

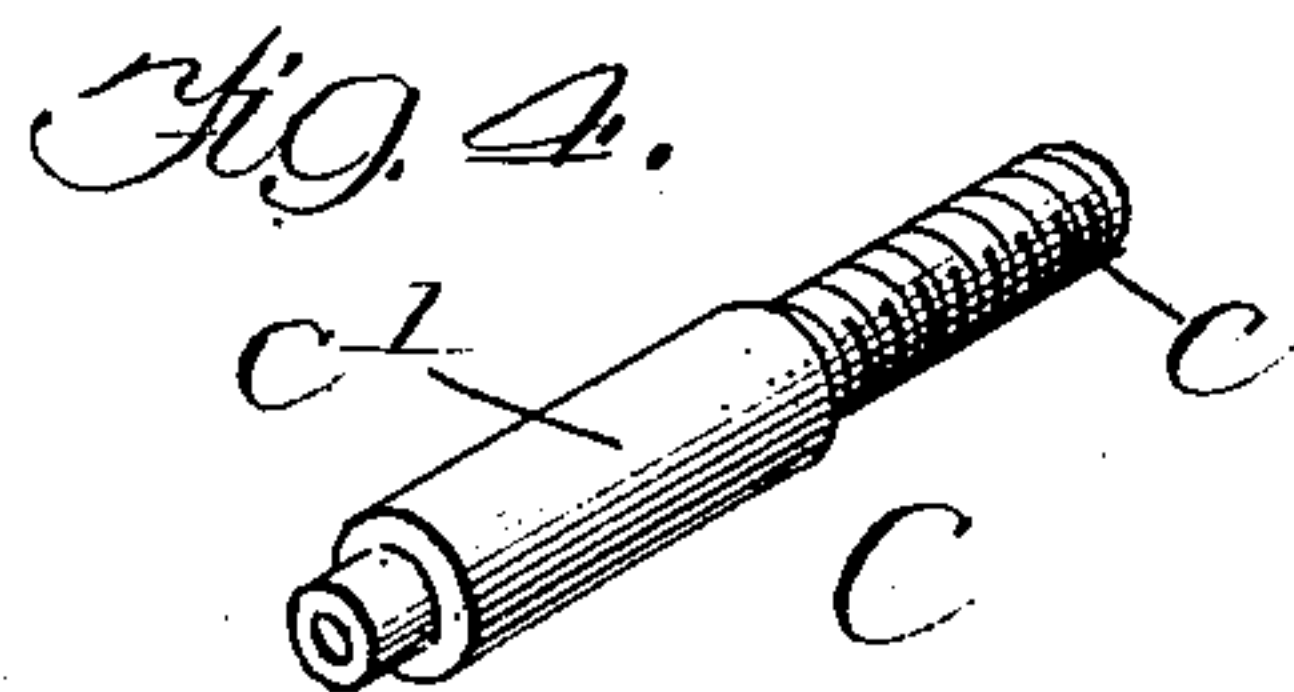
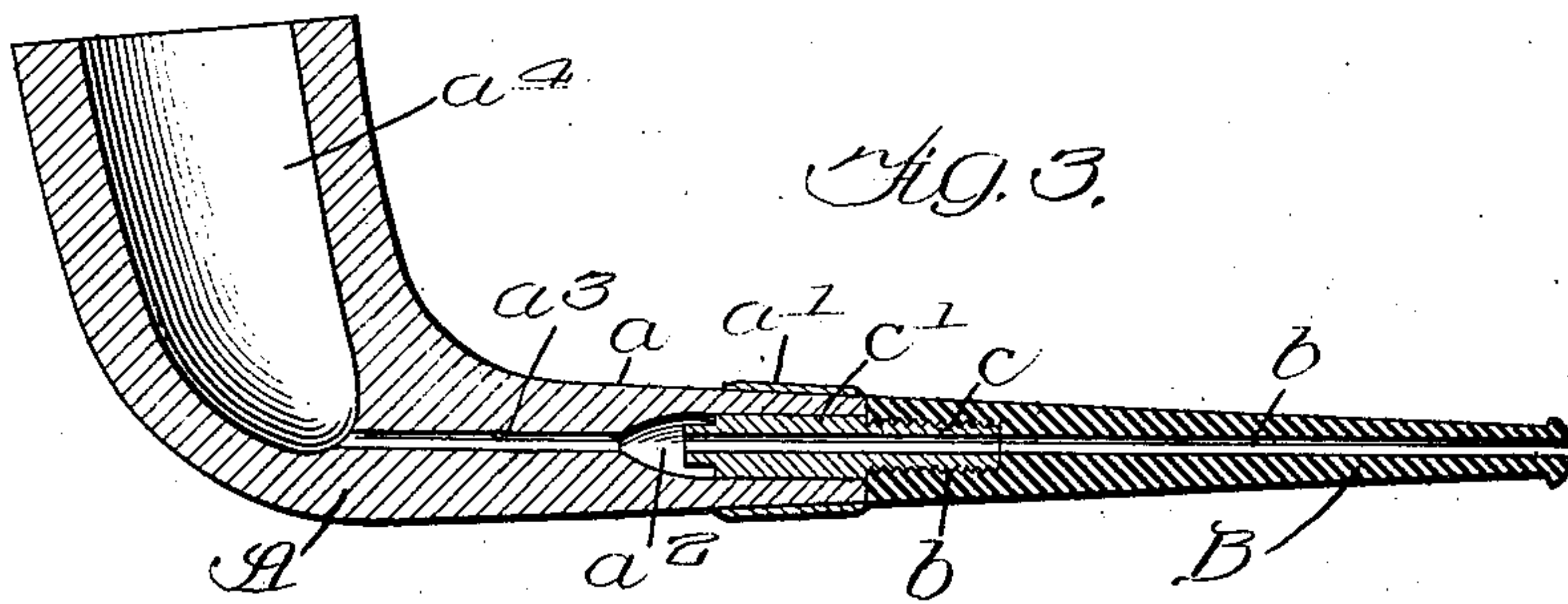
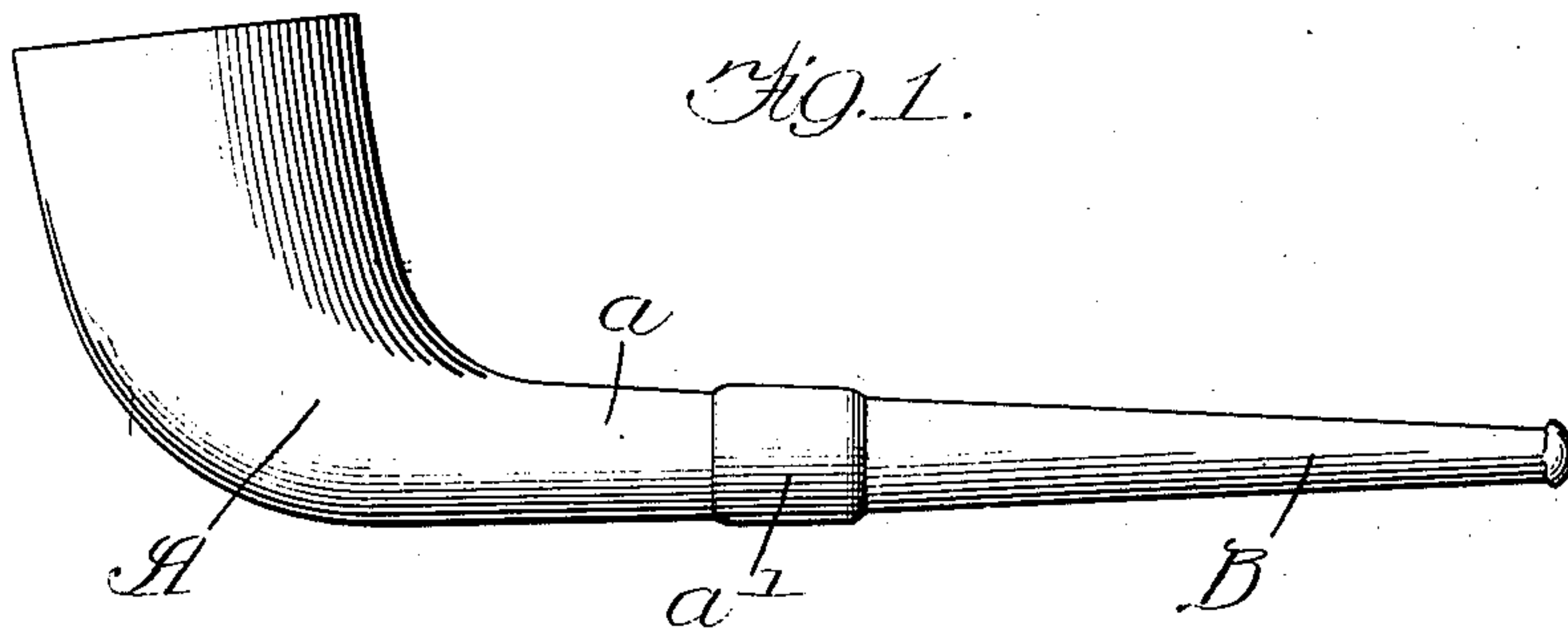
J. D. BURGER.

PIPE.

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999,626.

Patented Aug. 1, 1911.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## PIPE.

999,626.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed October 5, 1910. Serial No. 585,376.

*To all whom it may concern:*

Be it known that I, JACOB D. BURGER, a citizen of the United States of America, and resident of Chicago, Cook county, Illinois, have invented a certain new and useful Improvement in Pipes, of which the following is a specification.

My invention relates to pipes in general, but more particularly to those in which the bit is made detachable from the bowl by means of a smooth push that enters the stump of the bowl to connect the two parts of the pipe rigidly together. Ordinarily the bit and the push are made integral, while in other instances the push is a separate piece fastened rigidly into the bit; but in all cases, heretofore, the push has been breakable as compared with the bowl stump and the bit, being made ordinarily of rubber or bone. As is well known, the weakest point in a pipe of this type lies at the juncture of the bit and the bowl stump, and consequently at this point the pipe stem frequently breaks, leaving the screw or push extension fixed in the stump and rendering the bit useless. This breaking occurs more frequently when the pipe is carried in the pocket of the user, and by reason of this fact many users of pipes carry them in a protecting case, this being especially the fact with high priced pipes. Moreover rubber and bone, the materials most commonly regarded as proper for the push or screw, are subject to deterioration and have occasioned considerable trouble by swelling or shrinking or cracking when subjected to the action of heat and smoke and saliva. No real attempt, in my judgment, has heretofore been made to avoid this defect, and apparently pipe inventors and manufacturers have the world over considered this to be a defect inherent in this type of pipe. In other words, this defect has been apparently accepted by the trade as an unavoidable evil or drawback of this type of pipe.

My invention contemplates, therefore, the provision of means for connecting the bit of a smoking pipe to the bowl stump thereof in such manner that breakage of the connection, for example the push, will be practically impossible, and whereby, at the same time, the said push and other parts will withstand without injury thereto, or ill effects on the smoker, the heat as well as the action of the smoke and liquid resulting

from the use of the pipe, as will hereinafter more fully appear.

In the accompanying drawing—Figure 1 is a side elevation of a pipe embodying the most desirable form of my invention; Fig. 2 a cross section on the line 2—2 of Fig. 1; and Fig. 3 a longitudinal section of the pipe. Fig. 4 is a perspective of the so called push that connects the stump of the pipe with the bit or mouth piece.

As thus illustrated the bowl A and its stump  $a$  may be of any suitable or, well known and approved material, the stump being provided with the usual metal ferrule  $a'$ , and with the usual bore  $a^2$  connected by a duct  $a^3$  with the chamber  $a^4$  of the bowl. The bit B is of the usual form and is provided with the usual duct  $b$  that terminates in the threaded bore  $b'$ . This bit may be made of rubber, amber, ivory, celluloid, horn or any of the well known materials.

The push C has a reduced threaded portion  $c$  that screws into the threaded bore  $b'$  of the bit, while the body  $c'$  of the push is adapted to be inserted in the smooth bore  $a^2$  of the stump. This push is made of aluminum, this metal being desirable not only because it is non-breakable in character as compared with the bit and stump, but also because it resists the action of the smoke and saliva, or pipe-liquid, that inevitably collects in the pipe stem during the smoking of the pipe. This metal, therefore, is not affected by the pipe-liquid, is always clean, and does not corrode or form injurious chemical substances. Another feature of importance is that the heat of the pipe while in use does not expand it sufficiently to crack the stump, or to bind it in the stump, or to crack the bit.

I have discovered that a push made of aluminum does not deteriorate in any manner whatsoever, does not wear or cut the non-metallic substance of the stump, such as wood, and does not possess any of the objectionable qualities inherent in the materials heretofore employed for the purpose, such as rubber, bone, etc. The aluminum is, of course, non-breakable, non-swelling and non-shrinking in character, and hence none of the old troubles of this kind are present in a pipe characterized by a push or connection made of this metal. I have discovered that aluminum in frictional contact with the said non-metallic substance of the stump



insures a good fit at all times. In fact the fit, so I find by test, appears to be as good after long and continued use as at first, and in some cases the fit is better after use. The usual secretions in the joint, I have discovered, do not adhere to or cake on the surface of the aluminum; but with the non-metallic substances most generally in use for the bowl and stump, such as wood, the said secretions do adhere thereto, and thus the joint is kept tight and firm without preventing easy separation thereof. With my invention the push becomes the strongest part of the pipe, and is non-fracturable, whereas previously it was made weaker than the other parts by the use of materials that were brittle and short lived. The aluminum, I have discovered, not only is not susceptible to attack by the smoke and saliva, and the other resulting chemical substances, but does not acquire any growth by accretion of foreign matter. It is practically self cleaning, as nothing produced by smoking will adhere to its surface, and for this reason the push will not stick in the stump, but will always come away clean and bright. There are some things that will attack and dissolve aluminum, and the peculiar transparent oxid that forms on the surface thereof, but I have discovered that tobacco smoke can be taken through a duct formed in aluminum with entire safety to the smoker. In this way I am the first to discover and successfully demonstrate the possibility of using metal for this purpose and thereby rendering the push much the strongest part of the pipe and practically indestructible. I am also the first, so it would seem, to discover and demonstrate the possibility of using a metal push without impairing the non-metallic stump and bit, and without endan-

gering the operativeness of the separable connection. I have discovered that in one sense an aluminum metal is insensible to the emanations from the tobacco. It prevents caking of the secretions on the push, and maintains at all times a perfect joint,—that is to say, a joint which is never too tight and never too loose. 45

By the term aluminum, as herein employed, I mean any metal that contains aluminum in sufficient quantity to give it the described characteristics and advantages. 50

What I claim as my invention is:—

1. In a smoking pipe, a bowl having a non-metallic stump, a non-metallic bit, and an aluminum metal push forming a connection between said stump and bit, the outer end of said push being fastened rigidly in the adjacent end of the bit, and the inner end thereof being adapted to frictionally enter a smooth bore in the stump, whereby the non-metallic substance of the stump is in direct sliding contact with the aluminum, the said push having a duct through which the smoke passes in direct contact with the aluminum, for the purpose set forth. 55 60 65

2. A smoking pipe having a stump and a bit of non-metallic substance, and an internal aluminum metal connection between said stump and bit, affording ready disconnection thereof, by relative movement of the aluminum and non-metallic substance in direct contact with each other, for the purpose set forth. 70 75

Signed by me at Chicago, Illinois, this 3rd day of October 1910.

JACOB D. BURGER.

Witnesses:

W. M. DURMON,  
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