D. O. FOSGATE.

BLOOD PRESSURE INSTRUMENT.

APPLICATION FILED OCT. 4, 1915.

1,188,748. Patented June 27, 1916.

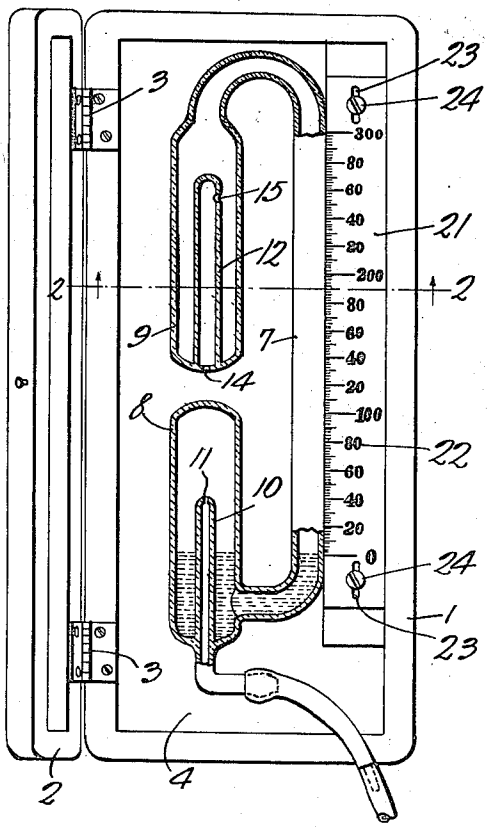


Fig. 2.

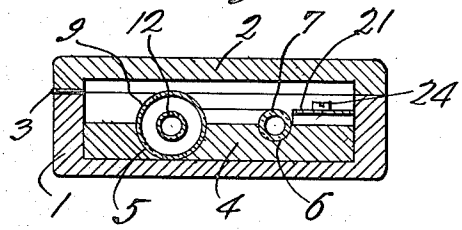
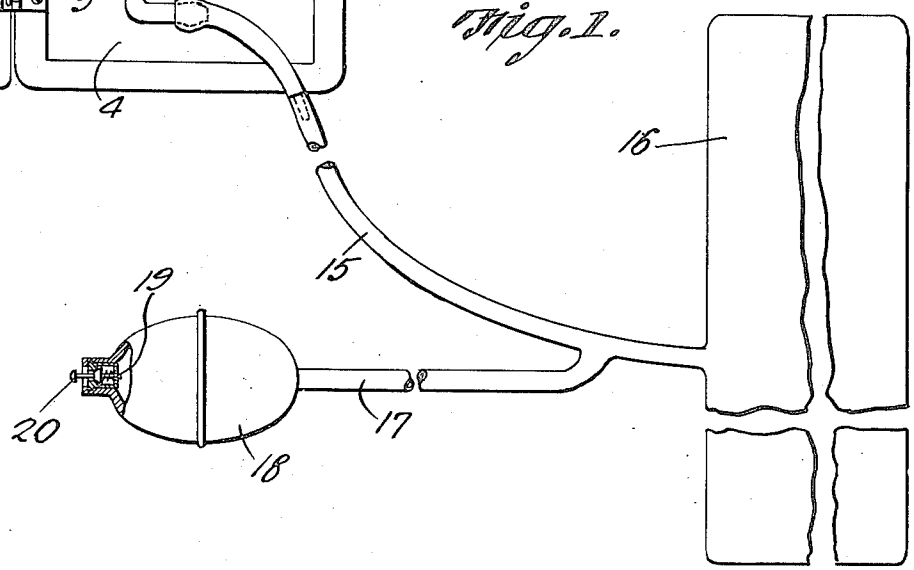


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL O. FOSGATE, OF CHICAGO, ILLINOIS.

BLOOD-PRESSURE INSTRUMENT.

1,188,748. Specification of Letters Patent. Patented June 27, 1916.

Application filed October 4, 1915. Serial No. 54,043.

To all whom it may concern:

Be it known that I, DANIEL O. FOSGATE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Blood-Pressure Instrument, of which the following is a specification.

The device forming the subject matter of this application is a blood pressure indicator, and one object of the invention is to provide an indicator of the type above mentioned which, embodying a mercury column may withal be housed within a small compass, so as to be carried about readily in the pocket, or in a physician's case.

Another object of the invention is to provide a device of this type in which the inconvenience due to a separation of the mercury column will be avoided.

A further object of the invention is to provide a blood pressure indicator so constructed that the mercury cannot be spilled therefrom.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawing:—Figure 1 illustrates in elevation, a blood pressure indicator constructed in accordance with the present invention, parts being in section and parts being broken away; Fig. 2 is a cross section on the line 2—2 of Fig. 1, the lid of the case having been swung to closed position.

In carrying out the present invention there is provided a support in the form of a case, the support including a body 1 and a lid 2 united therewith by hinges 3. Held in the body 1 of the case is a back block 4 having grooves 5 and 6.

The invention comprises a tube 7 fitting in the groove 6 and including approaching heads 8 and 9 secured in the grooves 5, the heads 8 and 9 preferably being of slightly larger diameter than the tube 7. The tube 7 opens at one end into the side of the head 8 and at its other end, opens into one end of the head 9, the heads 8 and 9 being disposed in approaching relation. Projecting into the head 8 is a nozzle 10 having an opening 11 at its inner end, the nozzle 10 upstanding well above the bottom of the head 8 when the structure is placed upright as shown in Fig. 1. Secured to the end of the head 9 and projecting upwardly into the head is a casing 12 provided in its side wall and near to its top with an opening 15. The bottom of the head 9 is provided, within the contour of the casing 12, with an opening 14 which communicates with the atmosphere. These openings 15 and 14 are of comparatively small size and in practice preferably are mere pin holes. The tube and its heads together with the nozzle and the casing preferably are fashioned from glass and are securely held upon the block 4 of the body 1 of the case.

Connected with the exposed end of the nozzle 10 is a pipe 15 communicating with the interior of the usual arm-bag 16 which constitutes a part of devices of this sort. Branched off from the pipe 15 is a pipe 17, the pipe 17 carrying a compressible bulb 18 provided with a valve 19 which may be opened by pressure on a projecting stem 20 constituting a part of the valve. Disposed alongside of the tube 7 is a scale 21 which is suitably graduated as indicated at 22. The scale 21 is equipped near its ends with elongated slots 23 through which pass set screws 24 or the like, entering the block 4.

In practical operation, the arm bag 16 is mounted as usual on a patient, the structure being positioned as shown in Fig. 1. If the bulb 18 be operated, pressure will be created within the head 8, and the mercury column will rise in the tube 7, the graduations 22 on the scale 21 being employed in the usual manner for indicating the blood pressure. The pressure within the head 8 may be released at any time by manipulating the valve 19 through the medium of the stem 20.

In devices of this type considerable difficulty has been experienced heretofore, by reason of the fact that the mercury column tends to separate, the reuniting of the mercury column being a matter fraught with considerable difficulty. In the present instance, should the mercury column separate, one portion thereof may be lodged in the

head 9 and another portion thereof will be lodged in the head 8, that portion of the mercury lying in the head 8 standing flush with the zero mark of the scale 21.

Owing to the difficulty in providing, in devices of this type, a uniform bore in the tube 7, an adjustment of the scale 21 frequently is necessary and it is with this end in view that the scale is slotted at its ends as shown at 23 and is united with the back block 4 by means of set screws 24.

The openings 14 and 15 serve to admit air into the structure, for an obvious and necessary purpose. Should any of the mercury column be lodged in the head 9, such portion of the mercury column will not run out of the head because the opening 14 is surrounded by the casing 12 and because the opening 15 is located in the side face of the casing, near to the upper end of the casing.

The device forming the subject matter of this application may be inverted, laid upon its side, or otherwise manipulated with greater or less carelessness without causing a spilling or discharge of any of the mercury contained therein.

Having thus described the invention, what is claimed is:—

1. A blood pressure indicator comprising a tube provided with approaching heads; a nozzle projecting into one head; a casing projecting into the other head, the casing communicating at one end with the atmosphere and being provided, adjacent its other end, with an opening communicating with the interior of the casing-carrying head; and a pressure means assembled with the nozzle.

2. A blood pressure indicator comprising a tube provided with approaching heads; a nozzle projecting into one head, the other head being provided with a minute air inlet opening; and a pressure means assembled with the nozzle.

3. A blood pressure indicator comprising a tube provided with approaching heads; means for supplying pressure to one head; a casing projecting into the other head, the casing communicating at one end with the atmosphere, and being provided adjacent its other end with an opening communicating with the interior of the casing-carrying head.

4. A blood pressure indicator comprising a tube provided with approaching heads; means for supplying pressure to one head; a casing projecting into the other head, the casing communicating at one end with the atmosphere and being provided near the other end with an opening communicating with the interior of the casing-carrying head.

5. A blood pressure indicator comprising a tube provided with approaching heads; means for applying pressure to one head; a supporting structure on which the tube is mounted; a scale movable upon the supporting structure, parallel to the tube; and means for holding the scale in adjusted positions longitudinally of the tube.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

DANIEL O. FOSGATE.

Witnesses:
CHAS. E. HUNT,
HARRIET A. EDGERTON.