing, it will depress this wing, tilting the valve, and moving the ridge *c* toward the heavier part of the column, by reason of which more of the column will be deflected toward the  
60 lighter side, and an equilibrium will thus be restored. The valve being pivoted on knife-edges, as aforesaid, is extremely sensitive, and will divide the column of falling material practically into equal parts.

If it is desired to divide the material into 55 unequal parts, the set-screw *d* is loosened and the valve turned more or less to the one side. A poise, F, is preferably attached to the arm D, and made adjustable lengthwise of the arm, usually by means of a nut, *d'*. By moving the  
70 poise nearer to the axis of the valve, the latter is rendered more sensitive, and by lowering the poise the action of the valve is rendered more steady. The device can therefore be ad-  
75 justed according to circumstances and made to meet all the requirements in practice.

What I claim is—

1. The combination, with a tilting valve having a divided ridge and sloping wing, of a depending arm or poise for balancing the 80 valve, substantially as set forth.

2. In a tilting valve, the combination, with an apron having sloping wings and dividing ridge centrally located on the apron, of a supporting-bar pivoted on knife-edges, a depend- 85 ing arm adjustably secured to the supporting-bar, and a poise mounted on the arm and made adjustable lengthwise of the latter, the parts being arranged substantially as set forth.

In testimony whereof I sign this specification, 90 in the presence of two witnesses, this 17th day of April, 1886.

WILLIAM CAMPBELL.

Witnesses:

CHAS. H. DORER,  
ALBERT E. LYNCH.