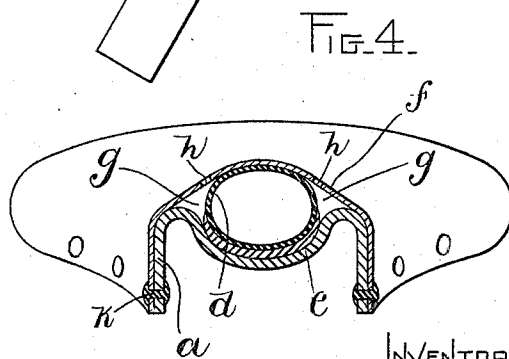
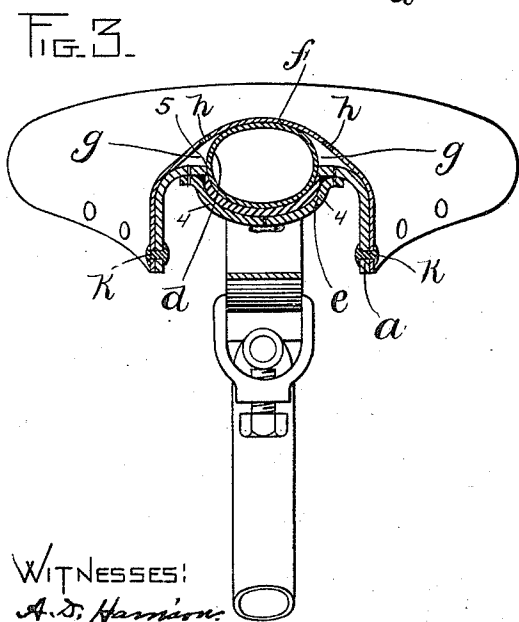
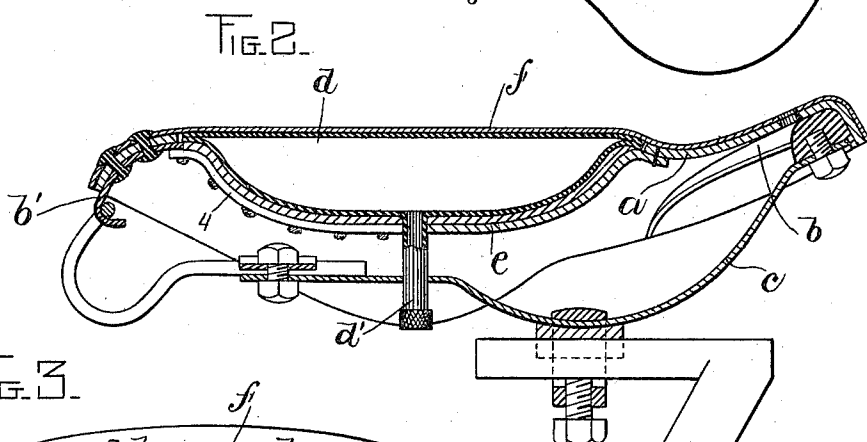
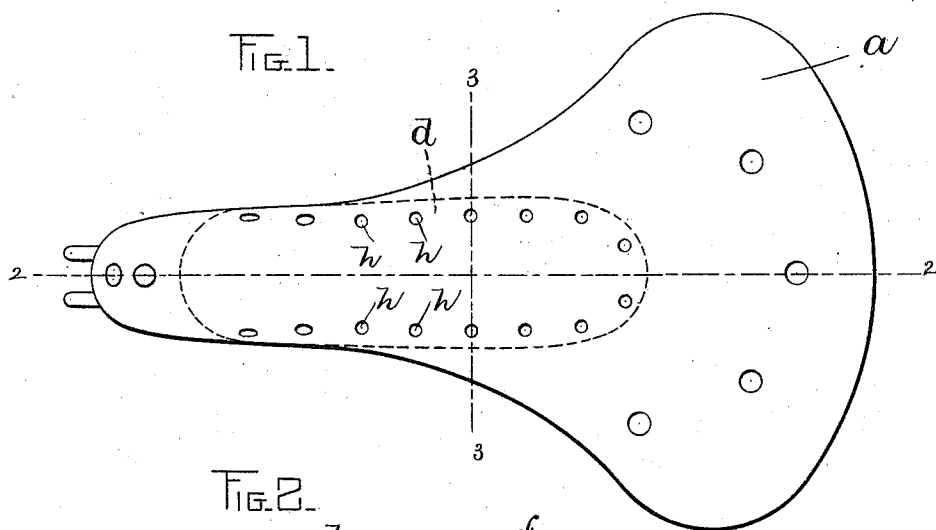


(No Model.)

J. H. POOLE.
BICYCLE SADDLE.

No. 579,442.

Patented Mar. 23, 1897.



WITNESSES:

A. D. Harrison

P. W. Fitzgerald

INVENTOR:

J. H. Poole
by Knight Brown & Quincy
attys.

UNITED STATES PATENT OFFICE.

JOHN H. POOLE, OF RANDOLPH, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO CHARLES PRESCOTT, OF SAME PLACE.

BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 579,442, dated March 23, 1897.

Application filed July 11, 1896. Serial No. 598,797. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. POOLE, of Randolph, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Bicycle-Saddles, of which the following is a specification.

This invention has for its object to provide a bicycle-saddle having a comparatively stiff body portion adapted to give a sufficiently firm support and a yielding ridge or protuberance extending along the central and forward portion of the saddle to give a yielding support where the same is particularly desirable.

The invention further has for its object to provide for a circulation of air along the upper surface of a bicycle-saddle to prevent excessive heating of the portions of the body resting upon the saddle.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top plan view of a bicycle-saddle provided with my improvements. Fig. 2 represents a section on line 2 2 of Fig. 1. Fig. 3 represents a section on line 3 3 of Fig. 1. Fig. 4 represents a section similar to Fig. 3, showing a modified construction.

The same letters and numerals of reference indicate the same parts in all the figures.

In the drawings, *a* represents the body portion of a bicycle-saddle which is of relatively stiff and substantial construction and as here shown is the ordinary form of leather saddle, having a broad rear portion and an elongated forward portion or horn, the rear portion being affixed to a rigid supporting-piece *b*, while the forward portion is attached to a rigid supporting-piece *b'*. Said pieces may be of any suitable form and construction and are connected with a suitable spring *c*, which is connected with the saddle-post of the machine.

In carrying out my invention I provide the body portion *a* with a pocket or depression *e*, extending longitudinally of the saddle from the rear portion along the horn portion and adapted to receive an inflatable cushion *d*. The said pocket may be formed by sewing or otherwise securing flaps or pieces 4 4, of leather or other suitable material, to the body

portion *a*, said body portion being cut away to form an opening 5 for the reception of the cushion *d*, all as shown in Fig. 3. The pieces 4 4 may be separated by a slot or opening between them, which opening may be closed by a lacing-cord engaged with orifices formed in the pieces 4 4, this construction permitting the removal of the cushion *d*. In Fig. 4 I show the pocket *e*, formed by molding a depression in the central portion of the body *a*.

The cushion *d* is an inflatable bag composed of elastic rubber and provided with a tube *d'*, projecting below the saddle and provided with a suitable valve, the arrangement being such that the cushion can be inflated by means of an air-pump temporarily connected with the tube *d'*. When the cushion is inflated, it projects upwardly considerably above the adjacent surfaces of the body *a*, forming a yielding ridge or protuberance above the relatively stiff supporting-surfaces of the saddle.

f represents a flexible diaphragm, which is preferably a thin sheet of leather secured to the body portion *a* and extending across and covering the cushion *d*. The diaphragm is free from connection with the body portion *a* for a considerable distance on either side of the cushion, so that portions of the diaphragm cooperate with the cushion and with the body portion *a* in forming air-chambers *g g*, extending upon opposite sides of the cushion. The diaphragm is provided with a series of perforations *h h*, communicating with the air-chambers *g g*.

It will be seen that the flexible diaphragm *f* serves as a smooth seamless flexible cover, extending across the cushion and presenting a surface which is free from seams or ridges, said diaphragm being adapted to yield freely to downward pressure and being supported yieldingly by the cushion, the diaphragm and the adjacent portions of the surface of the cushion forming yielding walls to the air-chambers *g g*, so that the said air-chambers are compressible and are, in fact, compressed by the movements of those portions of the rider's body which come in contact with the saddle, the said chambers being compressed alternately, the downward movement of each leg compressing the chamber at that side of

the saddle, while the other chamber is at the same time allowed to expand. This alternate expansion and compression of the chambers causes a circulation of air through the orifices *h*, keeping the surfaces of the saddle adjacent to the cushion cool and thoroughly ventilated.

The portions of the diaphragm covering the air-chambers *g g* constitute in effect lateral extensions of the cushion, their surfaces being yieldingly supported by the cushion and constituting bridges which connect the top of the cushion with the body *a*.

The diaphragm *f* is secured at its margin to the margin of the body portion *a* by rivets or other suitable fastenings *k*, its central portion being free.

I claim—

A bicycle-saddle comprising a relatively stiff body portion having a pocket or depression, a flexible diaphragm secured at its margin to the body portion along a line removed from the margin of said pocket or depression, the central unattached portion of

said diaphragm being free to rise and fall independently of the body portion and provided with a series of orifices near the line of attachment to the body portion, and an inflatable cushion placed in said pocket and arranged to yieldingly support the central portion of the diaphragm, compressible air-chambers being formed between opposite sides of the air-cushion, the perforated portions of the diaphragm, and those portions of the body lying between the margin of the pocket therein and the line of attachment of the diaphragm, whereby a circulation of air may be induced around the cushion, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 8th day of July, A. D. 1896.

JOHN H. POOLE.

Witnesses:

C. F. BROWN,
A. D. HARRISON.