

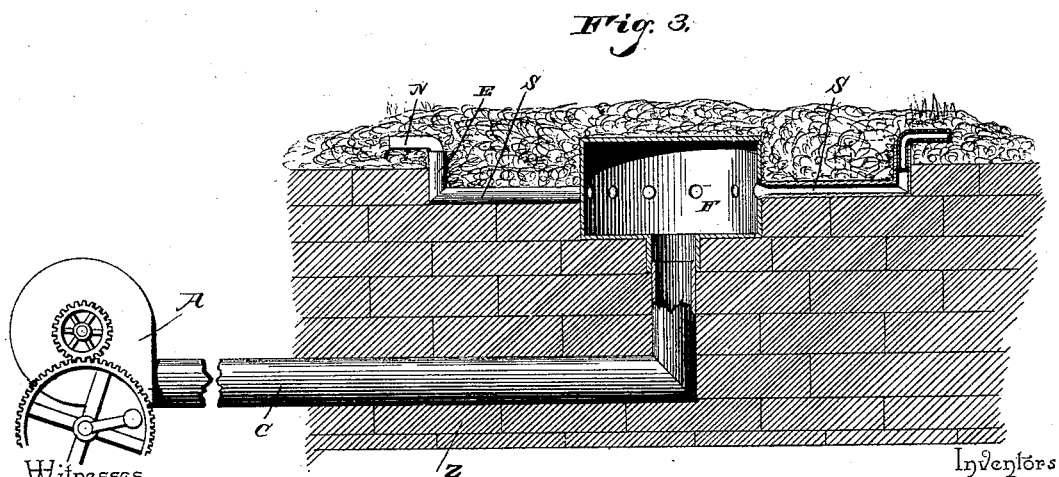
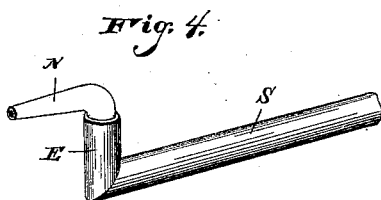
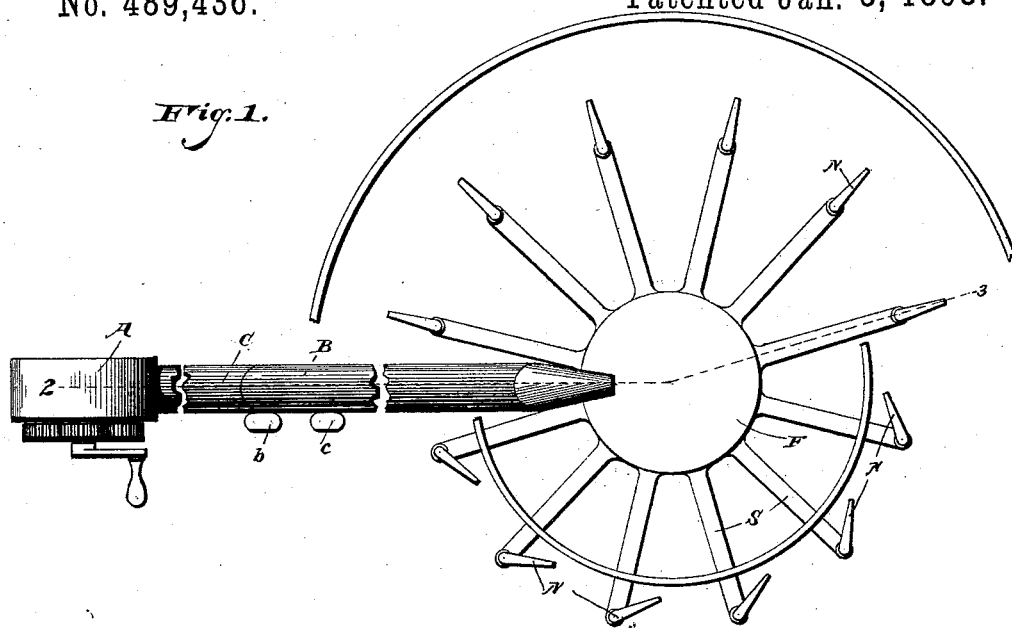
(No Model.)

2 Sheets—Sheet 1

L. E. KARNES & K. F. RICE.
TIRE HEATER.

No. 489,436.

Patented Jan. 3, 1893.



Witnesses

Samuel Ker.

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Keness F. Rice,

By their Attorneys,

C. A. Snow & Co.

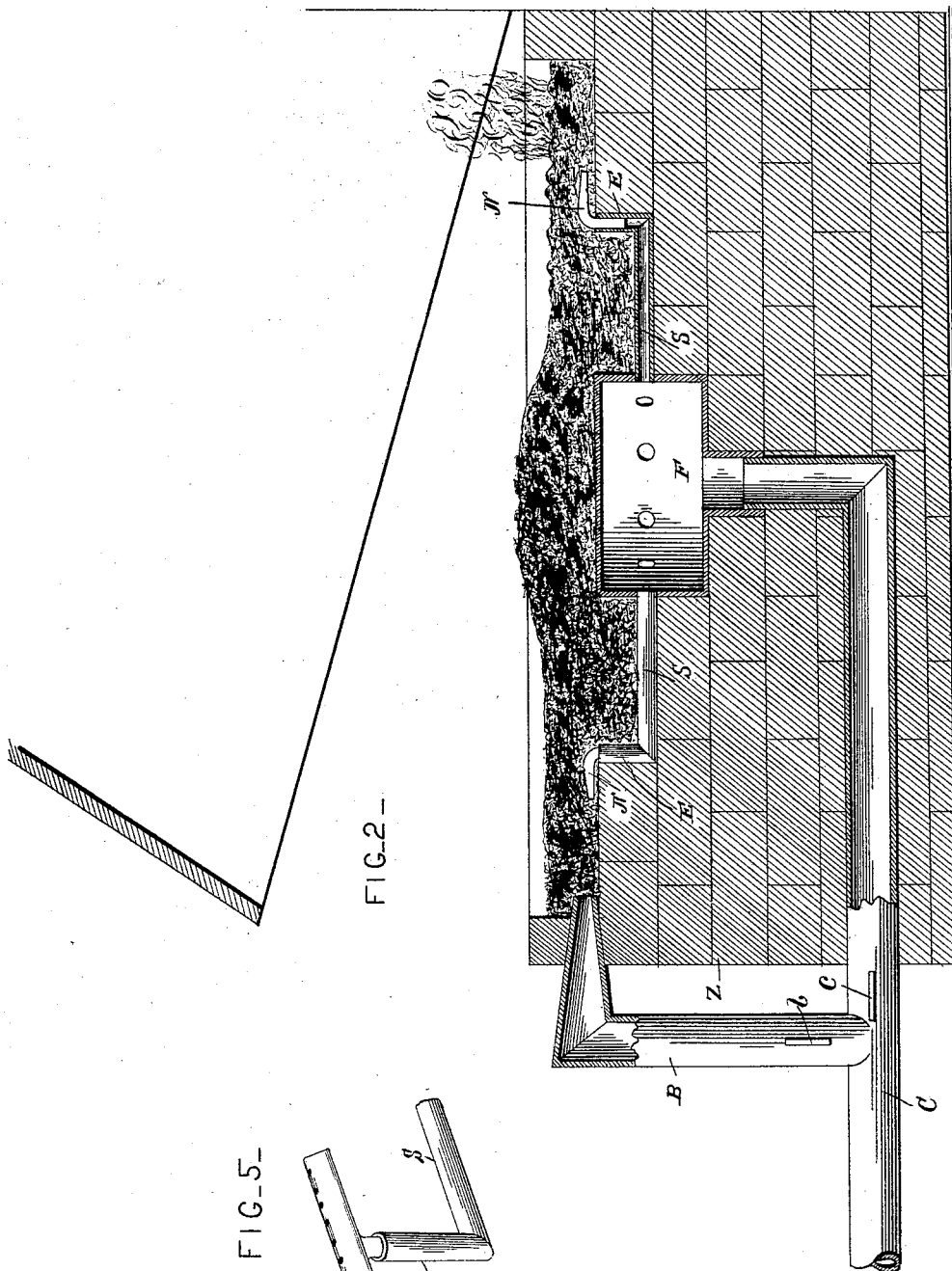
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N. J. Gollamer

By *their* Attorneys,

Inventors
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UNITED STATES PATENT OFFICE.

LEONADUS E. KARNES AND KENESS F. RICE, OF EUREKA SPRINGS, ARKANSAS, ASSIGNORS TO B. F. PUTNAM AND LESLIE P. BADGER, OF SAME PLACE.

TIRE-HEATER.

SPECIFICATION forming part of Letters Patent No. 489,436, dated January 3, 1893.

Application filed October 14, 1890. Renewed July 29, 1892. Serial No. 441,612. (No model.)

To all whom it may concern:

Be it known that we, LEONADUS E. KARNES and KENESS F. RICE, citizens of the United States, residing at Eureka Springs, in the county of Carroll and State of Arkansas, have invented a new and useful Tire-Heater, of which the following is a specification.

This invention relates to tire heaters and the object of the same is to improve the construction of devices of this character.

To this end the invention consists of the details of construction hereinafter more fully described and claimed, and as illustrated in the drawings, in which:

Figure 1 is a plan view of the device. Fig. 2 is a longitudinal section of the same on the line 2—3 showing the device as embedded in a forge. Fig. 3 is a similar section omitting the branch pipe and showing the device as adapted to heat the tires by gas. Fig. 4 is an enlarged perspective detail of one of the spokes and its adjustable tip. Fig. 5 is a similar detail showing the tip as constructed in the form of a burner.

Referring to the said drawings, the letter Z designates a forge of the ordinary construction and filled with ashes or cinders as is usual.

A is a fan or other air-blast directing a blast of air through the pipe C which extends to a point beneath the center of the forge and then turns upwardly into the box or chamber F which is embedded in the cinders. From this box radiates a number of spokes S, which are of iron pipe communicating with the interior of the box and which have upwardly turned outer ends E. In these ends are swiveled nozzles N whose free ends are bent at right angles to their bodies. These nozzles are either L-shaped and open at their free ends as shown, or are T-shaped with perforations in their heads causing them to serve as burners, as shown in Fig. 5, and in either case they form adjustable tips whose shanks are swiveled in the upturned ends E of the spokes S. Rising from the pipe C is a branch pipe B which is bent forwardly and passes through the wall of the forge where it is adapted to deliver a blast of air to the live coals in the forge when the latter is to be used for the ordinary purposes. This branch pipe has a tip

or nozzle at its free end which may extend to a point above the chamber F as in Fig. 1, or only slightly into the forge as in Fig. 2.

b and c are valves in the branch pipe B and in the main pipe C respectively, and these valves may be operated to direct the blast of air either to the chamber F and thence to the adjustable tips, or to the fire in the forge as may be desired.

When gas is used the fan may or may not be dispensed with as desired, but the gas is fed through the pipes in the same manner as the air except it makes its exit through nozzles in the shape of burners as will be understood.

It will be obvious that gasoline might be used, in which case the chamber F would constitute the vaporizing chamber and in this case a slight change in the construction and arrangement of parts would be necessarily made without departing from the spirit of our invention.

In using our machine the tire to be heated is placed upon the cinders over the adjustable tips, the latter being turned in the ends E so that their ends will direct a blast of air onto the coals at the proper points, or if they be burners so that the burning fluid will be directed against the tire. The coals are then banked up around the tire and the blast of air, gas, gasoline, air and gas, or air and gasoline is directed through the pipe C, chamber F, spokes S, ends E, and tips N and continued until the tire is heated to the desired degree. When it is desired to use the forge for the ordinary purposes, the valves b and c are so operated as to direct the fluid through the branch pipe B to the forge and to the coals there located, a suitable nozzle being here used if desired. By properly adjusting the valves b and c, part of the fluid may be directed through each pipe, in which case the forge will be heated not only at the tip of the pipe B but in a ring around the chamber F varying in size according as the adjustable tips are turned and as the fluid is ejected from the nozzles thereof.

Although we have shown and described the branch pipe B, it will be understood that it can be omitted if desired as shown in Fig. 3

and the tire heater arranged in a forge by itself especially adapted for this work.

What is claimed, as new is:—

1. The combination with a forge, of an air
5 pipe C, a fan arranged at the outer terminus
of the pipe, a chamber F at the upper end
thereof, radiating hollow spokes S communi-
cating with and extending horizontally from
the sides of said chamber and having up-
10 turned ends E, and adjustable tips whose
lower ends are swiveled in said upturned ends
and whose free ends are bent at an angle
thereto and provided with nozzles N, as and
for the purpose set forth.
- 15 2. In a tire heater, the combination of the
fan A, the horizontal pipe C leading there-
from and turned upwardly at its opposite end,
the chamber F at the upper end of said pipe,
the hollow radiating spokes S communicating
20 with and extending from the sides of said
chamber, and the nozzles N at their outer ends;
the forge for containing cinders surrounding

said nozzles, and the branch pipe B, rising
from said horizontal pipe C and extending
into the forge, as and for the purpose set forth. 25

3. In a tire heater, the combination with the
fan A, the horizontal pipe C leading there-
from and turned upwardly at its opposite end,
and the ring of nozzles N surrounding and
connecting with said turned up end; of the 30
branch pipe B rising from said horizontal
pipe and extending forwardly to a point within
said ring, the valves *b* and *c* in said pipes, and
the forge Z for containing cinders surrounding
said ring, as and for the purpose hereinbefore 35
set forth.

In testimony that we claim the foregoing as
our own we have hereto affixed our signatures
in presence of two witnesses.

LEONADUS E. KARNES.
KENESS F. RICE.

Witnesses:

LEWIS CHAPLIN,
A. R. HARRIS.