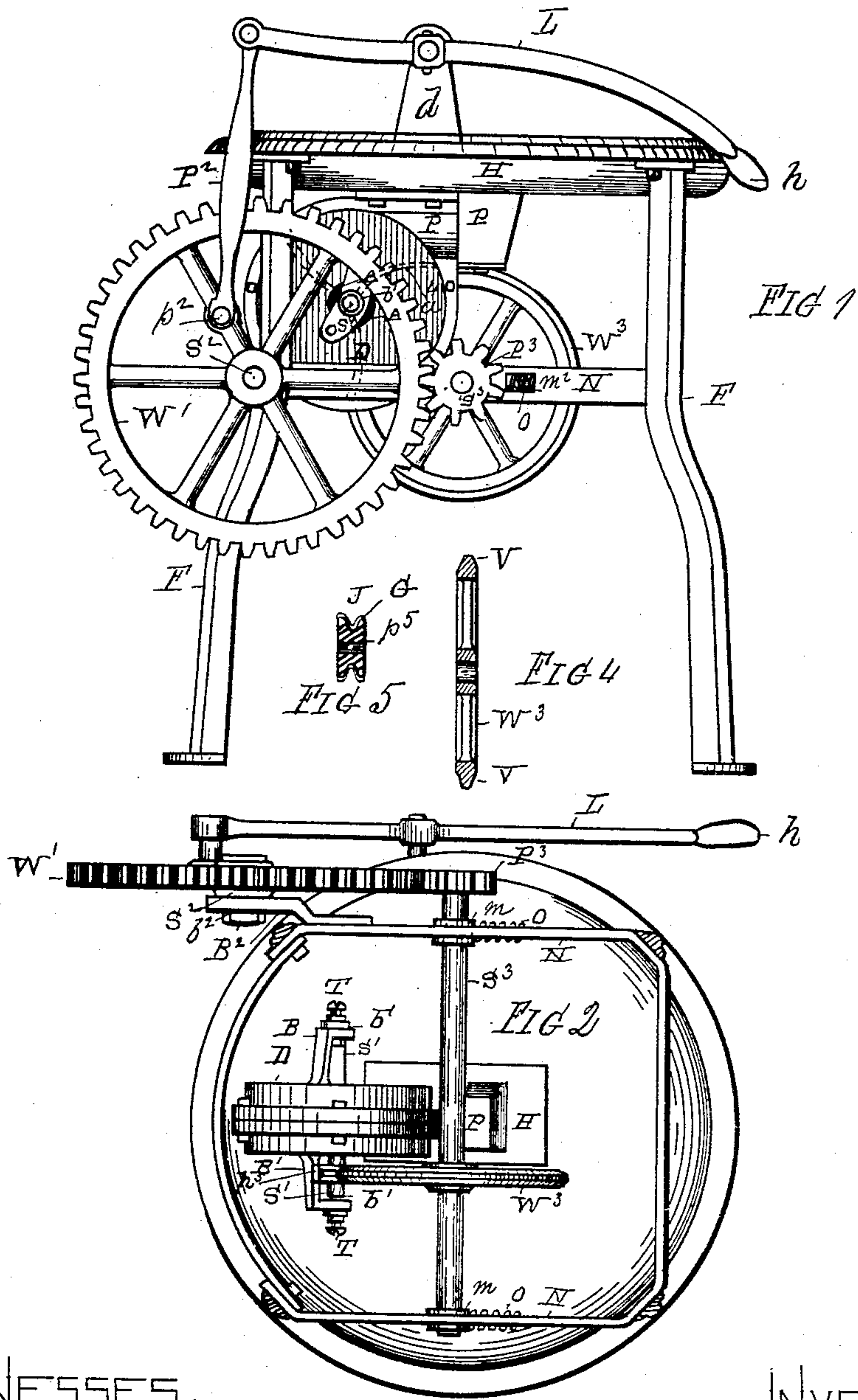


W. T. KELLOGG.

PORTABLE FORGE.

No. 389,305.

Patented Sept. 11, 1888.



WITNESSES,

Charles S. Brintnall,
Geo. A. Darby.

INVENTOR

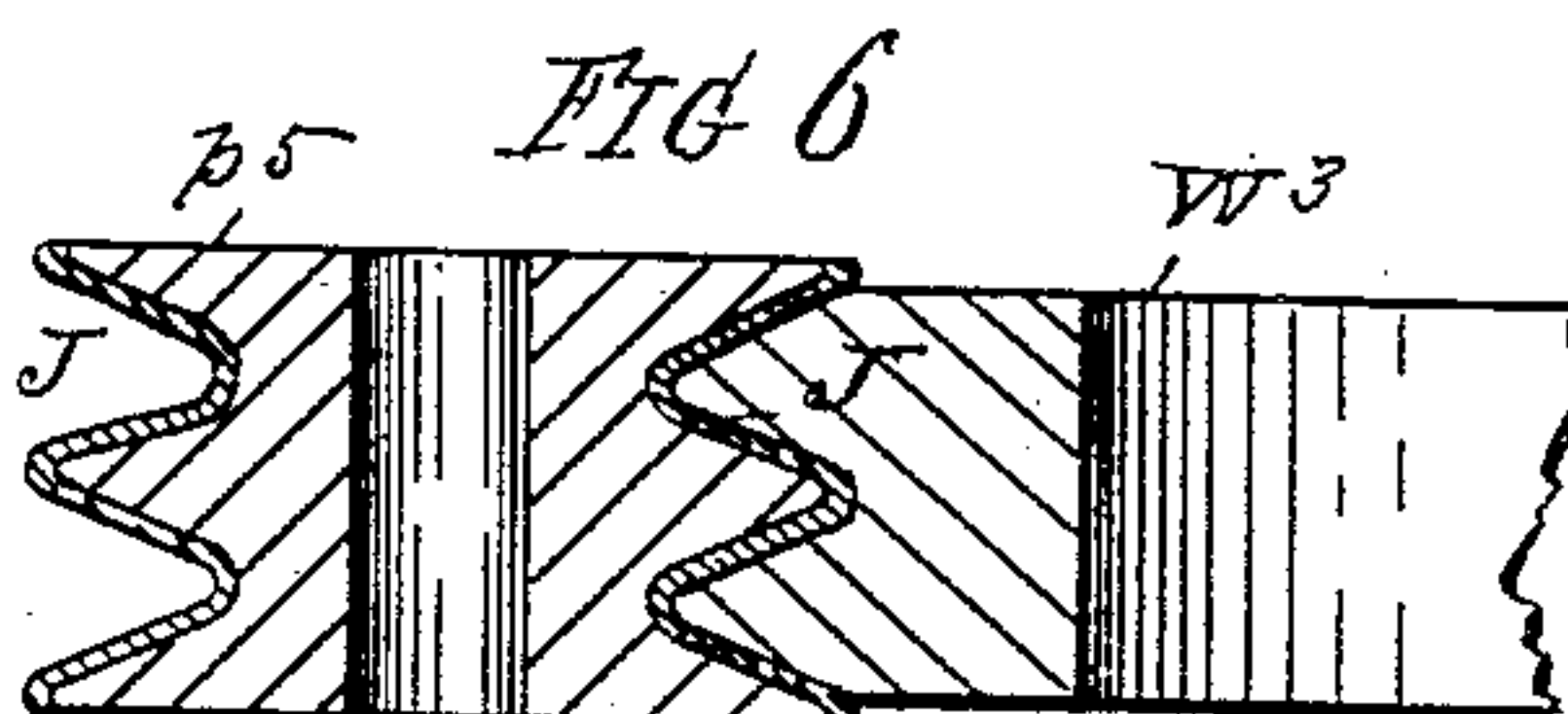
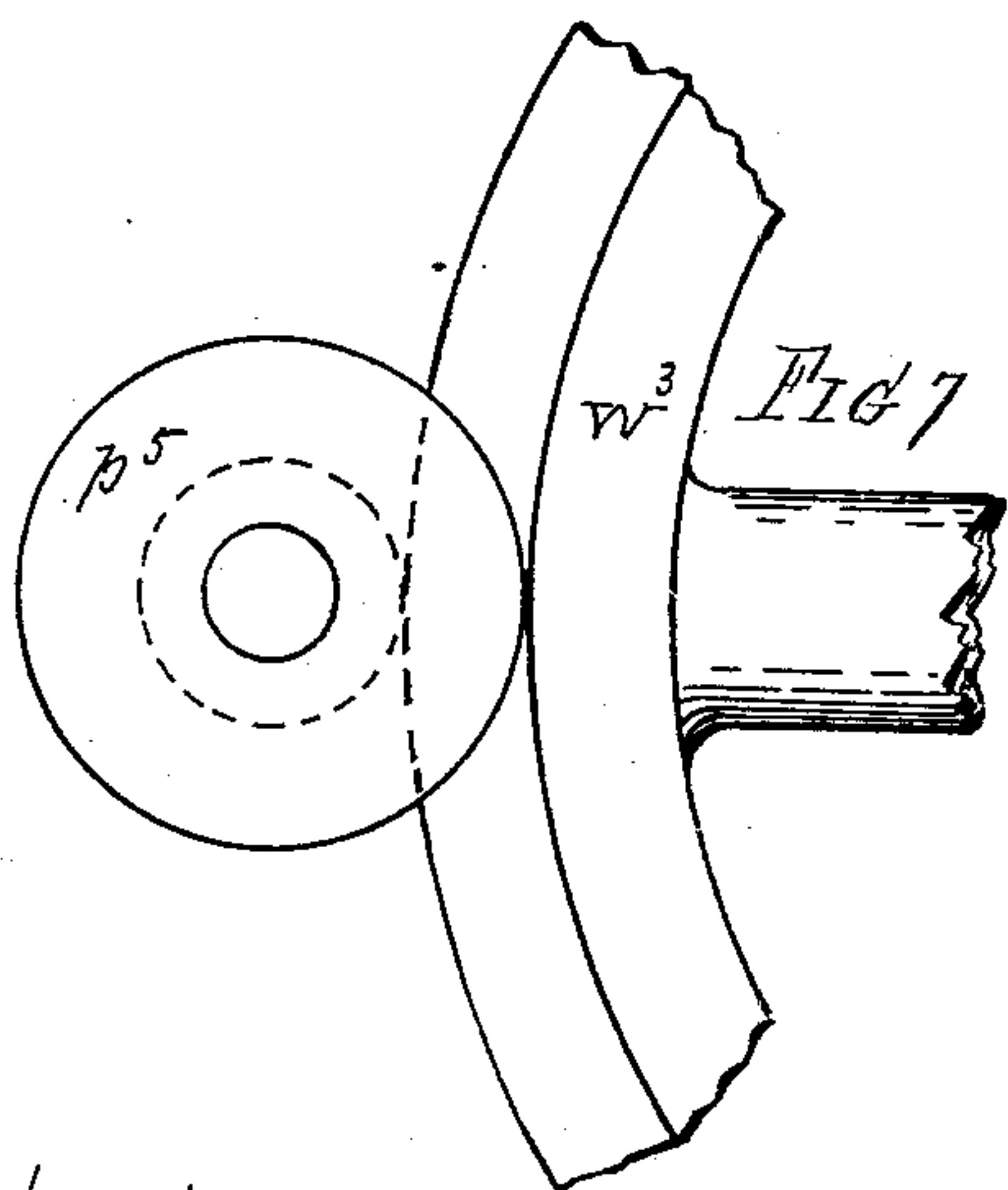
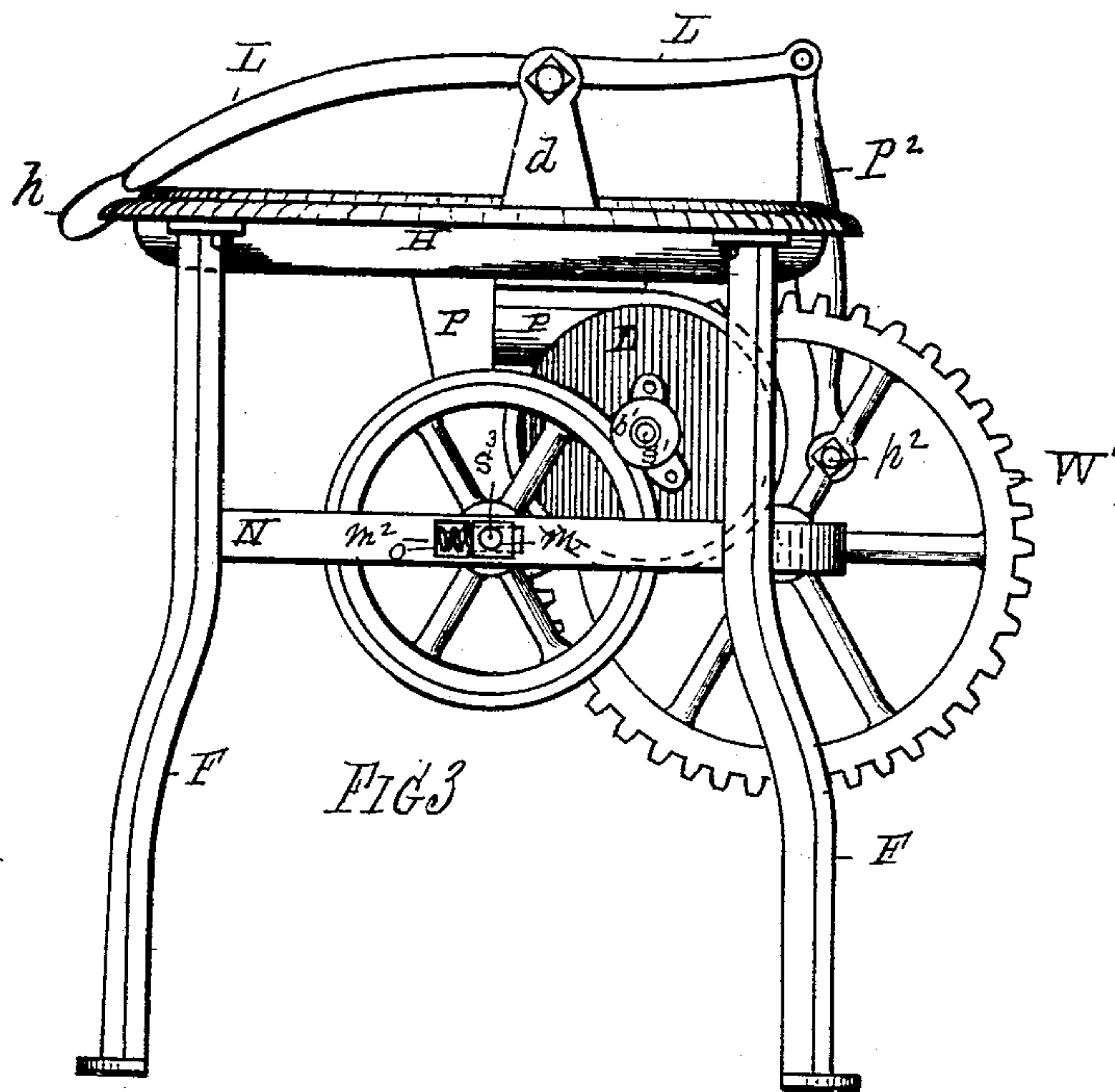
Warren T. Kellogg.
(By W. E. Nagan, his atty.)

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UNITED STATES PATENT OFFICE.

WARREN T. KELLOGG, OF LANSINGBURG, NEW YORK.

PORTABLE FORGE.

SPECIFICATION forming part of Letters Patent No. 389,305, dated September 11, 1888

Application filed February 3, 1888. Serial No. 262,860. (No model.)

To all whom it may concern:

Be it known that I, WARREN T. KELLOGG, of the village of Lansingburg, county of Rensselaer, and State of New York, have invented new and useful Improvements in Portable Forges, of which the following is a specification.

My invention relates to improvements upon portable forges, and more particularly to that class of them which are shown and described in Letters Patent granted to me November 25, 1873, numbered 144,986.

My improvements have for their object the more uniform operation of the fan within the drums as regards the journal-traverse of the fan in its bearings, and so as to prevent any side-to-side or lateral motion therein, and to thus avoid the necessity of the frequent adjustment of the fan shaft within the drum.

Accompanying this specification to form a part of it there are two plates of drawings containing seven figures illustrating my invention, with the same designation of parts by letter-reference used in all of them.

Of the illustrations, Figure 1 is a side elevation of a portable forge containing my improvement, with the side at which it is operated turned toward the sight. Fig. 2 is a top view of the mechanism shown at Fig. 1. Fig. 3 is a side elevation of the machine, taken on the side that is opposite to that shown at Fig. 1. Fig. 4 shows a section of the traction or friction wheel which operates a pinion on the fan-shaft. Fig. 5 shows a section of the pinion on the fan-shaft. Fig. 6 illustrates in section, as enlarged, a modification of the traction-wheel and pinion operating the latter upon the fan-shaft; and Fig. 7 illustrates a side elevation of a part of the traction or friction wheel operating the pinion on the fan shaft and also a part of the said pinion.

The several parts of the mechanism thus illustrated are designated by letter-reference, and the function of the parts is described as follows:

The letter D designates the drum in which the fan is placed; A, apertures for the admission of air thereto; P, an inclosed passage leading from the fan-drum to the hearth H. As this fan is revolved within said drum, air is

taken therein, and by the action of the fan the same is forced out through the passage P to the hearth.

The letter S' designates the shaft of the fan, and b' b' its bearing made in the brackets B', attached to the drum at each side of the latter, and T adjusting-screws arranged in the outer ends of said brackets and adapted to engage with the outer ends of the fan-shaft to regulate its position within the drum.

The letter F designates the frame that supports the hearth and other connected parts; L, a lever that is between its ends pivoted to a standard, d, that is upwardly projected from the hearth side, said lever at its outer end being provided with a handle, h, and at its other end, back of where fulcrumed to said standard, it is pivoted to the upper end of the pitman P², and the latter at its lower end is pivoted, by means of the crank-pin p², to the face of the wheel W', which is provided with a shaft, S², having its bearings b² in a bracket, B², that is projected from the side of the machine-frame. This gear-wheel W' engages with the pinion P³ on the shaft S³, which has journal-boxes m, arranged in slots m², formed in the horizontally-placed bars N N, and each of which journal-boxes, where within the slots formed in the said bars, is constructed with a spring, O.

The letter W³ designates a wheel arranged on said shaft S³, and p⁵ a pinion arranged on the fan-shaft S', and this pinion p⁵ is made to engage with the rim of the wheel W³ by means of its traction or friction therewith. The rim of this wheel W³ is made with a wedge-form perimeter, V, and the rim of the pinion p⁵ on the fan-shaft is constructed with a groove, G, having a V form in section and to receive the wedge-form edge of the said wheel W³, so that as they turn with their rim edges in contact the wheel W³ operates the pinion p⁵ by its traction or frictional engagement therewith. The blades of the fan are indicated by the dotted line a⁴ at Fig. 3. The springs O in the slots m² press the wheel W³, so as to have it constantly make a tractional engagement with the pinion p⁵. As thus operated the pinion p⁵ and the fan-shaft S' cannot move laterally away from the perimetral tonguing construction

and friction or traction made between said pinion and the wheel W³, which operates the fan-shaft.

While I have shown but one groove made in the face of the traction engagement between the pinion on the fan-shaft, if desired there may be two of these grooves and two tonguing parts made in the face of the wheel operating the pinion.

The letter J designates a facing of rubber applied to the groove made in the perimetral face of the pinion on the fan-shaft, and this insures a better friction or traction and at the same time causes the parts to run without noise; and, if desired, instead of rubber, leather may be used for the same purpose.

As thus constructed and arranged to receive motion the pinion upon the fan-shaft runs noiselessly and with accurate lateral adjustment.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a portable forge, the combination of a fan arranged within a drum that is provided with ingress and egress air-passages, a grooved pinion upon the end of said fan-shaft, a wheel arranged upon a shaft having journal-boxes

arranged in horizontal slots in the machine-frame, said wheel having upon its perimetral face a wedge-form edge that is adapted to engage with the grooved perimeter of the pinion upon the fan-shaft, and springs arranged in said journal-box slots, substantially in the manner as and for the purposes set forth.

2. In a portable forge, the combination of a fan arranged within a drum that is provided with ingress and egress air-passages, a grooved pinion arranged on the fan-shaft, said grooved pinion being faced on its perimeter with rubber, a wheel provided with a shaft having journal-boxes arranged in slots in the machine-frame, said wheel upon its perimeter being shaped to fit into the grooved face of the fan-shaft pinion, and springs in the slots of the machine-frame adapted to operate the said journal-boxes, substantially in the manner as and for the purposes set forth.

Signed at Troy, New York, this 23d day of December, 1887, and in the presence of the two witnesses whose names are hereto written.

WARREN T. KELLOGG.

Witnesses:

W. E. HAGAN,
GEO. A. DARBY.