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PATENTED AUG. 14, 1906.

C. SMITH.  
PNEUMATIC CUSHIONED STOOL.  
APPLICATION FILED MAR. 9, 1906.

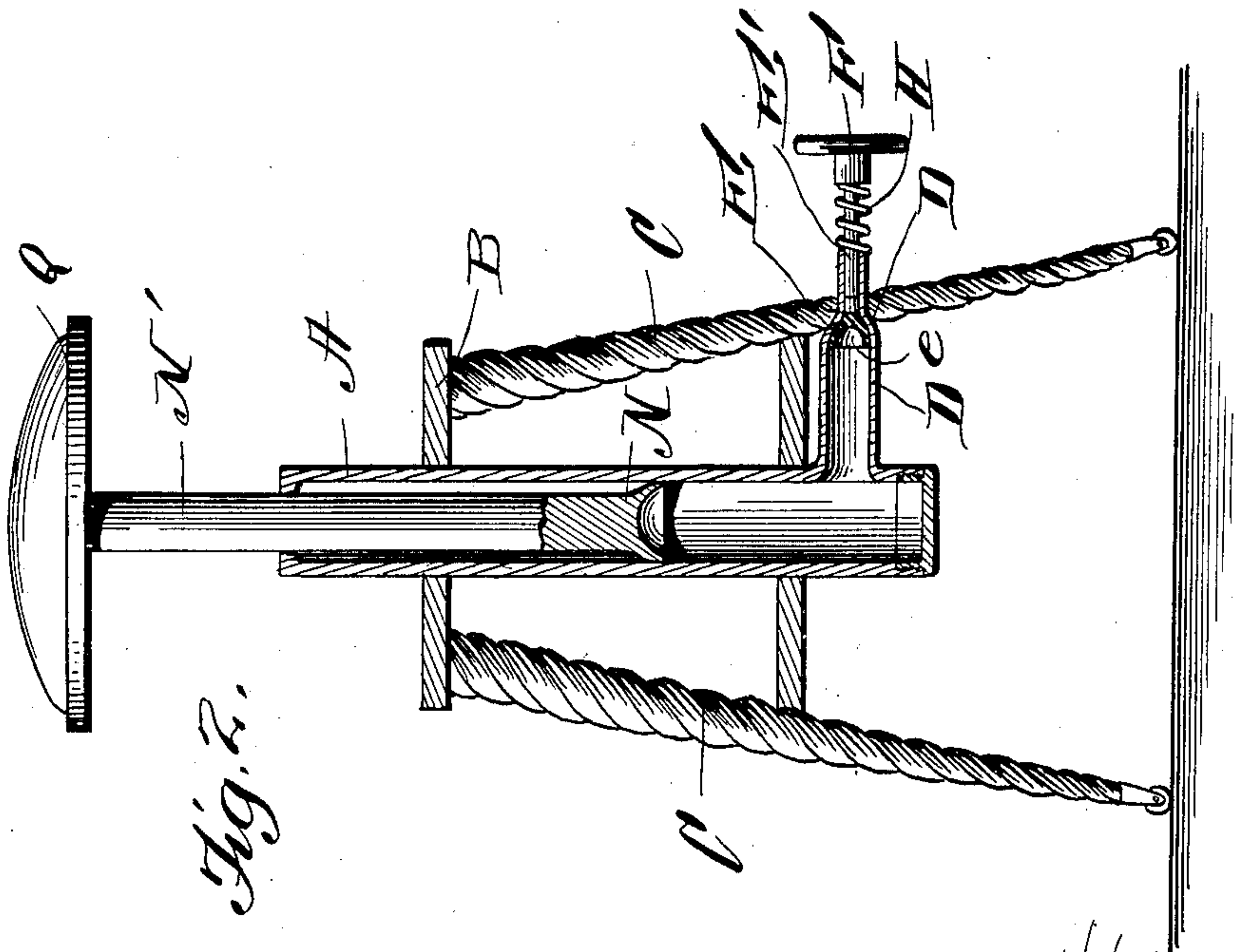


Fig. 2.

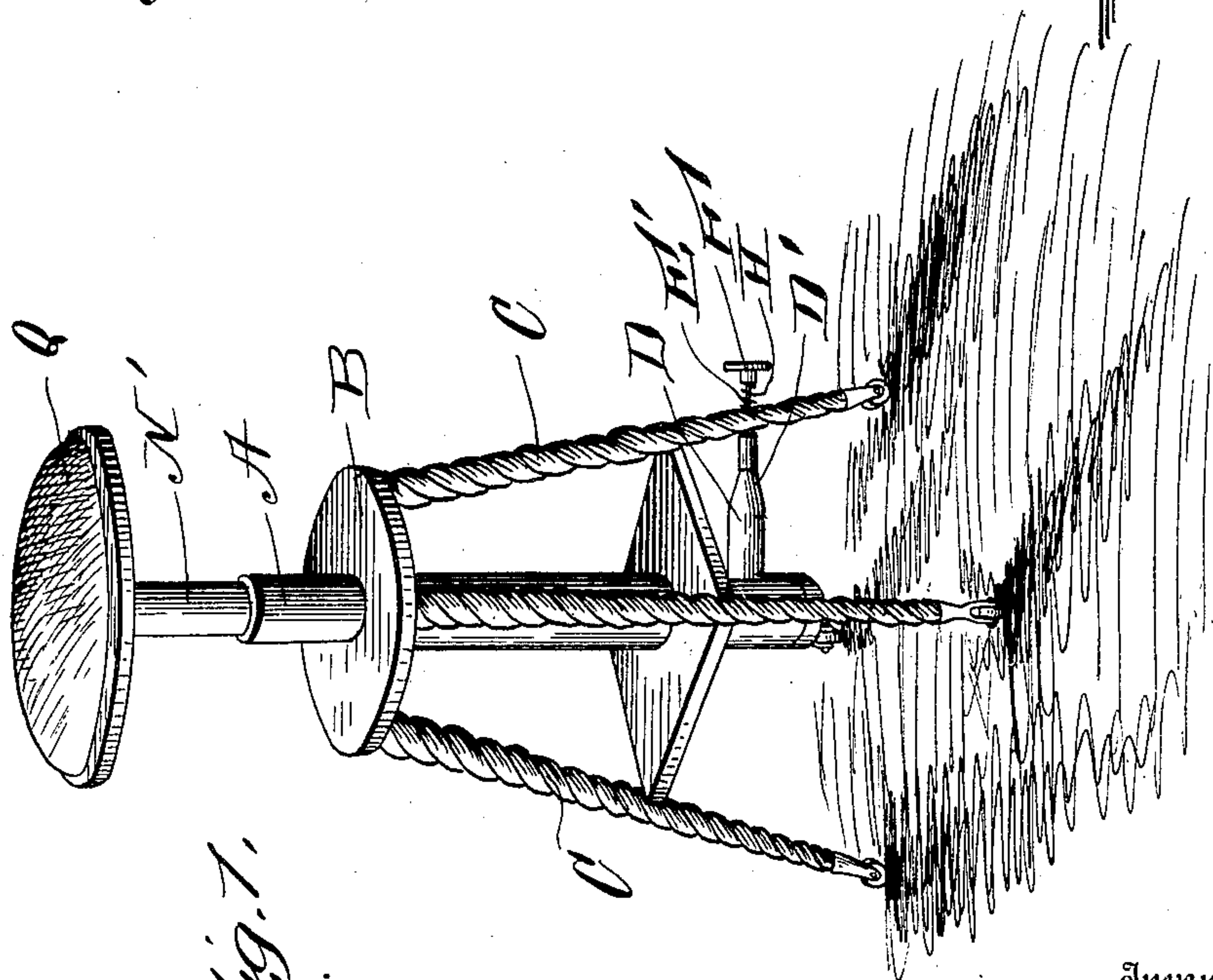


Fig. 1.

Witnesses  
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# UNITED STATES PATENT OFFICE.

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## PNEUMATIC CUSHIONED STOOL.

No. 828,781.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed March 9, 1906. Serial No. 305,167.

*To all whom it may concern:*

Be it known that I, CHESTER SMITH, a citizen of the United States, residing at Oak Hill, in the county of Jackson and State of Ohio, have invented certain new and useful Improvements in Pneumatic Cushioned Stools; 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in pneumatically-cushioned stools; and the object of the invention is to produce a simple and efficient device of this nature in which a piston is provided which is mounted upon a suitable support and in which the shank portion of a seat of a stool is adapted to work, said cylinder being provided with a valve, whereby as the seat is raised air is allowed to enter the cylinder, while the valve is closed when the piston is forced within the cylinder, thus forming an air-cushion.

The invention consists, further, in other details of construction and combinations and arrangements of parts, which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved pneumatically-cushioned stool, and Fig. 2 is a sectional view longitudinally through the same.

Reference now being had to the details of the drawings by letter, A designates a cylinder which may be of any suitable size and having its lower end closed and is supported by the tables B, which are secured to the legs C. Branching from the lower portion of said cylinder is a pipe D, having a constricted portion D', forming a seat for a valve E, which is fixed to a stem E', passing through one end of said pipe D. A button F is fixed to the outer end of said stem E', and a spring H is interposed between a shoulder upon said stem and the end of the pipe D, whereby the conical or inclined surface of said valve E may be normally held seated against a corresponding inclined portion of the surface of

said pipe D. The valve E is made, preferably, of flexible material and is hollowed out, as at e, in order that the peripheral edge of the valve may expand under pressure of air coming against the same from the cylinder to securely hold the valve seated.

N designates a piston which has its lower end flaring and adapted to engage snugly the inner surface of the cylinder and is provided with a stem N', which works through the upper end of the cylinder and has a seat Q fixed thereto.

The operation of my invention is as follows: The piston being in its lowest position in the cylinder, when it is desired to elevate the seat the latter may be raised and with it the piston, causing a vacuum in the lower portion of the cylinder. As the vacuum forms, the atmospheric pressure bearing upon the valve will cause the same to unseat and allow air to enter the lower portion of the cylinder. The seat being adjusted to the right height and when a weight is placed upon the seat the piston will be forced downward and compress the air in the lower portion of the cylinder, forming an air-cushion, and the compressed air will cause the valve, which is normally seated by the spring, to more securely retain its seat and prevent the escape of air. In the event of its being desired to lower the seat still further while a person is still seated upon the same the valve-stem may be pushed in, causing the valve to unseat and allowing part of the air which has been compressed in the cylinder to escape, and in the event of its being desired to elevate the seat it may be done by simply raising the same, the piston forming a suction whereby more air may be drawn through the valve-regulated pipe.

It will be noted from the foregoing that by the provision of a pneumatically-cushioned seat, as shown and described, an automatic means is afforded whereby the seat may be held at any desired height within the limits of the apparatus and at all times forming a cushion of air which may be easily and quickly regulated.

What I claim is—

1. A pneumatically-cushioned stool comprising a cylinder having a closed bottom, an open-ended pipe leading into the lower portion of the cylinder, a tapering valve-seat within said pipe, a valve-stem passing into said pipe, a tapering valve at the end of said

stem and a spring bearing upon the end of  
said pipe and said stem, whereby the valve  
may be normally seated, a piston mounted  
within said cylinder, a stem secured to said  
5 piston, and a seat secured to said stem, as set  
forth.

2. A pneumatically-cushioned stool com-  
prising a cylinder having a closed bottom, an  
open-ended pipe leading into the lower por-  
10 tion of the cylinder, a tapering valve-seat  
within said pipe, a valve-stem passing into  
said pipe, a tapering flexible valve at the end

of said stem, said stem having a concaved  
end, a spring coöperating with the stem and  
pipe to normally hold said valve seated, a 15  
piston mounted within said cylinder, and a  
seat secured to the stem of said piston, as set  
forth.

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

CHESTER SMITH.

Witnesses:

T. M. JONES,

CHAS. C. RAYNER.