

No. 619,244.

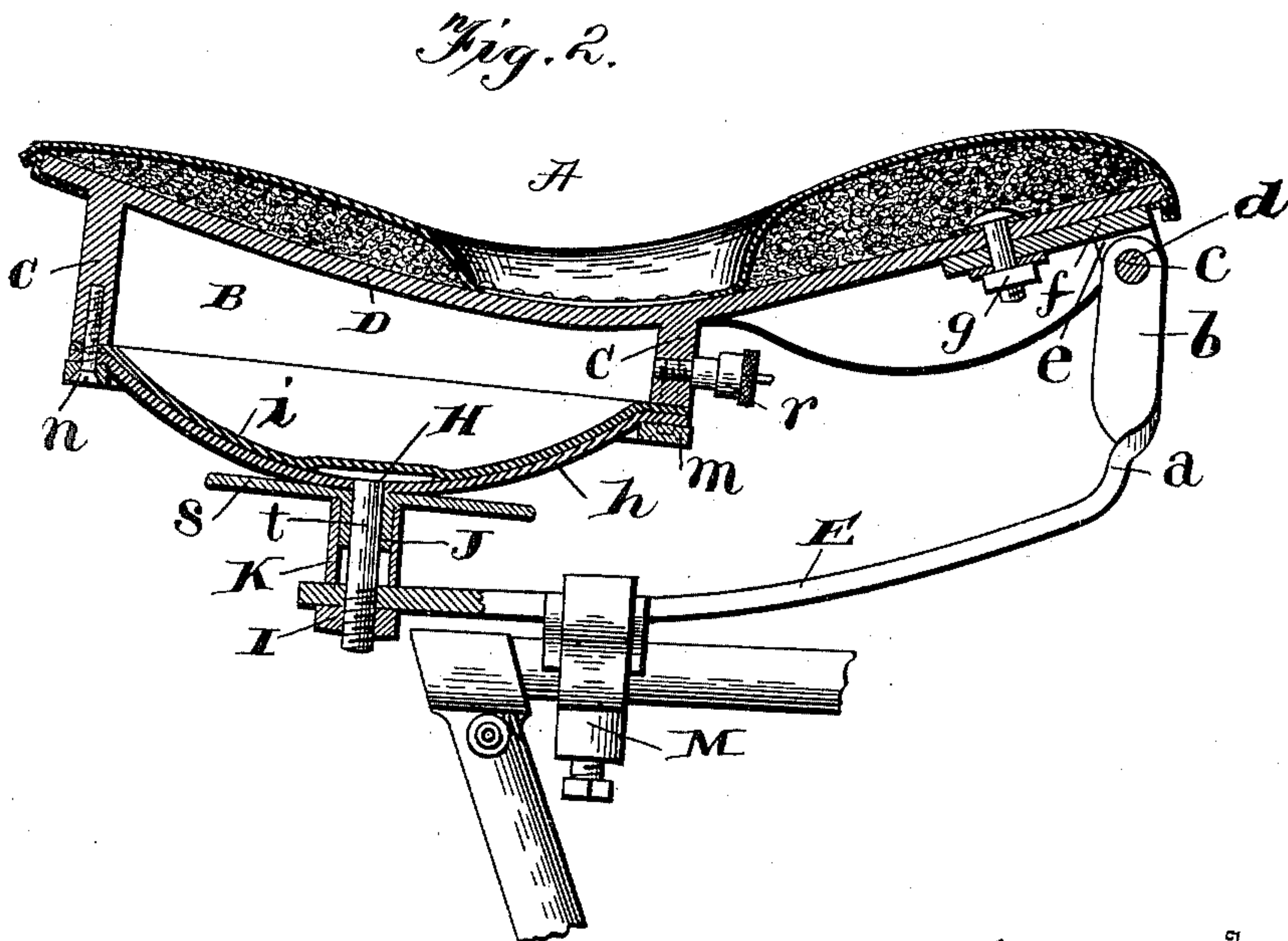
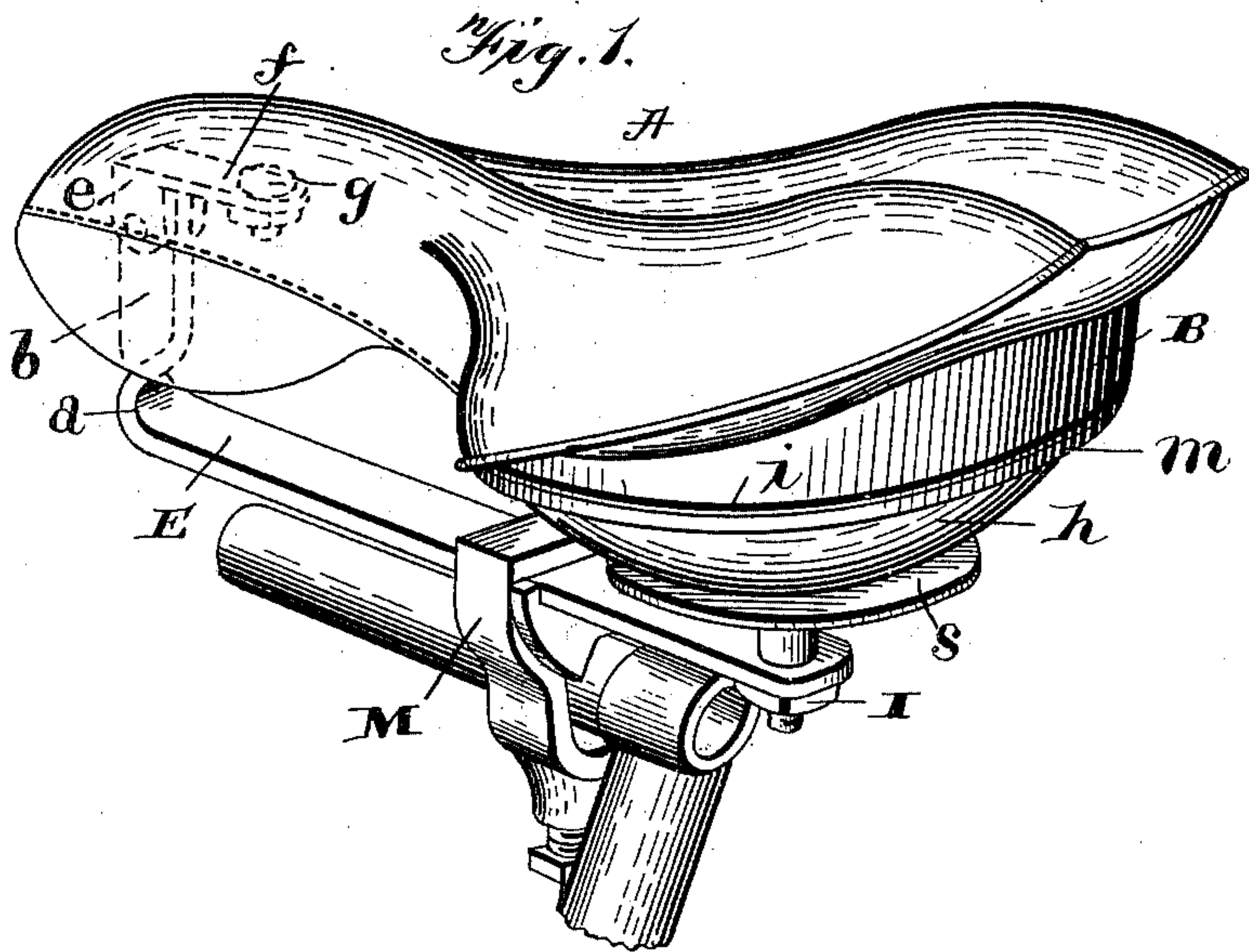
Patented Feb. 7, 1899.

W. H. F. YOUNG.
BICYCLE SADDLE.

(Application filed Mar. 18, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
Geo. C. Frech.
B. E. Seitz

Inventor
William H. F. Young,
by A. P. Pattison,
Attorney

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2 Sheets—Sheet 2.

Fig. 3.

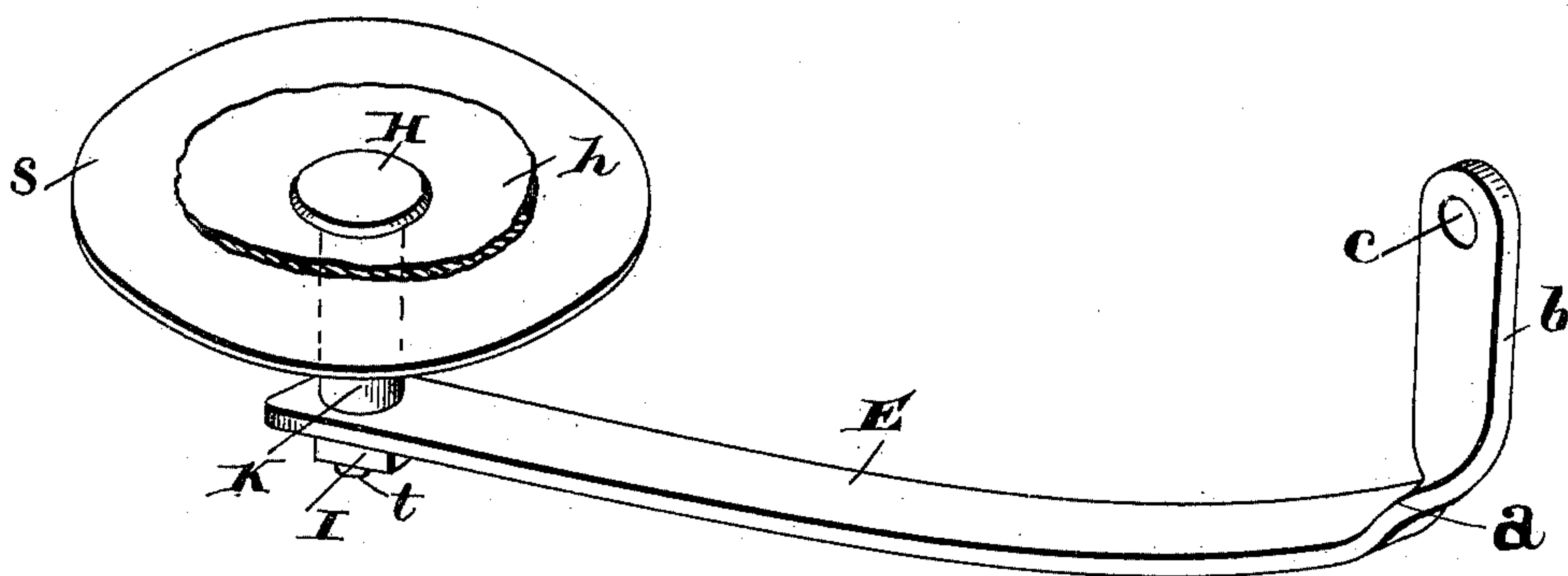
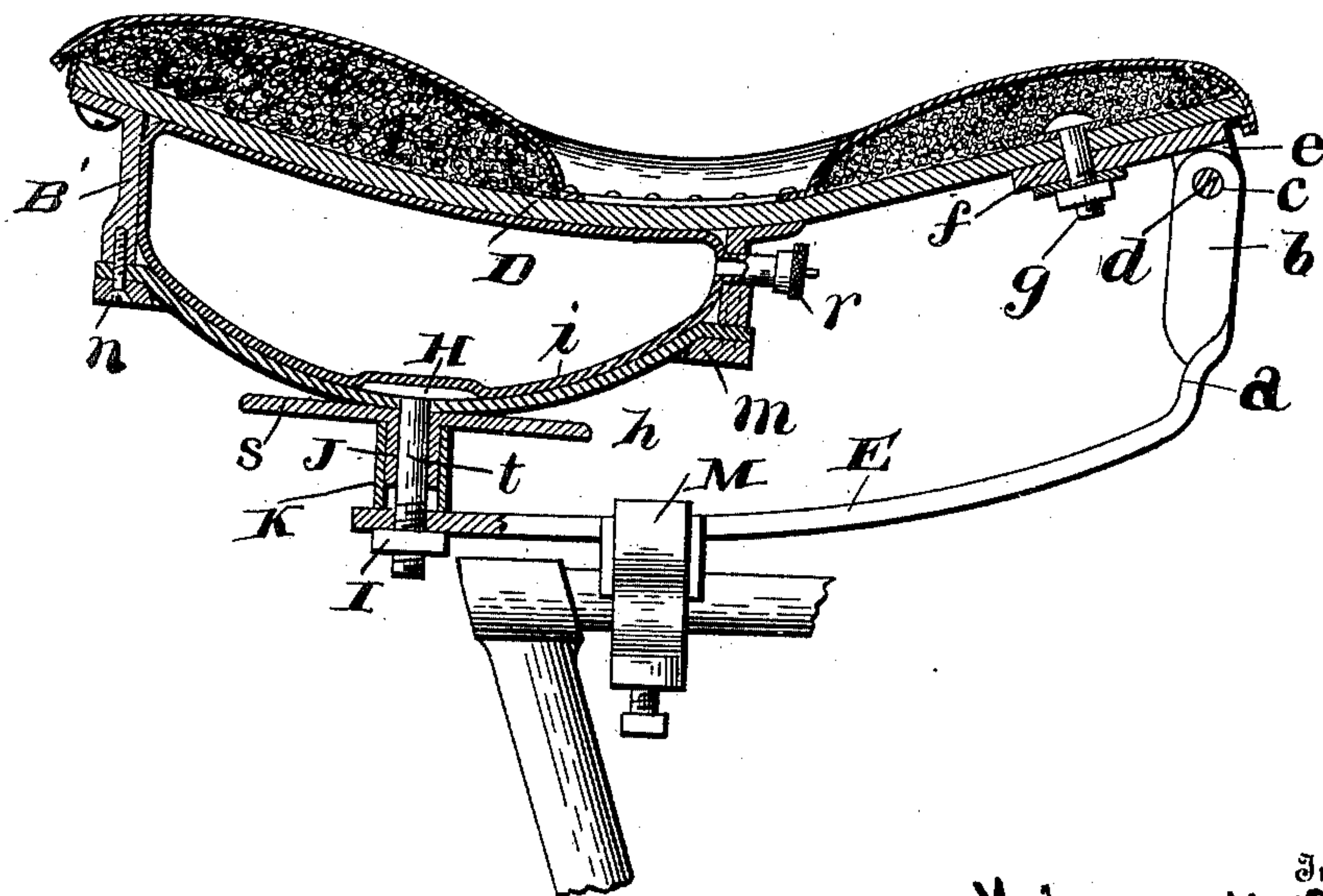


Fig. 4.



Witnesses
Geo. E. Truch.
B. E. Seitz

Inventor
William H. F. Young
by A. S. Pattison
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. F. YOUNG, OF MUNCIE, INDIANA.

BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 619,244, dated February 7, 1899.

Application filed March 18, 1898. Serial No. 674,373. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. F. YOUNG, of Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Bicycle-Saddles; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in bicycle-saddles, and pertains to a saddle provided with a pneumatic cushion beneath the seat portion thereof, all of which will be fully described hereinafter and particularly pointed out in the claims.

The object of my invention is to provide a saddle having a seat portion of any desired form or construction and beneath the rear end thereof a pneumatic cushion, the forward end of the saddle being loosely connected to permit a vibration of the saddle through the medium of the pneumatic cushion, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a perspective view of a saddle embodying my invention, the same being shown attached to a saddle-post. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a detached perspective view of the seat-support with the pneumatic-cushion support shown attached thereto. Fig. 4 is a longitudinal vertical sectional view showing the modification in the construction of the pneumatic cushion.

Referring now to the drawings, A indicates a seat portion, which may be of the padded form here shown or of any other construction that may be desired. The rear end of the seat portion A is provided with an air-chamber or pneumatic-cushion receptacle B, depending therefrom. As here shown, this preferably consists in providing a rigid annular flange C, made as an integral part of the base D of the seat portion, though this may be varied without departing from the spirit of my invention—as, for instance, as shown in Fig. 4, the ring B, which forms the air-chamber or cushion-receptacle, may be formed separately and screwed or otherwise

attached to the under side of the base D of the seat portion without departing from the scope and spirit of my invention.

E is the seat-support, here shown approximately L shape in side view, consisting of a flat metallic bar twisted near its front end, as shown at *a*, to have its upper end *b* at right angles to its horizontal portion, as shown, and the upper end of this vertical or front portion *b* is provided with an eye or perforation *c* and fits between ears *e*, depending from the front end of the base D of the seat portion. A pivotal bolt or pin *d* passes through the upper end of the seat-support E and the ears *e*, thus making a pivotal connection for the front end of the seat, whereby its rear end is permitted a vertical vibration.

The base D may either be formed of metal, wood, or stiff leather, as may be desired, and the ears *e* are connected to or formed as a part of a short arm or bar *f*, which is bolted by means of a screw or bolt *g* to the base D of the seat.

As shown in Figs. 1 and 2, the chamber B is an air-tight chamber and has its lower end closed by means of a concaved diaphragm *h*, of leather or other wearing material, and situated inside of this is a second diaphragm *i*, preferably of thin sheet-rubber. These two diaphragms are clamped to the lower ends of the annular flange C, which forms the chamber B, through the medium of an annular ring *m* and screws *n*, which pass through the ring into the annular flange C. In this way the edges of the diaphragm are tightly clamped to the lower edge of the flange C in a manner to provide an air-tight joint. A nipple *r* passes through the annular flange C and has communication with the chamber B and by means of which the chamber is filled with air and the diaphragm inflated to a concaved shape, as shown in Figs. 1 and 2. I preferably, though not necessarily, place the nipple *r* in the front side of the flange C, where it is less liable to be struck and knocked off and is not so perceptible to the eye.

The rear end of the seat-support E is provided with the horizontal diaphragm-support *s*, which is here shown, and is preferably circular in form. The leather or other diaphragm *h* rests upon this support *s*, and the whole is clamped together through the

medium of a bolt *t*, which is provided at its upper end with a head *H* at the inner side of the diaphragm *h* and has its screw-threaded stem portion passing through the end of the seat-support *E* and held by means of a nut *I*, as clearly illustrated. As here shown, this support *s* is provided at its center with a depending sleeve *J*, passing within a sleeve *K*, the upper end of the latter sleeve resting against the under side of the support *s* and upon the upper side of the seat-support *E*. In this way all of the parts are clamped together. However, I do not limit myself to this specific arrangement, for it will readily occur to skilled mechanics that this construction may be varied and without departing from the spirit of my invention, the broad idea being the providing of the rear end of the seat-support *E* with a diaphragm-support *s* of any desired contour.

The diaphragm *h* is made sufficiently strong, of course, to stand the strain brought upon it in riding.

The usual or any desired form of clamp *M* may be used for clamping the seat-support *E* to the saddle-post.

In Fig. 4 I show a modification which consists in providing a flexible air-tight bag *B'*, situated within the chamber *B*, and the nipple *r*, passing through the flange. By this construction the operation of the parts are the same, as will be readily understood.

A seat constructed as herein described makes an easy seat and places the cushion beneath the seat portion. This enables the rider to have a padded or other form of seat *A* and yet have a yielding support for the seat to relieve the sudden jars of riding.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A pneumatic seat comprising a seat portion, a seat-support having its front end connected to the front end of the seat portion, the rear end of the seat provided with a depending chamber having rigid walls and an open lower end, a flexible diaphragm closing

the open lower end of the chamber, a diaphragm-support situated between the diaphragm and the seat-support and engaging the diaphragm, and a clamping member passing through the center of the diaphragm and the support, whereby the diaphragm is permitted to engage and disengage the support except at the central point of attachment, substantially as described.

2. A pneumatic seat comprising a seat portion, a seat-support, the front ends of the seat and support being connected, the rear end of the seat provided with a depending flange forming a chamber, a flexible diaphragm secured to the edges of the said flange and thereby forming a lower wall and forming a closed air-chamber, and a support for the diaphragm, substantially as described.

3. A pneumatic seat comprising a seat portion, a seat-support, the front ends of the seat-support and seat being connected, the rear end of the seat provided with a depending flange, a flexible diaphragm attached to the lower end of the flange and forming thereby a closed air-chamber, a ring situated outside of the edge of the diaphragm and clamping the diaphragm to the lower edge of the flange, the diaphragm supported by the rear end of the seat-support, substantially as described.

4. A pneumatic seat comprising a seat portion, a seat-support connected at one end to one end of the seat, the opposite end of the seat portion provided with a depending flange forming a chamber, a wearing flexible diaphragm closing the lower end of the chamber, a diaphragm-support situated between the said diaphragm and the seat-support, and an air-tight diaphragm situated at the inner side of the said wearing diaphragm thus forming a closed air-chamber, substantially as described.

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

WILLIAM H. F. YOUNG.

Witnesses:

H. MARSH JACKSON,
FRANK G. JACKSON.