

No. 782,619.

PATENTED FEB. 14, 1905.

M. MOSSIG.
PORTABLE CARBURETER.
APPLICATION FILED MAR. 17, 1903.

Fig 1.

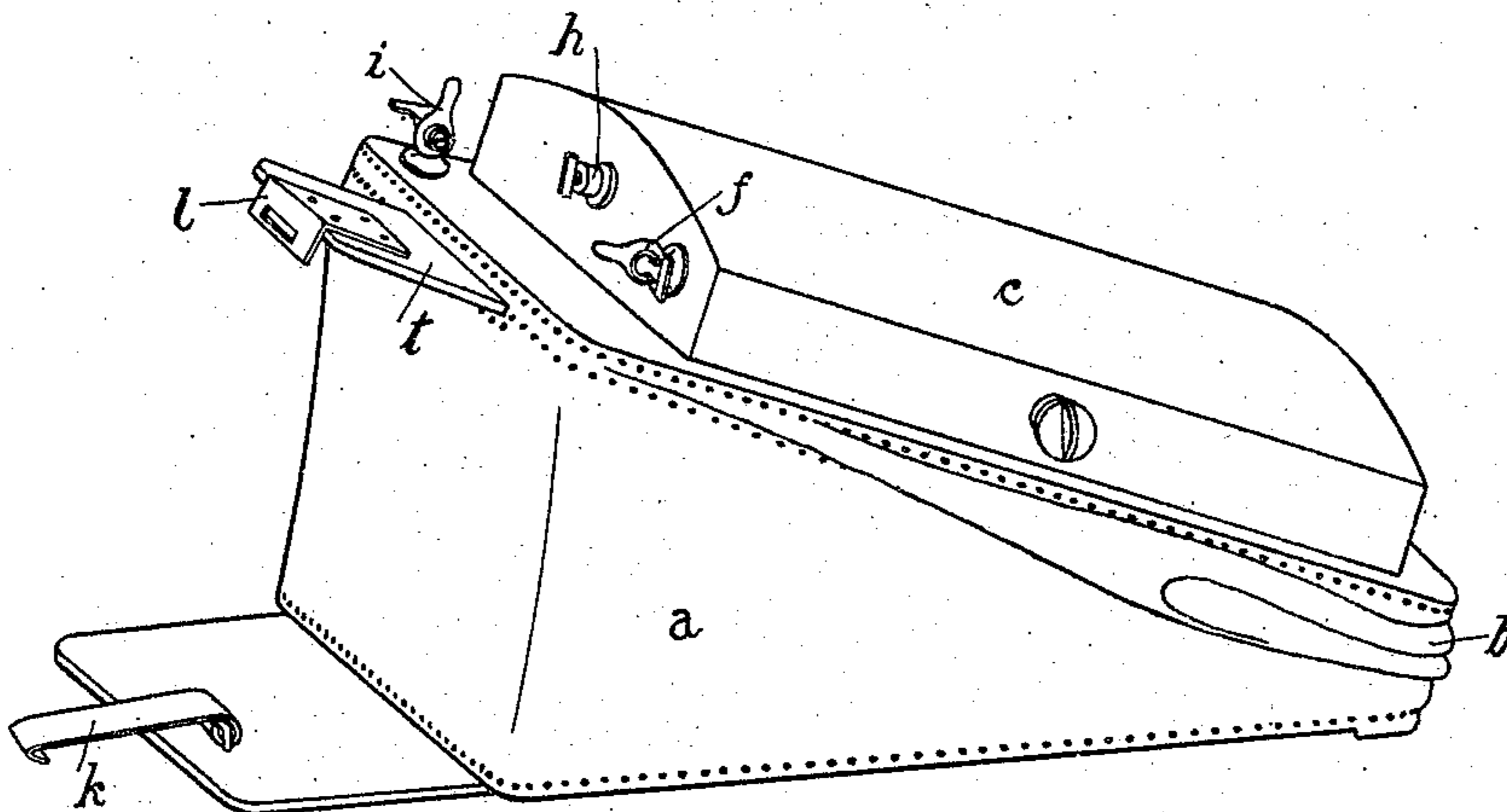
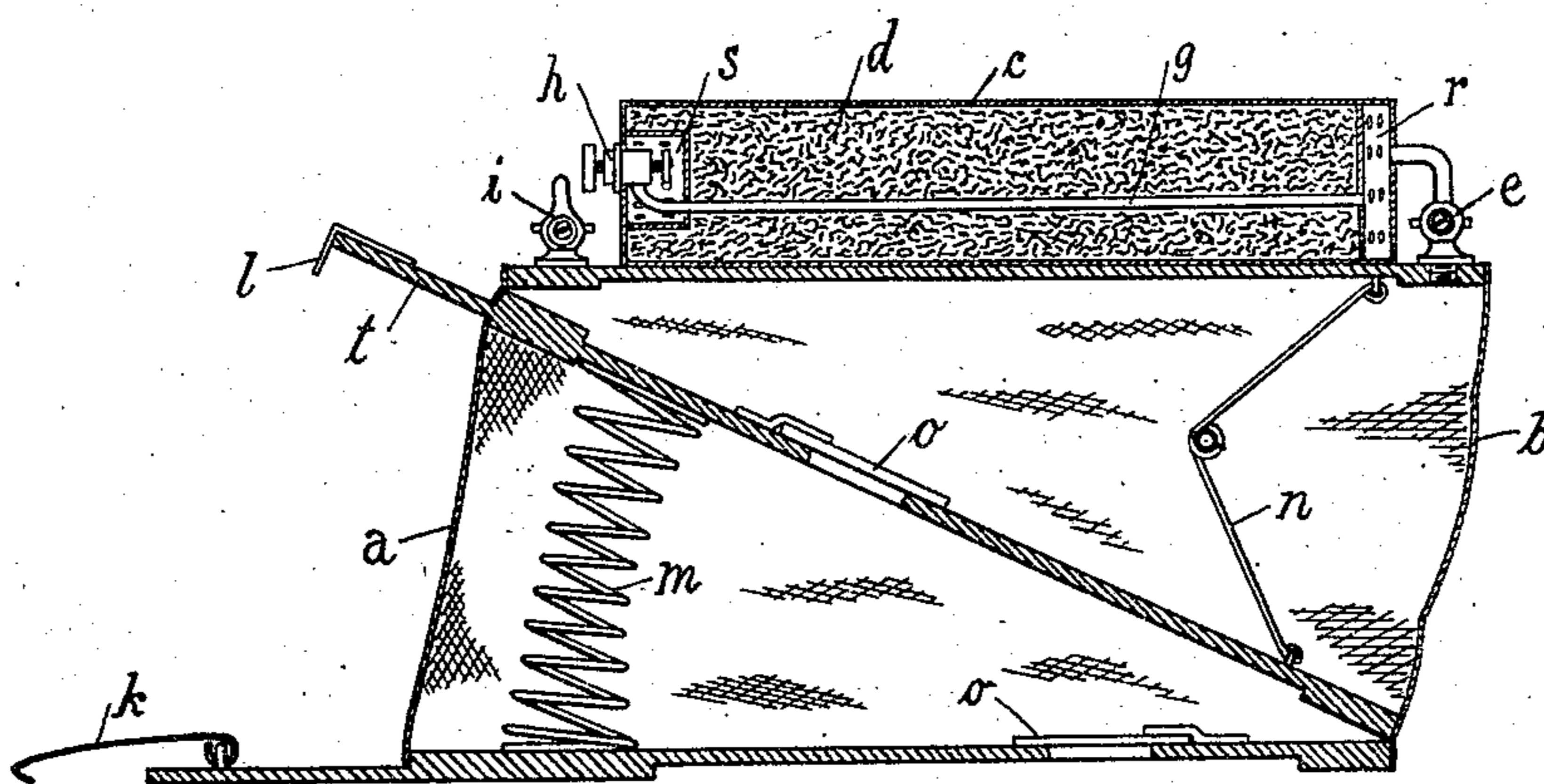


Fig 2.



Witnesses:

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PORTABLE CARBURETER.

SPECIFICATION forming part of Letters Patent No. 782,619, dated February 14, 1905.

Application filed March 17, 1903. Serial No. 148,254.

To all whom it may concern:

Be it known that I, MAX MOSSIG, a subject of the King of Saxony, residing at 20th Bandel street, Berlin, in the Empire of Germany, have
5 invented a certain new and useful Portable Carbureter, of which the following is a specification.

My invention relates to an apparatus in which a combustible mixture is produced by
10 carbureting air with rapidly-vaporizing hydrocarbons.

The object of my invention is to provide an apparatus in which the carbureter is continually moved to and fro, so as to distribute
15 the fluid in the porous filling. Second, the invention has for its object to provide an apparatus of limited size and small weight which may be easily carried about.

The device essentially consists of a pair of
20 bellows actuated by treading and a flat carbureter secured upon the upper bellows. This arrangement allows of obtaining a higher pressure of the blast as the carbureter is weighing on the bellows. On the other hand,
25 with the alternative and combined movement of the lower and upper bellows the carbureter is moved to and fro, whereby now the front end and then the back end is in the lower position. According to the variable inclination
30 the hydrocarbon is distributed into the filling of the carbureter in opposite directions, thus causing a high and uniform carburization of the air. By the combination of the bellows with the carbureter a compact apparatus
35 is obtained which requires little space and can be easily operated. It is always ready for use and can be utilized for very many and various purposes.

Referring to the accompanying drawings,
40 which form a part of this specification, Figure 1 is a perspective view of the apparatus having the upper bellows collapsed, and Fig. 2 is a vertical longitudinal section of the apparatus having the upper chamber expanded.

45 The lower bellows *a* is given a tendency to expand under the action of a spring *m*, while the upper bellows *b* are collapsed by a spring *n* of suitable form. These two chambers of the bellows are in communication with one

another and besides the lower chamber *a* with
50 the atmosphere by means of valves *o*. On the upper bellows *b* a flat chest-shaped carbureter *c* is fastened, which contains a filling *d*, of cotton or the like, soaked with rapidly-vaporizing hydrocarbons. The air-blast of the bel-
55 lows is admitted to the carbureter through a plug-cock *e* and enters a distributing-chamber *r*, provided at that end of the carbureter. Said chamber is formed by a plate having a number of perforations through which the
60 blast enters the filling *d*. A collecting-chamber *s* of similar construction is arranged at the opposite end of the carbureter from where the carbureted air leaves the apparatus through
65 an outlet-cock *f*. The distributing-chamber *r* is connected with the collecting-chamber *s* by a pipe *g*, which can be entirely or partly opened by a valve *h*, so that air not carbureted can be conducted from the distribut-
70 ing-chamber direct to the collecting-chamber and mixed with the carbureted air passing the latter.

The apparatus is used as follows: When the operator puts a foot or a hand on the treadle *t*, the lower bellows *a* can be easily pressed
75 down, whereby the air contained therein passes into the upper bellows *b*, which, therefore, are expanded, as shown in Fig. 2. The bellows *b* then close slowly under the action of the spring *n*, and thereby press the blast
80 of air into the carbureter through the cock *e*. The blast entering the distributing-chamber *r* penetrates the filling *d* in a horizontal direction and becomes saturated with the vaporized hydrocarbons on its way, whereupon the
85 combustible mixture so formed is collected in the chamber *s* and discharged through the cock *f*. If desired, the degree of carburization can be regulated by opening the valve *h*
90 in order to admit air not carbureted from the distributing-chamber to the carbureted air contained in the collecting-chamber for the purpose of diluting the combustible mixture. Since the air-compressor and the carbureter are rigidly connected, the handling and the
95 transport of the whole is very much facilitated, while connecting-pipes are avoided. As the carbureter is arranged direct upon the

upper bellows, its weight coöperates with the spring *n*, which folds the said bellows, giving the blast a higher pressure.

The apparatus is intended principally for
5 producing a gaseous fuel for the supply of gas-heated tools—such as soldering irons and burners, for example—or used in connection with any other heating apparatus.

A cock *i* leads from the upper bellows direct to the atmosphere and allows the device
10 being connected with a blowpipe, which latter requires to be fed with gas and air blast.

On the bottom board of the bellows a hook *k* is arranged on the front, and on the tread-
15 ing-board *t* an ear *l* is fastened, into which the hook *k* can engage when the lower bellows *a* are compressed. In the folded state the apparatus requires little space and can be easily carried, the hook *k* serving as a handle.

20 The apparatus may be varied without departing from the spirit of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a portable carbureter, the combination with a pair of bellows; of a carbureter
25 mounted upon the bellows so as to be tilted forward and backward, substantially as described.

2. In a portable carbureter, the combination with a carbureter; of a pair of bellows, the
30 said bellows being inversely arranged the one upon the other and the carbureter mounted on the upper bellows in such a manner that the lower bellows expanding the carbureter
35 is tilted in one direction, and the upper bellows expanding it is tilted to opposite direction, substantially as described.

3. In a portable carbureter, the combination with a pair of bellows which are inversely
40 arranged the one upon the other; of a carbureter mounted upon the upper bellows so as to be tilted forward and backward and having a passage through which it is in communication with the upper bellows; a porous filling;
45 and a valved outlet for carbureted air, substantially as described.

4. In a portable carbureter, the combination with a pair of bellows which are inversely
50 arranged the one upon the other; of a carbureter mounted upon the upper bellows so as to be tilted forward and backward and having a valved passage at one end through which it is in communication with the upper bellows;
55 a distributing-chamber at this end; a porous filling; a collecting-chamber at the opposite

end; and a valved outlet for carbureted air at that end, substantially as described.

5. In a portable carbureter, the combination with a pair of bellows which are inversely
60 arranged the one upon the other; of a carbureter mounted upon the upper bellows so as to be tilted forward and backward and having a valved passage at one end through which it is in communication with the upper bellows;
65 a distributing-chamber at this end; a porous filling; a collecting-chamber at the opposite end; a valved outlet for carbureted air at that end; and a valve-controlled pipe which directly connects the distributing-chamber with the collecting-chamber, substantially as de-
70 scribed.

6. In a portable carbureter, the combination with a pair of bellows which are inversely
75 arranged the one upon the other; of a valved outlet for air-blast from the upper bellows; a carbureter mounted upon the upper bellows so as to be tilted forward and backward; and a valved outlet for carbureted air from the carbureter, substantially as described.

7. In a portable carbureter, the combination with a pair of bellows which are inversely
80 arranged the one upon the other; of a carbureter mounted upon the upper bellows so as to be tilted forward and backward and having a passage through which it is in communication with the upper bellows; a valved outlet
85 for carbureted air from the carbureter; and a valved outlet for air-blast from the upper bellows, substantially as described.

8. In a portable carbureter, the combination with a pair of bellows which are inversely
90 arranged the one upon the other; of a carbureter mounted upon the upper bellows so as to be tilted forward and backward and having a valved passage at one end through which it
95 is in communication with the upper bellows; a distributing-chamber at this end; a porous filling; a collecting-chamber at the opposite end; a valved outlet for carbureted air at that end; a valve-controlled pipe which directly
100 connects the distributing-chamber with the collecting-chamber; and a valved outlet for air-blast from the upper bellows, substantially as described.

In testimony whereof I have signed my name
105 hereunto in presence of two witnesses.

MAX MOSSIG.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.