

W. F. BRAUN.
 DEVICE FOR DEWEIGHTING SCALE BEAMS.

(Application filed Jan. 18, 1901.)

(No Model.)

Fig. 1.

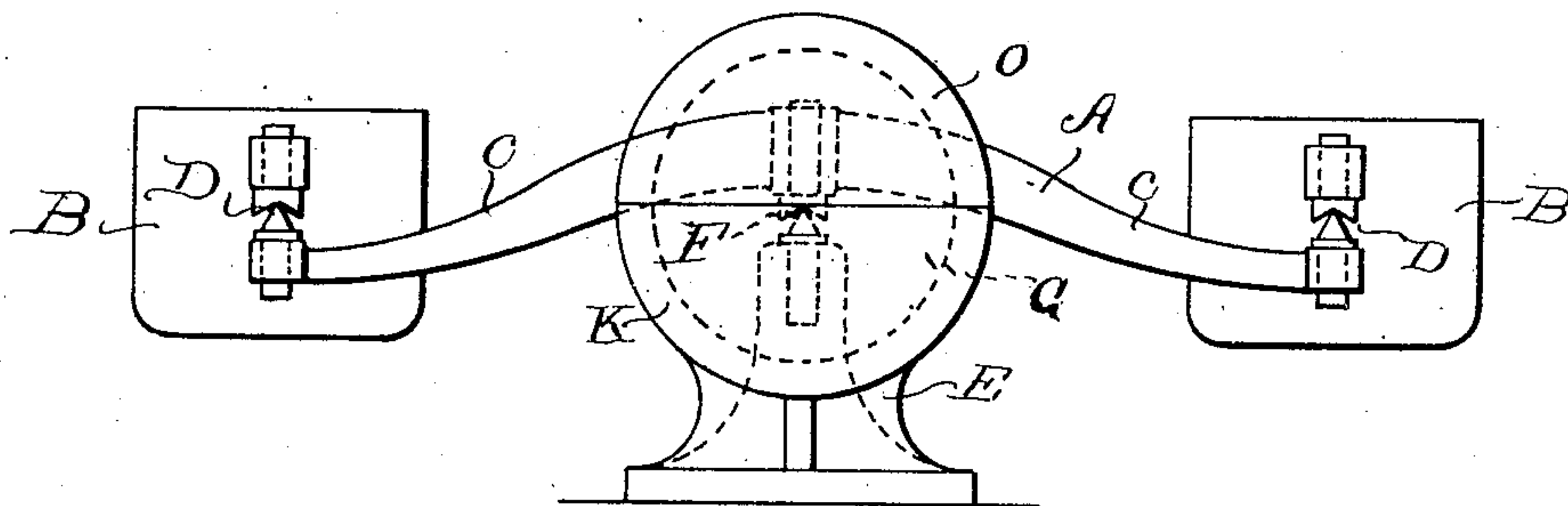


Fig. 2.

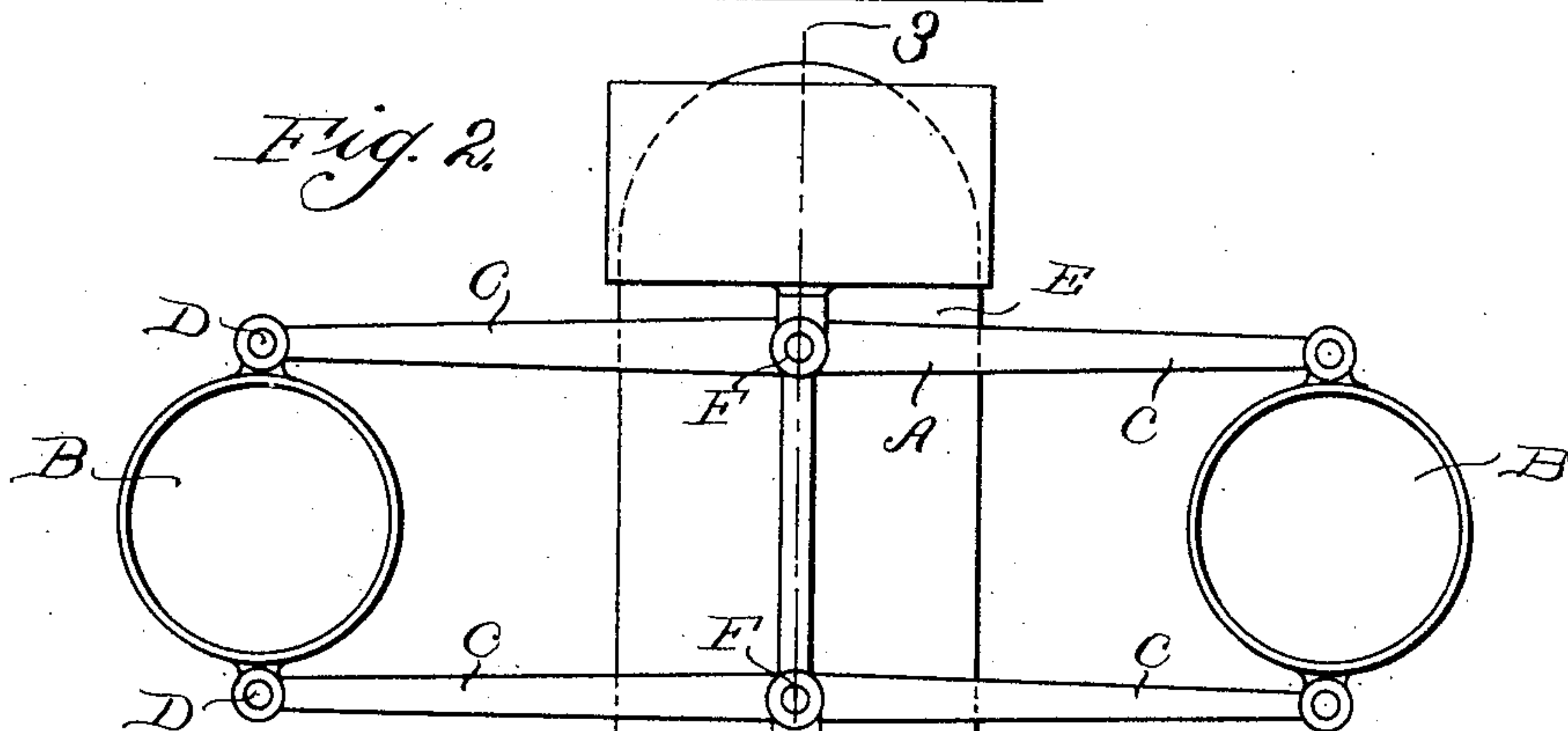


Fig. 3.

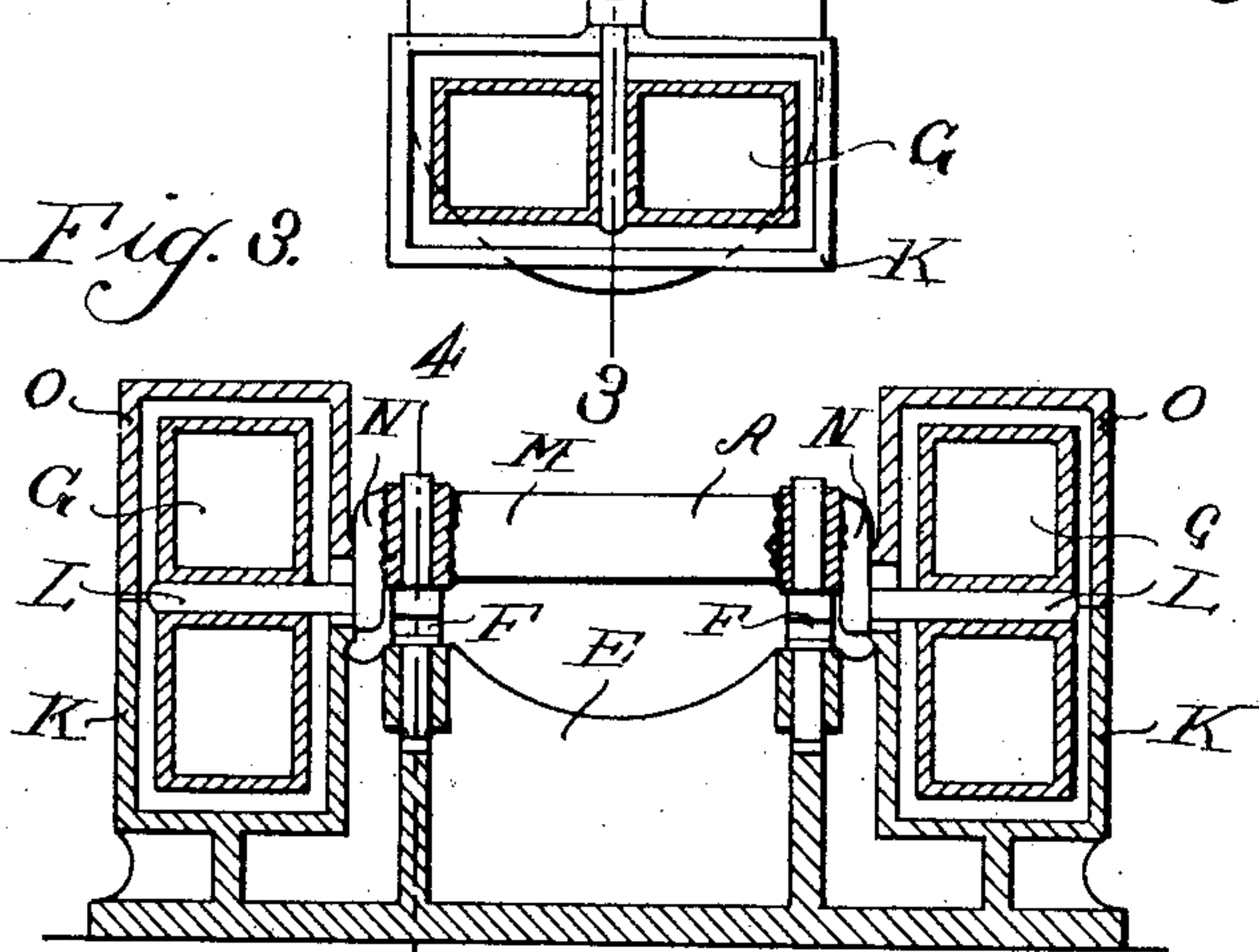
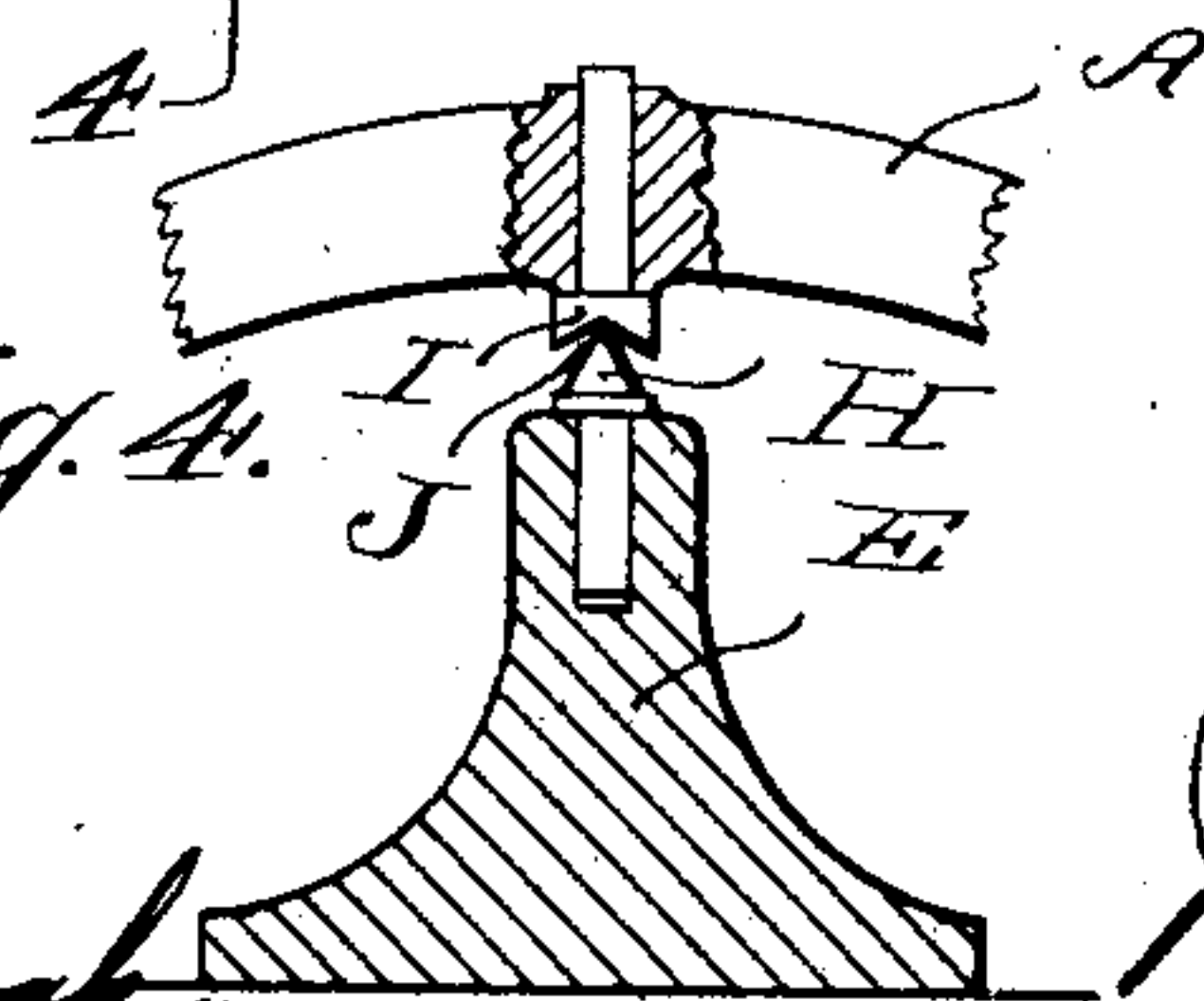


Fig. 4.



Witnesses:

E. F. Wilson
 John Snowhook

Inventor:

William F. Braun

By Rudolph J. Lutz

Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM F. BRAUN, OF CHICAGO, ILLINOIS.

DEVICE FOR DEWEIGHTING SCALE-BEAMS.

SPECIFICATION forming part of Letters Patent No. 686,199, dated November 5, 1901.

Application filed January 18, 1901. Serial No. 43,826. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BRAUN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Devices for Dewatering Scale-Beams; 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 appertains to make and use the same.

My invention relates to an improvement in weighing-machines or scales, the object being to provide a scale in which the pressure on the pivots on which the scale-beam rests will be reduced to the lowest practical point in order to reduce the load and consequent wear and friction on the pivots; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a side elevation of a scale-beam made in accordance with my invention. Fig. 2 is a top plan view of same, showing one of the floats in section. Fig. 3 is a cross-section on line 3 3 of Fig. 2. Fig. 4 is a detail section on line 4 4 of Fig. 3.

In said drawings, A represents an H-shaped scale-beam, which is adapted to support receptacles B at each end between its extending arms C on knife-edge pivots D, said beam A being adapted to be supported on the frame E by means of the knife-edge pivots F and the floats G. Said pivots F comprise knife-edge members H, rigidly mounted in said frame E, and upper members I, provided with V-shaped recesses J, which are rigidly mounted in said beam A and adapted to rest on said members H. Said floats G are cylindrical in shape and are mounted within casings or receptacles K on members L of said beam A concentric with the center line of oscillation drawn through the apex of said V-shaped recesses J in said members I. Said casings K are adapted to contain a liquid, preferably mercury, adapted to support said floats G. Said members L, on which said floats G are mounted, practically form extensions of the central cross-bar M of said beam A and are offset downwardly by means of the arms N to bring them in line with said center line of

oscillation, before mentioned. In Fig. 2 I have shown one of said receptacles K with the upper portion or cover O removed and the float G in section. The inner walls of said casings K are cut away above and below said member L, so as to allow a free vertical movement of said members as said float rises and lowers, due to the load on said beam.

In operating my device said beam A is normally supported above its proper weighing position by means of said floats G. As said beam is loaded said floats G are depressed into the liquid in said casings K until the beam A is loaded to its proper capacity, when said beam will rest lightly on said knife-edge pivots F, and it can be quickly and accurately balanced with practically no friction or wear on said pivots.

I claim as my invention—

1. In a weighing-scale, having a walking-beam, supported on pivots, means for relieving said pivots from pressure, comprising floats carried by said beam in line with said pivots, casings surrounding said floats and adapted to contain a liquid to support said floats.

2. A weighing-scale comprising a walking-beam supported on knife-edge pivots, receptacles pivotally mounted on the outer ends of said beam, means for relieving the pivots of said beam from pressure, comprising floats mounted on said beam in line with the edges of said pivots and casings surrounding said floats adapted to contain a liquid to support said floats.

3. In a weighing-scale, the combination with a walking-beam adapted to be supported on knife-edge pivots, of said pivots, and fluid-pressure means for automatically raising said walking-beam out of engagement with said pivots when said beam is relieved of load.

4. In a weighing-scale the combination with a walking-beam supported on knife-edge pivots, of means for relieving said pivots of pressure, comprising floats mounted on said beam in line with the edges of said pivots, and casings surrounding said floats adapted to contain a liquid.

5. In a weighing-scale, the combination with pivot members, and a walking-beam adapted to be supported thereon, of fluid-displacing devices carrying said walking-beam and

adapted to counterbalance a portion of the weight of the latter and its load, whereby the pivot members are relieved of load.

6. In a weighing-scale, the combination with
5 knife-edge pivot members, and a walking-
beam pivotally movable thereon, of liquid-
displacing devices adapted to partially sup-
port said walking-beam and its load, thereby
relieving said pivot members of such portion
10 of the load.

7. In a weighing-scale, the combination with
a rigid member carrying pivot members, and
a walking-beam carrying pivot members
adapted to engage said first-named pivot mem-
15 bers, of fluid-pressure counterbalancing de-
vices engaging said pivot members of said
walking-beam and adapted to counterbalance

a portion of the weight of the latter and its
load, whereby said pivot members of said
rigid member and said walking-beam are both 20
relieved of pressure.

8. In a weighing-scale, the combination with
the walking-beam and the pivotal support
therefor, of fluid-pressure devices engaging
said walking-beam and adapted to partially 25
counterbalance the latter and its load, where-
by said pivotal support is partially relieved
of load.

In testimony whereof I affix my signature
in presence of two witnesses.

WILLIAM F. BRAUN.

Witnesses:

ALBERT MARTIN,
EDWARD GRUSENDORF.