

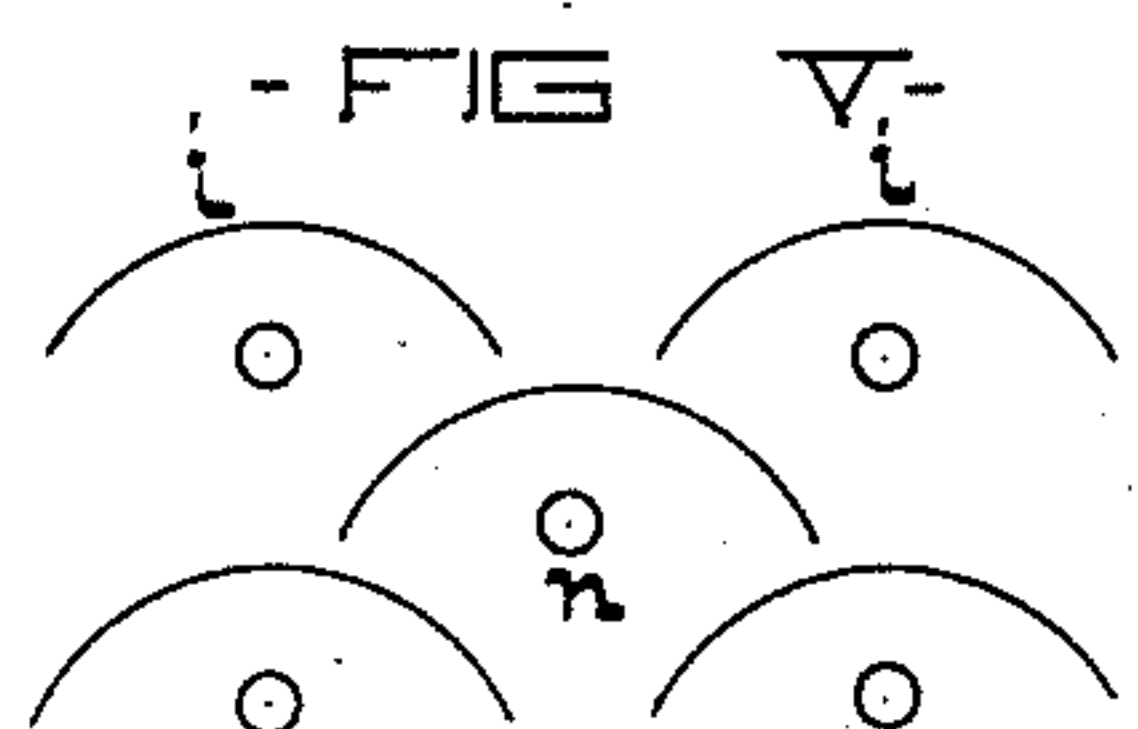
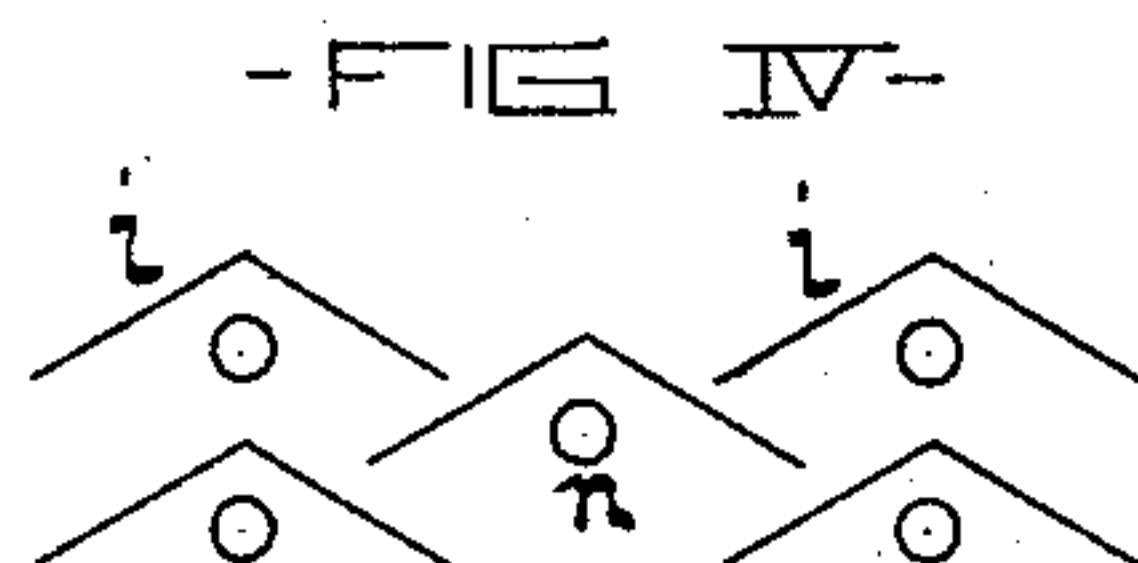
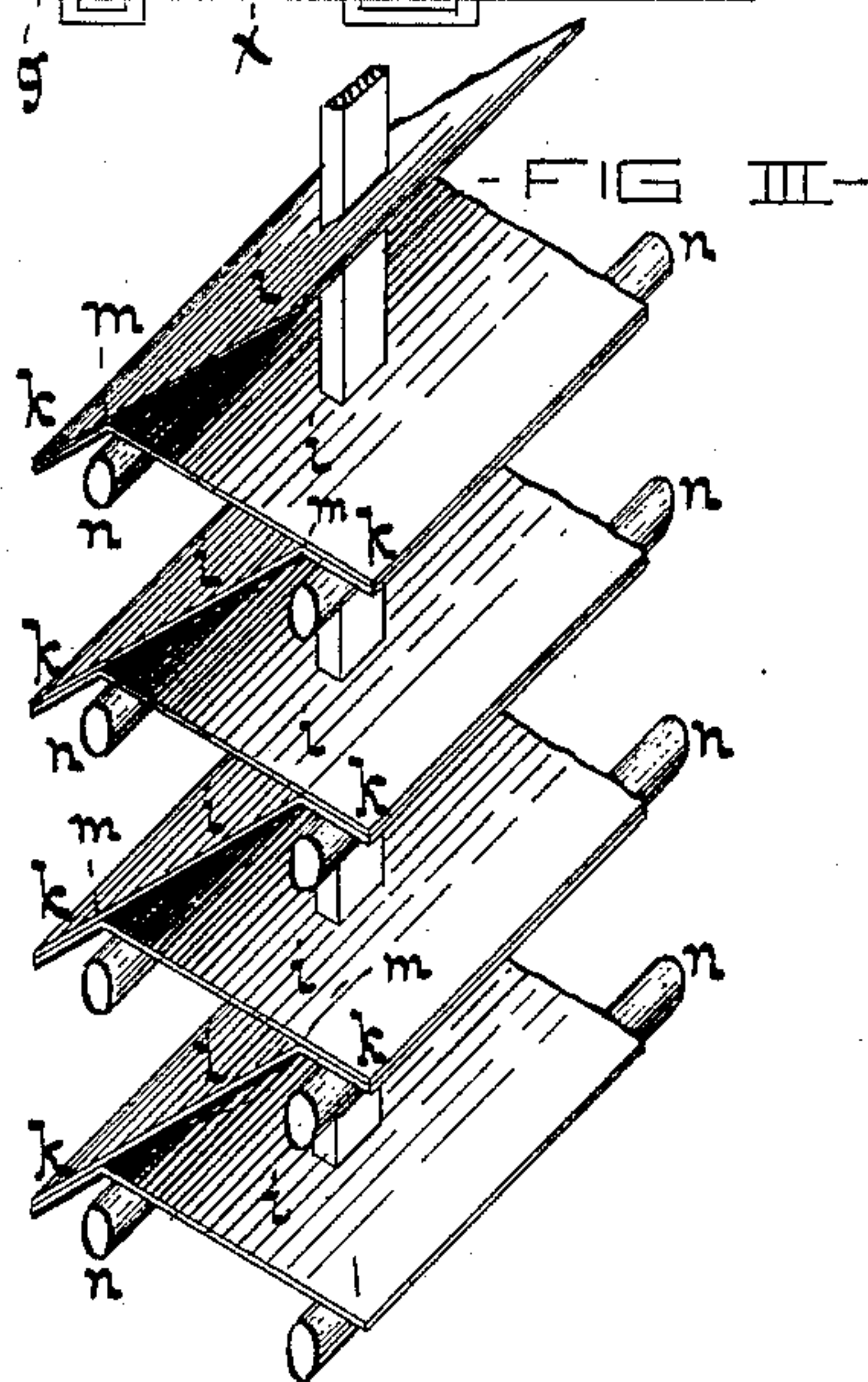
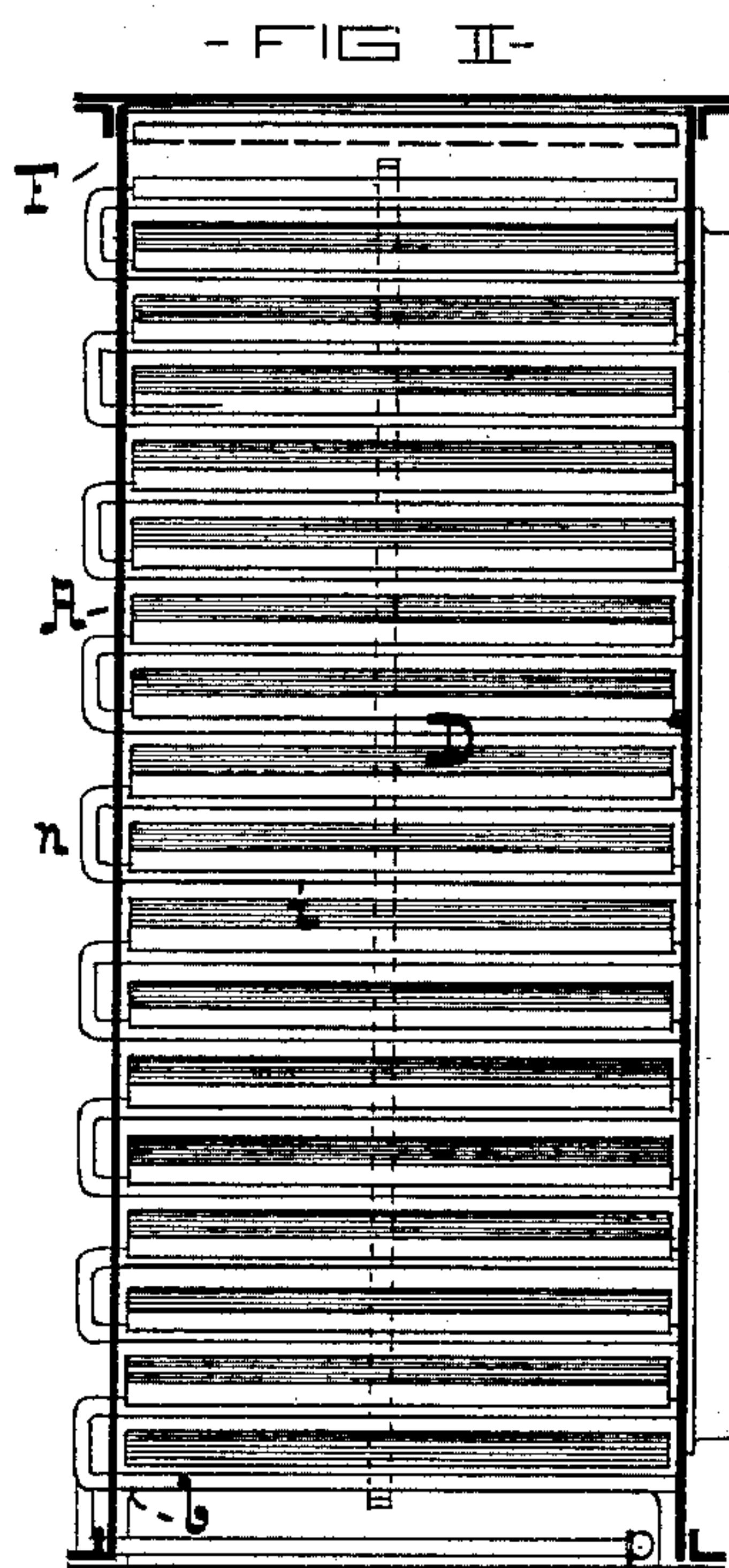
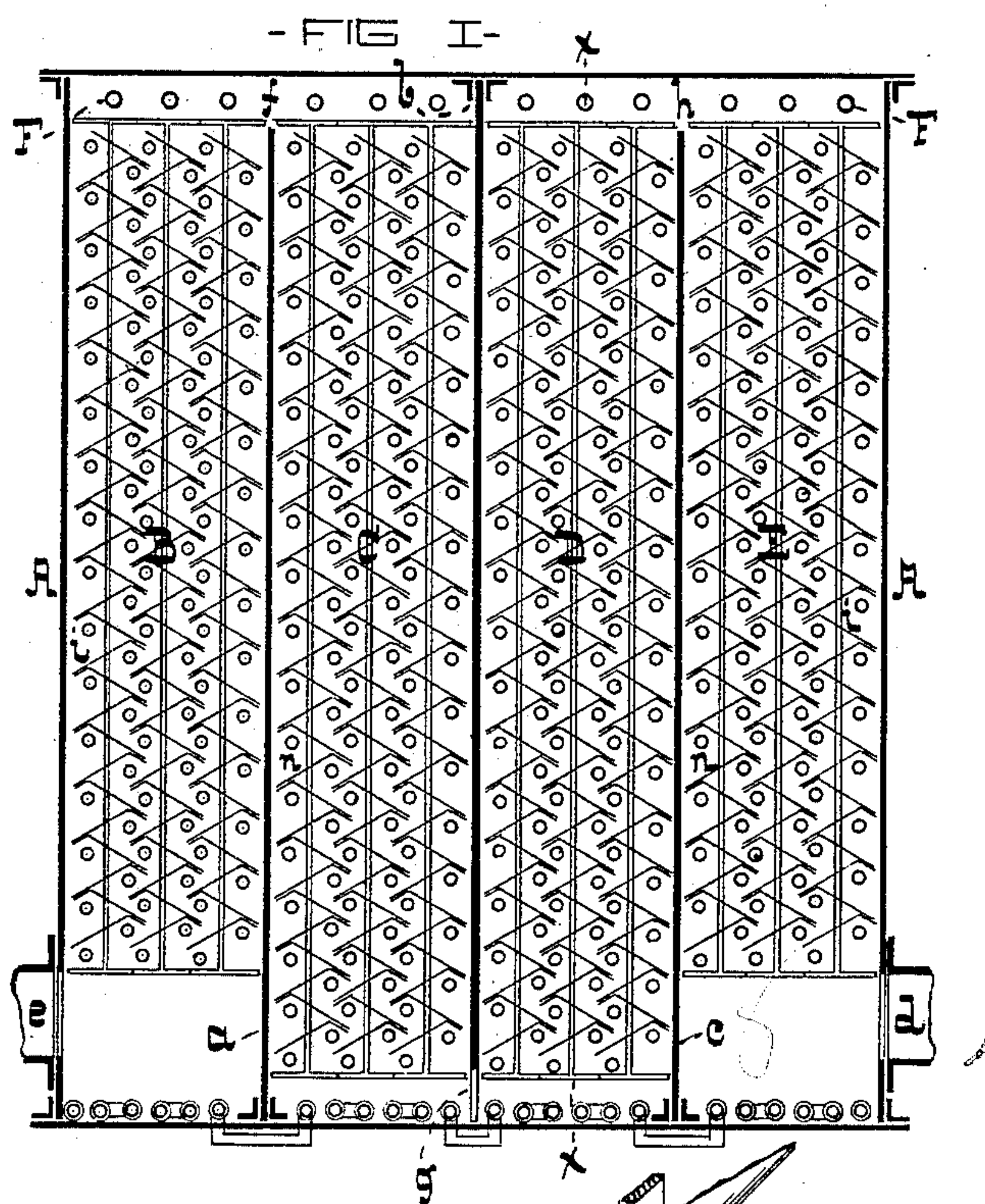
(No Model.)

F. C. KNIESE.

CARBURETOR TO BE USED IN THE MANUFACTURE OF WATER GAS.

No. 348,917.

Patented Sept. 7, 1886.



- WITNESSES -

David Fisher

Warren Ross

- INVENTOR -

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# UNITED STATES PATENT OFFICE.

FREDRICK CHARLES KNIESE, OF BALTIMORE, MARYLAND.

## CARBURETOR TO BE USED IN THE MANUFACTURE OF WATER-GAS.

SPECIFICATION forming part of Letters Patent No. 348,917, dated September 7, 1886.

Application filed April 8, 1886. Serial No. 198,199. (No model.)

*To all whom it may concern:*

Be it known that I, FREDRICK CHARLES KNIESE, of the city of Baltimore, and State of Maryland, have invented certain Improve-  
5 ments in Carburetors to be used in the Manu-  
facture of Water-Gas, of which the following  
is a specification.

This invention relates to certain improve-  
ments in an apparatus for carbureting gener-  
10 ator or water gas preparatory to the fixing  
operation, in which the said gas is converted  
into an illuminating-gas.

In the drawings, forming a part hereof, Fig-  
ure I is a sectional elevation of the improved  
15 carburetor. Fig. II is a section of Fig. I, taken  
on the dotted line *x x*. Fig. III is a perspec-  
tive view of a part of the apparatus on an en-  
larged scale. Figs. IV and V illustrate modi-  
fications in the construction and arrangement  
20 of certain parts of the apparatus, as herein-  
after described.

A is the casing of the carburetor, and *a*, *b*,  
and *c* are partitions therein. The partitions *a*  
and *c* extend from the bottom of the casing A  
25 to near its top, and the one, *b*, from the top to  
near the bottom. By this construction the  
generator-gas which enters at *d* in passing to  
the outlet-pipe *e* has to take a circuitous pas-  
sage, as will be readily understood by refer-  
30 ence to the drawings. It is not absolutely nec-  
essary that the partitions *a*, *b*, and *c* should be  
shorter than the casing to produce the passages  
*f*, *g*, and *h*, as these partitions could extend  
the full length of the casing and be perforated  
35 to form the said passages.

The chambers B, C, D, and E, into which the  
casing is divided by the partitions *a*, *b*, and *c*,  
have sheet-metal strips *i*, arranged as shelves,  
which are inclined in opposite directions—that  
40 is to say, they are in vertical rows, and each  
row consists of a series of shelves connected to  
form a vertical zigzag partition. The adjoin-  
ing zigzag partitions are placed so as to inter-  
lap, as shown, in order that hydrocarbon  
45 dropped from the supply-pipe F to the upper-  
most shelf of each vertical zigzag partition is  
transferred in descending from one partition  
to another in drops, and is caused to traverse  
a large surface of shelving.

50 To prevent the hydrocarbon from following  
the zigzag surface of the partitions, instead of

dropping from one partition to another, I pro-  
vide the said partitions with lips *k*, which ex-  
tend from the angles *m*, as shown in Figs. I  
and III.

The apparatus is heated by means of steam-  
pipes *n*, preferably arranged in gangs. These  
gangs connect with others situated at the bot-  
tom of the chambers B, C, D, and E, as shown.  
I place the steam-pipes *n* directly under the  
60 lips *k* or beneath the angles *m*, in order that  
the heat radiating from them will act directly  
on the hydrocarbon as the same drops from one  
shelf to another, and also heat the lips from  
which the hydrocarbon drips. By this ar- 65  
rangement I am enabled to vaporize nearly or  
the whole body of hydrocarbon introduced to  
the apparatus, and before the same reaches the  
bottom. It will be understood that the vapor  
of the hydrocarbon is taken up by the gener- 70  
ator-gas in its circuitous passage from the inlet  
*d* to the outlet *e*.

As the extending lips, which prevent a con-  
tinuous flow of hydrocarbon from the upper to  
the lower portion to the chambers, are the 75  
leading features of construction of the appara-  
tus, I do not wish to be restricted to the con-  
struction and arrangement shown in Figs. I  
and III, as various other arrangements could  
be employed to effect the same result. In Fig. 80  
IV the shelves are  $\Lambda$ -shaped, and arranged to  
interlap, the steam-pipes being placed below  
the angles. In Fig. V the shelves are curved,  
and the steam-pipes placed under them. In  
all the various arrangements shown there are 85  
lips to affect the drip and prevent a continu-  
ous flow of the hydrocarbon, and steam-pipes  
to heat the shelves.

I am aware that overlapping zigzag parti-  
tions in carbureting apparatus are old, and that 90  
such partitions have been used with project-  
ing lips to insure the drip of the liquid from  
one section of partition to another; but I am  
not aware that before my invention such an  
arrangement of partitions with lips have been 95  
provided with steam-pipes placed under the  
said lips to heat them for the purpose described.  
I do not therefore claim, broadly, the zigzag  
partitions in a carburetor; but

What I do claim as my invention is— 100

1. In an apparatus for carbureting generator-  
gas, a series of shelves with lips, as described,

combined with steam-pipes to heat the said shelves and pipes to conduct the hydrocarbon to the shelves, substantially as specified.

2. In an apparatus for carbureting generator-  
5 gas, a series of shelves connected to form vertical zigzag partitions, combined with steam-pipes arranged parallel with the said shelves and situated directly under the points of intersection or angles, and pipes to conduct the hydrocarbon to the said shelves, substantially as  
10 specified.

3. In an apparatus for carbureting generator-

gas, a series of shelves connected to form zigzag partitions having extensions or lips leading from the angles where the shelves connect, 15 combined with steam-pipes placed under the said lips and pipes to conduct the hydrocarbon to the said shelves, substantially as and for the purpose specified.

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Witnesses:

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