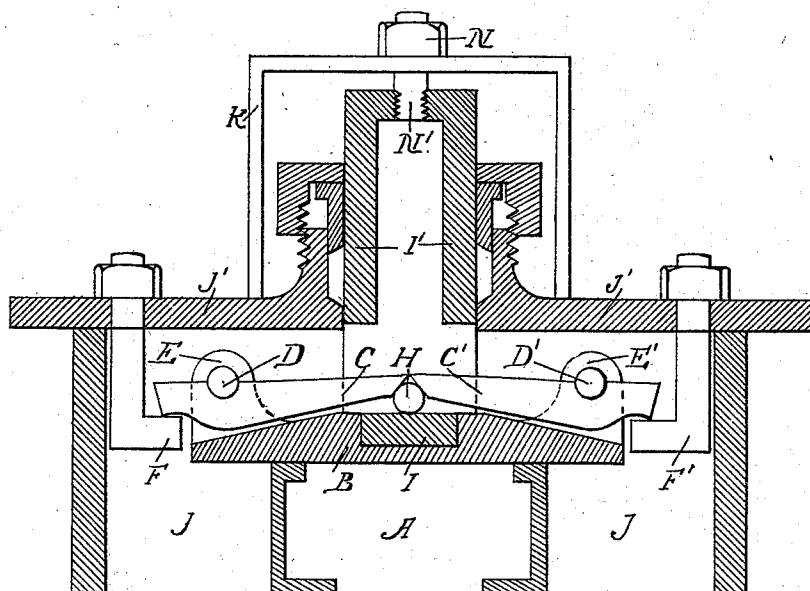


(No Model.)

S. A. ALEXANDER.
BALANCED SLIDE VALVE.

No. 535,341.

Patented Mar. 12, 1895.



Witnesses.

William Small
Geo. Summell

Inventor

Solomon A. Alexander

UNITED STATES PATENT OFFICE.

SOLOMON A. ALEXANDER, OF YORK, PENNSYLVANIA.

BALANCED SLIDE-VALVE.

SPECIFICATION forming part of Letters Patent No. 535,341, dated March 12, 1895.

Application filed October 25, 1894. Serial No. 526,951. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON A. ALEXANDER, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in Balanced Slide-Valves, of which the following is a specification.

My invention relates to the automatic adjustment of the levers, in a combination of pistons and levers for the purpose of sustaining plates over valves so that the pressure will be upon the plates and not on the valves. I attain this object by the mechanism shown in accompanying drawing, which is a vertical section of my device.

Similar letters refer to similar parts in the drawing.

When pressure enters the chest J, J; it acts on the piston I I' which piston being in contact at I with the movable roller H and the long curved or angular ends of the levers C and C' causes the levers to operate on the fulcrums F and F' (which fulcrums are suspended from the chest lid J' J') and the pins D and D' said pins being secured in the lugs E and E'. These lugs project from and form part of the plate B, these operating to relieve the pressure on the plate B. The plate rests upon the valve A. A slot is provided in the piston I—I' for the roller H to rest upon its base, and to move any desired distance. The curved or angular ends of the levers C and C' provide for the automatic adjustment on the levers, in case of wear on their bearings, as well as the variation in pressure on the plate B, when produced by different positions of the valve A. The yoke K over the top of the piston I' in conjunction with the stud N' and the nut N, is for the purpose of sustaining the weight of the piston I—I' and all of its attachments, when desired. The projection at I enters the plate B for the purpose of holding the plate in its proper position.

Prior to my invention a patent, No. 128,340,

dated June 25, 1872, being a combination of a plate sustained by levers and cylinders was granted to Charles H. Vandyne and myself; but in that device, unequal wear on the bearings was not automatically adjusted, but defects were corrected by the manipulation of a screw. The plate B, was not secured. The fulcrums F—F' upon which the levers C, C', rest, were not suspended from the chest lid.

I do not claim the whole combination broadly, but

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

1. The combination in a balanced slide valve, of the valve A with the plate B, the roller H resting on the base of a slot in the piston I I', and the levers C C' supporting the plate at D D'; their outer ends supported by the fulcrums F F'; which fulcrums penetrate the chest lid J' J': the inner ends of the levers resting against the roller H, substantially as shown and described.

2. The combination in a balanced slide valve of the valve A, with the plate B, the angular or curved levers C C' connecting the piston I I' and the plate B, supporting that plate at D D', their inner curved ends resting against the roller H, their outer ends resting on the fulcrums F F' which fulcrums penetrate the chest lid, all substantially as described.

3. The combination in a balanced slide valve of the piston I with the plate B provided with the recess to receive the lower end of the piston "I" substantially as specified.

4. In a balanced slide valve the combination of the piston I with the yoke K, the stud N and the nut N' all substantially as set forth and for the purposes specified.

SOLOMON A. ALEXANDER.

Witnesses:

ROBERT M. BARNITZ,
M. S. ADAMS.