(No Model.)

W. H. BOWMAN.

VENTILATION OF PILLOWS, &c.

No. 367,953. Patented Aug. 9, 1887.

Fig. 1.

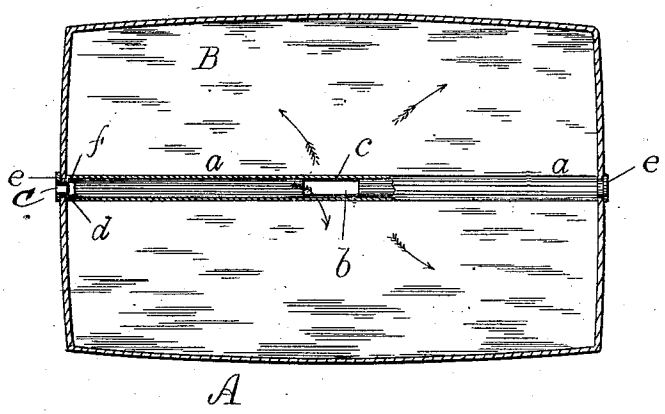
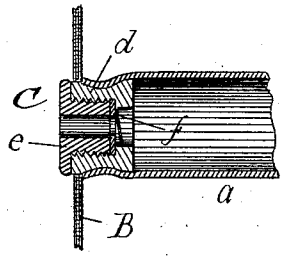


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

WINTHROP H. BOWMAN, OF BOSTON, MASSACHUSETTS.

VENTILATION OF PILLOWS, &c.

SPECIFICATION forming part of Letters Patent No. 367,953, dated August 9, 1887.

Application filed January 26, 1887. Serial No. 225,544. (No model.)

To all whom it may concern:

Be it known that I, WINTHROP H. BOWMAN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Ventilation of Pillows, Mattresses, &c.; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to the ventilation of pillows, feather-beds, and mattresses; and it consists, primarily, in providing the class of articles before premised with an air conduit or ducts which shall readily permit the flow of air centrally or thereabout within their interior; furthermore, in preventing the escape of air so admitted through the duct by means of a check-valve, and thus compelling any excess of air to escape outwardly through the interstices of the material of the pillow or mattress. By this method a thorough ventilation of the filling—such as feathers or hair—is produced, while the latter is well stirred up by the introduction of such air, and the tendency which such materials have to pack and mat together is obviated. Their inherent elasticity is thus maintained.

The drawings accompanying this specification represent, in Figure 1, a sectional elevation. Fig. 2 is a central section of a check to be preferably employed.

The importance of ventilation for pillows and other analogous articles cannot be fully appreciated except from a careful study of facts, and generally such investigations are not made known to the public. But, of whatever material the pillow or mattress may be composed, the tendency is to absorb into the midst of the feathers or hair with which they are filled impurities of the breath and the emanations from the head or body of the occupant. This is simply a result due to non-admission, comparatively speaking, of air within said pillow or mattress and the tendency of such filling to adhere closely together.

Feathers or hair have an inherent affinity for animal substances. Moreover, a person exhales through the breath impurities, as carbonic-acid gas and animal matter, besides the perspiration emanating from the head, all tending to infiltrate the interior of the pillow with noxious poisons, which cannot be eliminated without free ventilation through the filling material composing such articles. No doubt this is one great source of annoyance and the cause of trouble which is never sought for nor suspected within a pillow or mattress, and it is the object of my invention to obviate and remedy any such ill effects arising therefrom.

In the accompanying drawings, A represents a pillow as an entirety embodying my invention. This, as usual, is composed of an outer covering, B, made from some stout woven fabric, within which is inclosed a filling—such as hair, feathers, or other analogous substances—which as a mass combines lightness with springiness. Preferably located at each extremity of the pillow or other article are inserted and secured two flexible ducts or air-pipes, *a a*, through which the external air is easily and readily conveyed, whence it is distributed throughout the mass of filling, permeating the same and thoroughly aerating it.

To more effectually secure the object of my invention, I have placed in the mouths of such air-ducts check-valves C C, which are arranged to open and permit the entrance of air within, but prevent its escape therethrough when pressure is produced externally of the article by the weight of the head or body of the occupant. The inner ends of such pipes are open. Thus, in the event of the pillow or mattress being disturbed, air is free to pass in, while upon further movement and pressure thereupon the excess of air is forcibly expelled outwardly though the interstices of the covering B.

I do not desire to be limited to the precise construction of the check-valve, nor to the position, number, or length of the air-pipes, since the latter may be dispensed with, if desired. However, I deem it preferable to introduce the air centrally, since by this method the filling material is more thoroughly aerated and ventilated, since the air, when confined by the check-valves, tends to escape outwardly.

In the present instance I have shown the

air-pipes *a a* made in one continuous length, with a rectangular opening, *b*, cut in it about midway. Thus the remaining strip, *c*, unites and maintains the discharge-orifices of the pipes in their proper position. In the event of several pipes being used their ends may be secured to each other or to the covering B of the article to prevent their shifting.

The air-pipes *a a* are preferably to be made of rubber or some elastic or flexible material which will be light and yet not discommode the person using the article.

The check-valve (shown as an entirety at C) in the present instance is composed of a short section of metallic tubing, *d*, centrally bored and in part screw-threaded to receive a hollow plug, *e*, which serves to supply the air to the valve *f*, which it retains in place. This valve proper is an ordinary "clapper-valve," so called, and adapted, as hereinbefore premised, to operate to admit air freely within the interior of the pillow or mattress, but to prevent its return outwardly through the pipe *a*, the bore of which it controls.

I claim—

1. A pillow or mattress provided with apertures supplied with valves for allowing ingress of air, but preventing its escape through said openings, said pillow or mattress having a covering of material which is not air-tight, but by its bellows action will open and close the valve, substantially as set forth.

2. A pillow or mattress, A, provided with the covering B, non air-tight, to which are secured check-valves C C, operated by the bellows action of the covering B, in combination with air-pipes *a a*, extending therethrough and provided with apertures centrally of the pillow or other article to be ventilated, substantially as and for purposes herein specified.

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

W. H. BOWMAN.

Witnesses:
F. CURTIS,
H. E. LODGE.