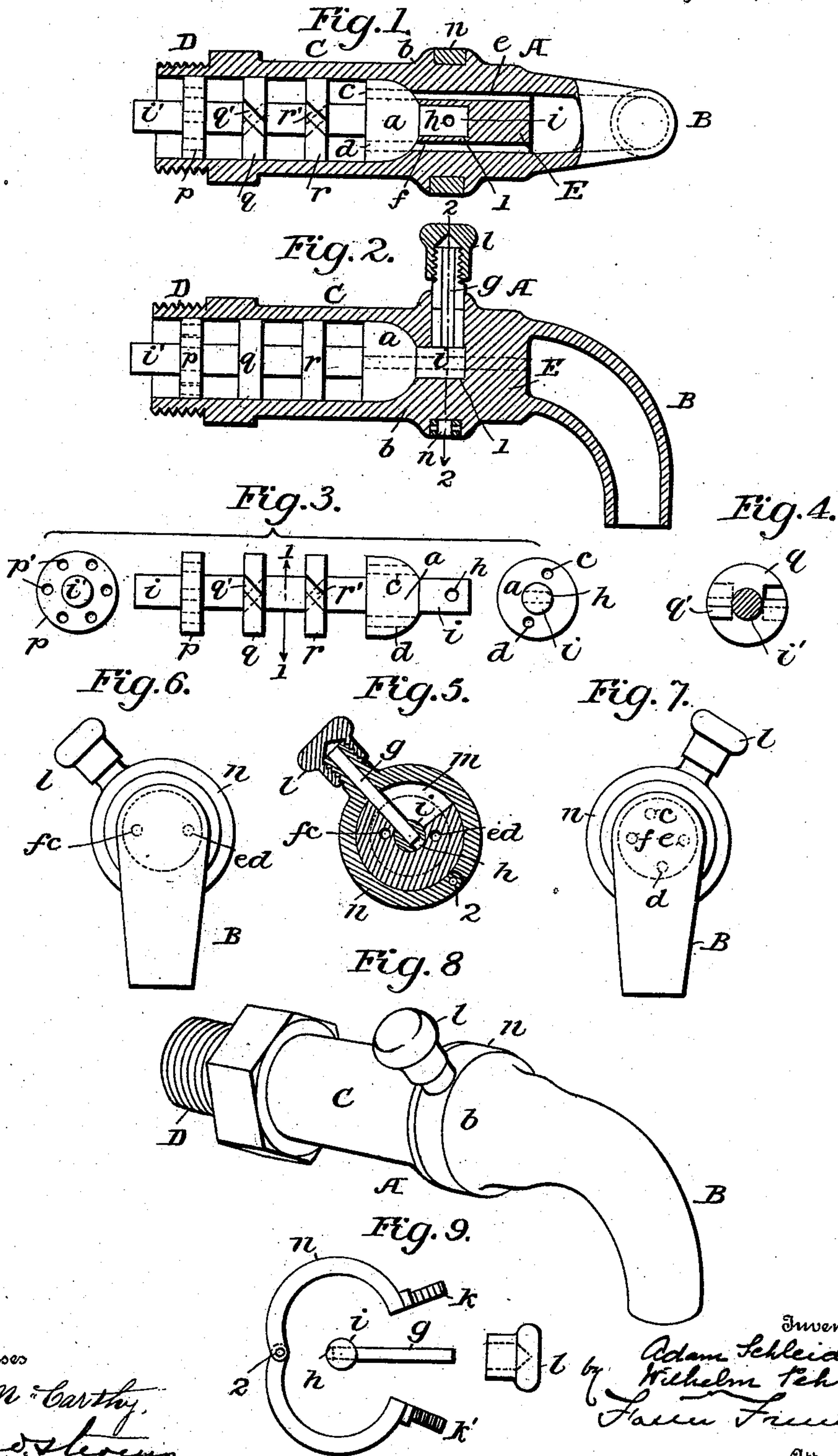


(No Model.)

A. SCHLEIDT & W. PEHL.  
COCK.

No. 605,018.

Patented May 31, 1898.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## COCK.

SPECIFICATION forming part of Letters Patent No. 605,018, dated May 31, 1898.

Application filed January 7, 1897. Serial No. 618,368. (No model.)

*To all whom it may concern:*

Be it known that we, ADAM SCHLEIDT and WILHELM PEHL, subjects of the Emperor of Germany, and residents of Wiesbaden, Ger-  
many, have invented certain new and useful  
Improvements in Cocks, of which the follow-  
ing is a specification.

This invention relates to certain new and  
useful improvements in cocks or faucets; and  
it consists, substantially, in such features of  
construction, arrangement, and combinations  
of parts as will be hereinafter more partic-  
ularly described.

The object of the invention is to provide a  
cock or faucet comparatively simple in con-  
struction and one in which the use of all  
packing material is dispensed with.

A further object of the invention is to pro-  
vide means whereby when the cock is closed  
there will be no liability to dripping, and also  
to provide for the easy manipulation of the  
cock as well as the general efficiency thereof  
in the performance of its functions as such.

These and other objects we attain by the  
means illustrated in the accompanying draw-  
ings, in which—

Figure 1 is a longitudinal sectional view  
taken in a horizontal plane to the cock when  
in position for use. Fig. 2 is a similar view  
taken in a vertical plane or at right angles to  
Fig. 1. Fig. 3 is a left-hand end view, a side  
view, and a right-hand end view on the line 1  
1, respectively, of the valve and its stem, to-  
gether with the safety or pressure-regulating  
disks mounted upon or carried by the stem.  
Fig. 4 is a sectional view taken on the line 1  
1 of the central part of Fig. 3. Fig. 5 is a  
cross-sectional view taken on the line 2 2,  
Fig. 2. Fig. 6 is an end view of the cock or  
faucet, showing in dotted lines the coinci-  
dence or registry of the ports of the valve  
with the channels or passages of the seat  
therefor in the shell or casing. Fig. 7 is a  
similar view representing the valve as cut off  
or when the inner outlet-passages and the  
valve-ports are out of registry or coincidence.  
Fig. 8 is a view in perspective of the cock or  
faucet as it appears complete and ready for  
use. Fig. 9 is a view in detail of the devices

which coöperate with the valve for opening  
and closing the latter.

Our invention is capable of being embodied  
in different ways; but as a simple and effect-  
ive construction we have selected the form  
herein shown and which will now be de-  
scribed. The shell or casing of the cock or  
faucet is designated at A and which, as shown,  
is formed with the usual downwardly-curved  
mouth portion B, constituting the outlet or  
discharge. The said shell or casing has a  
rearward extension C, which terminates in a  
reduced screw-threaded nipple D for secur-  
ing the faucet in place, and intermediate the  
inner ends of the extension and the curved  
mouth portion B is a solid portion E, having,  
preferably, two longitudinal passages *e f*,  
forming a communication between the hollow  
extension C and the said mouth portion or  
discharge B. The said passages are prefer-  
ably arranged at diametrically opposite  
points; but it is obvious that both the posi-  
tion and number of said passages could be  
altered or changed to suit requirements. The  
body of the shell or casing is preferably some-  
what enlarged at *b*, and a cavity or recess *m* is  
formed therein, leading, preferably, from the  
upper side of the shell and extending into the  
solid portion E for about one-half the diame-  
ter thereof, the said cavity reaching to and  
communicating with a central longitudinal  
socket 1, formed in the said solid portion.

A suitable thickness of material is left be-  
tween the passages *e f* and the cavity or re-  
cess *m*, and the sides of the latter converge  
inwardly and are substantially triangular, and  
they constitute limiting stops or abutments  
for the valve-operating devices to be de-  
scribed.

The inner extremity of the solid portion E  
is dished or concaved and constitutes a seat  
for a substantially conical and rotary valve *a*,  
carried on a longitudinal stem *i'*, the said  
valve being formed with longitudinal ports *c*  
*d*, adapted to coincide or register with the  
passages *e f* and the said stem extending at  
its inner end beyond the valve and resting or  
having its bearing in the socket 1. The valve  
could be operated to be turned on and off in



many different ways; but as a convenient way we fasten in an opening *h*, in the inner end of the stem thereof, at the side the inner end of a pin *g*, having a radial movement back and forth between the two convergent sides of the cavity *m*, and the upper end of this pin extends beyond the side of the shell a short distance, so as to enable the pin to be conveniently manipulated for opening and closing the ports of the valve. The said pin can be moved back and forth in the recess *m* as far as permitted by the sides of the latter, and this of course is the limit of movement of the valve in either direction, since the stem of the valve is turned with the pin. The said pin *g* could be disposed in various ways to operate the valve; but preferably we employ a two-part ring *n n*, fitting and turning within an annular groove formed in the enlarged part *b* of the shell. The two parts of this ring are hinged together at 2, and their free extremities are formed with semicylindrical projections *k k*, which are screw-threaded exteriorly to receive a knob or button *l*. The outer extremity of the pin *g* is received between or within the portions *k k'*, and it is obvious that by taking hold of the knob and turning the ring in its groove the pin *g* will be turned and consequently the valve. In the position of the knob as shown in Fig. 6, for instance, the ports of the valve will be in coincidence with the passages *e f*, and the cock is then open, and in the position represented at Fig. 7 the ports will be brought to a position substantially at right angles to the passages, and the cock will then be closed.

It will thus be seen that we have provided a very simple and effective faucet; but in addition to the features described we also provide means for effecting a diminution of water-pressure in high-pressure conduits, and thus prevent shocks or hammering of the cock as well as the bursting of the conduit. Such feature of our invention, it will be understood, is equally applicable to cocks or faucets of other constructions than that herein represented. Thus we provide the valve-stem of a length about equal to the extension *C* of the shell, and we provide the same with a number of disks (three being shown in the present instance) *p, q, and r*. Each of these disks is provided with a central opening through which one end of the valve-stem extends, and these disks may be secured rigidly to the stem, in which case they would rotate therewith, or they may be secured rigidly with the casing, in which case the valve-stem would be supported and turn within the central openings. The outermost of said disks is formed with longitudinal passages *p'*, while the remaining ones of the disks are formed with diagonal passages or openings *q'*, crossing each other, as shown. The form and arrangement of the openings described give to the inflowing water a spiral movement, and the pressure of the water is thereby diminished with no liability to bursting of the cock.

It is obvious that immaterial changes could be made in the construction and arrangement of the several parts, and therefore without limiting ourselves to the precise details shown and described

We claim—

1. In a valve or cock, the combination with a casing provided with inlet and discharge openings, and an intermediate wall, said wall being formed with a conical seat, a passage, a central socket, and a cavity intersecting the socket and extending to the exterior of the casing, a conical valve upon the inside of the wall adapted to the seat thereof for controlling the passages of the wall, said valve having a stem which extends into the socket, a ring encircling and adapted to turn upon the casing, and devices within the cavity of the wall connecting the valve-stem and ring, substantially as described.

2. In a valve or cock, the combination with a casing provided with inlet and discharge openings, and an intermediate wall, said wall being formed with one or more passages, a central socket and a cavity intersecting the socket and extending to the exterior of the casing, a rotary valve for controlling the passages of the wall, provided with one or more ports adapted to aline with the passages of the wall and with a stem which extends into the socket of said wall, a ring encircling and adapted to turn upon the casing, and devices within the cavity of the wall connecting the valve-stem and ring, substantially as described.

3. In a valve or cock, the combination with a hollow casing provided with an exterior annular groove and a dividing-wall within the chamber of the casing formed with one or more passages, a socket and a cavity intersecting the socket and the exterior annular groove, a rotary valve for controlling the passages of the wall provided with a stem which extends into the socket of said wall, a ring adapted to turn within the annular groove and connections within the cavity between the ring and valve-stem, substantially as described.

4. A cock or faucet provided with interior longitudinal passages leading to the discharge, and provided with a cavity having convergent sides, and with a longitudinal socket leading to said cavity, a rotary valve having a stem turning in the socket, and formed with ports to register with the passages, a pin working in the cavity and connecting with the stem, and a two-part ring turning in a groove in the shell and provided with the semicircular projections *k, k'*, embracing the outer end of the pin, and the knob or button, substantially as described.

5. A cock or faucet provided with interior longitudinal passages leading to the discharge, a rotary valve having ports adapted to register with said passages, and the disks arranged to the rear of the valve, and provided respectively with the straight and di-



agonal passages, substantially as described and for the purpose set forth.

6. In a valve or cock, the combination with a casing provided with inlet and discharge  
5 openings, a rotary valve within the casings intermediate the said openings, a ring upon the exterior of the casing having separated ends, means for securing the ends of the ring together and connections intermediate the  
10 ring and valve, extending through the cas-

ing, for operating said valve, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ADAM SCHLEIDT.  
WILHELM PEHL.

Witnesses:

FRANZ HASSLACHER,  
MAX GOLDFINGER.