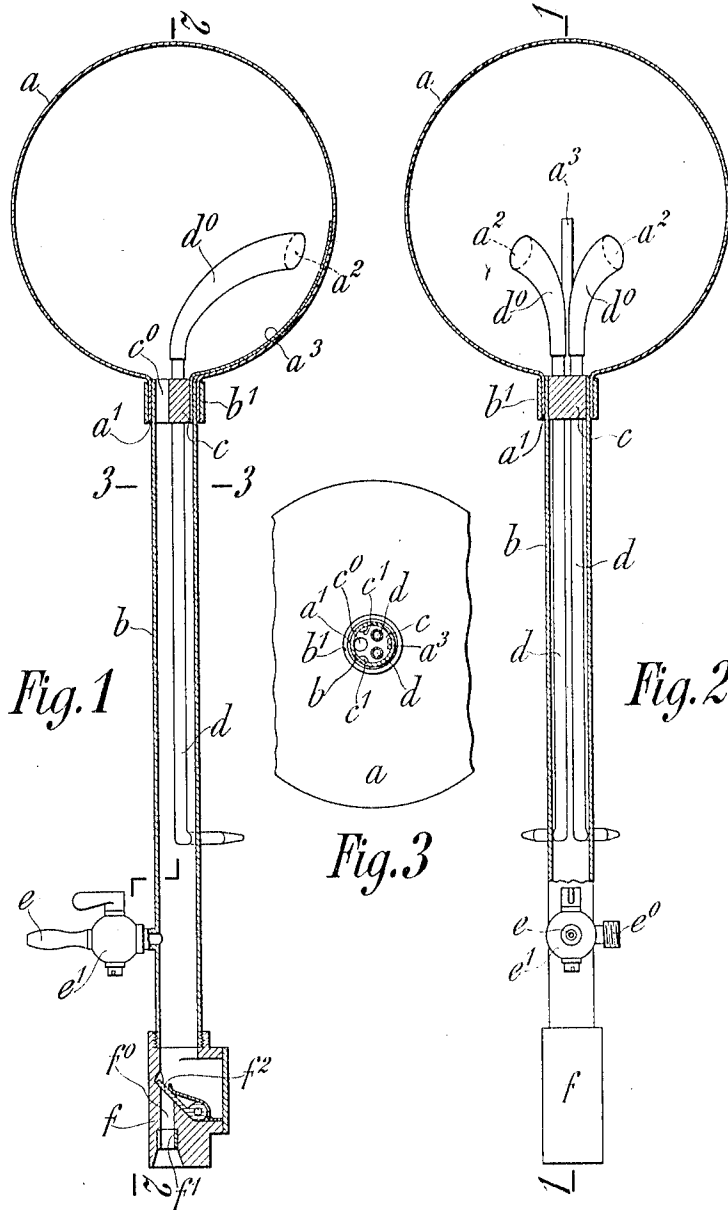


1,089,805.

Patented Mar. 10, 1914.



Witnesses:

George Killboes
Carl Kerschbaum

Inventor:

George Wolf

UNITED STATES PATENT OFFICE.

GEORG WOLF, OF BERLIN, GERMANY, ASSIGNOR TO THE FIRM OF GEORG WOLF,
G. M. B. H., OF BERLIN, GERMANY.

MEDICAL APPLIANCE.

1,089,805.

Specification of Letters Patent. Patented Mar. 10, 1914.

Application filed July 11, 1913. Serial No. 778,426.

To all whom it may concern:

Be it known that I, GEORG WOLF, a citizen of the German Empire, residing at Berlin, Germany, have invented a new and useful
5 Medical Appliance, of which the following is a specification.

The present invention relates to instruments, which are intended for draining off the secretion coming from one of the two
10 urinal ducts, without its mixing with that coming from the other urinal duct. Those well-known instruments serving the above purpose, in which a tube furnished with an extension is introduced into the interior of
15 the urinary bladder and is pressed with its orifice against the orifice of the particular urinal duct, have the drawback, that a close contact with the orifice of the urinal duct is only to be obtained by the employment of
20 considerable pressure. The same drawback attaches to those instruments, in which an elastic partition is spread out within the urinary bladder.

In the new instrument a tube is fitted with
25 a flexible extension, which reaches through a dilatable bladder (made, *e. g.*, of rubber), so that the orifice of the extension lies in the outer surface of the said bladder or projects slightly beyond it, while the interior of the
30 bladder is connected with a second tube. By means of this second tube the bladder, after being introduced while empty into the urinary bladder, can be dilated by pneumatic or liquid pressure, so as to effect a close
35 contact between the tube-extension and the orifice of one of the urinal ducts. When it is desired to press the bladder in certain places more firmly against the wall of the urinary bladder, this increase in pressure can be effected
40 by one or more spring bows, which are suitably connected with the bladder.

It is found convenient to so dispose the two tubes that the tube fitted with the extension is inclosed by the tube belonging to
45 the bladder, so as to give to that part of the instrument, which is to be introduced into the body of the patient, a surface, which is as smooth as possible and easy to keep free from impurities. The secretion coming
50 from the other urinal duct may pass through between the bladder of the instrument and the wall of the urinary bladder and be drained off through an auxiliary tube to the outside. When it is desired to collect the
55 secretions coming from both the urinal ducts

each at its duct orifice at the same time and to drain them off separately, a second tube reaching through the bladder of the instrument with a flexible extension may be provided instead of an auxiliary tube, so that
60 the orifices of the two extensions can be pressed simultaneously against the two urinal duct orifices. It is convenient to inclose this tube as well by the tube belonging to the bladder. When the instrument is not
65 to be introduced directly through the urethra, it may be pushed in a well-known manner through a catheter-tube placed in the said urethra.

When the bladder of the instrument consists of such a material that it is transparent
70 at least in its dilated condition, that part of the outermost tube, which is not required for the draining off of the secretion, can serve for the reception of one of the well-known
75 observing apparatus for the inspection of the urinary bladder. In order to be able to exchange such an apparatus for another one, while the bladder of the instrument is in a dilated condition, a non-return flap may be
80 provided, which, on the observing apparatus being removed, prevents the contents of the bladder of the instrument from escaping.

For controlling the pressure exercise on the wall of the bladder of the instrument a
85 pressure gage may be employed, which is in communication with the interior of the said bladder.

In the annexed drawing Figure 1 is a longitudinal section through an instrument according to the invention, which is intended for collecting simultaneously the secretions coming from the two urinal ducts each at the orifice of its duct and to drain them off to the
90 outside. Fig. 2 is a part section along line 2—2 of Fig. 1. Fig. 3 is a section along line 3—3 of Fig. 1.

In a neck a^1 of a thin rubber bladder a a tube b is fixed by means of a ring b^1 . Two thin little tubes d are led through the wall of
100 the tube b , the joint being rendered airtight, and rest at that one of their ends which is nearest to the rubber bladder in a supporting body c . Each of these small tubes is provided at its end lying within
105 the rubber bladder with an extension d^0 , which widens out in the shape of a funnel and is made of comparatively thick rubber. Each extension is attached at its enlarged end, so as to make an air-tight joint, to the
110

edges of an opening a^2 suitably disposed in the rubber bladder, the two openings being so located that their centers correspond to the average position of the orifices of the

5 urinal ducts. A resilient metal bow a^3 causes the rubber bladder to lie particularly closely against that part of the wall of the urinary bladder, which lies between the orifices of the urinal ducts. Close to that end

10 of the tube b , which lies farthest from the rubber bladder, there is attached to the said tube a socket e provided with a cock e^1 , which serves for introducing air or liquid into the rubber bladder. A second socket e^0 ,

15 which is threaded, serves for attaching a pressure gage. A headpiece f screwed onto the tube b contains a bore f^0 , which together with a second bore e^0 of the supporting body c (e^0 and f^0 being coaxial) serves for the re-

20 ception of an observing instrument (*e. g.* a cystoscope), which, being introduced into the interior of the rubber bladder, permits of an inspection of the urinary bladder being made after the rubber bladder has been

25 dilated. A rubber ring f^1 acts as stuffing, while a non-return flap f^2 prevents the contents of the rubber bladder escaping, should the observing apparatus be removed from the instrument. The supporting body c is

30 provided on its periphery with two axially directed grooves c^1 , which permit of the pressure in the rubber bladder being varied, even with the observing apparatus in position.

35 I claim:

1. In a medical appliance adapted to be introduced into the urinary bladder a dilatable bladder, a tubular member communicating at one of its ends with the interior

40 of the said dilatable bladder, means for dilating this bladder through the said tubular member and tubular means adapted to drain the said urinary bladder extending through the said dilatable bladder, the part extending

45 through this bladder being flexible.

2. In a medical appliance adapted to be introduced into the urinary bladder a dilatable bladder, a tubular member communicating at one of its ends with the interior of the said dilatable bladder, means for dilating this bladder through the said tubular

50 member and tubular means adapted to drain the said urinary bladder lying within the

said tubular member and extending through the said dilatable bladder, the part extending through this bladder being flexible. 55

3. In a medical appliance adapted to be introduced into the urinary bladder a dilatable bladder, a tubular member communicating at one of its ends with the interior of the said dilatable bladder, means for dilating this bladder through the said tubular member and two small tubes adapted to drain the said urinary bladder lying within the said tubular member and having each a

60 flexible extension at one end, such extensions reaching through the said dilatable bladder. 65

4. In a medical appliance adapted to be introduced into the urinary bladder a dilatable bladder, a tubular member communicating at one of its ends with the interior of the said dilatable bladder, means for dilating this bladder through the said tubular member, a resilient metal bow fixed to the

70 said member and adapted to lie against the inner surface of the said dilatable bladder and two small tubes adapted to drain the said urinary bladder lying within the said tubular member and having each a flexible

75 extension at one end, such extensions reaching through the said dilatable bladder. 80

5. In a medical appliance adapted to be introduced into the urinary bladder a dilatable bladder, a tubular member communicating at one of its ends with the interior of the said dilatable bladder, means for dilating this bladder through the said tubular member, a resilient metal bow fixed to the

85 said member and adapted to lie against the inner surface of the said dilatable bladder, two small tubes adapted to drain the said urinary bladder lying within the said tubular member and having each a flexible extension at one end, such extensions reaching

90 through the said dilatable bladder, a supporting body at the end of the tubular member nearest the said dilatable bladder, a headpiece at the other end of the tubular member, a non-return flap within this head-

95 piece, coaxial holes in the said supporting body and the said headpiece and axially directed grooves in the said supporting body. 100

GEORG WOLF.

Witnesses:

GEORG WILLERS,
CURT KRETSCHMANN.