W. T. KELLOGG.

Blacksmiths' Forges.

No. 144,986. Patented Nov. 25, 1873.

Fig. 1.

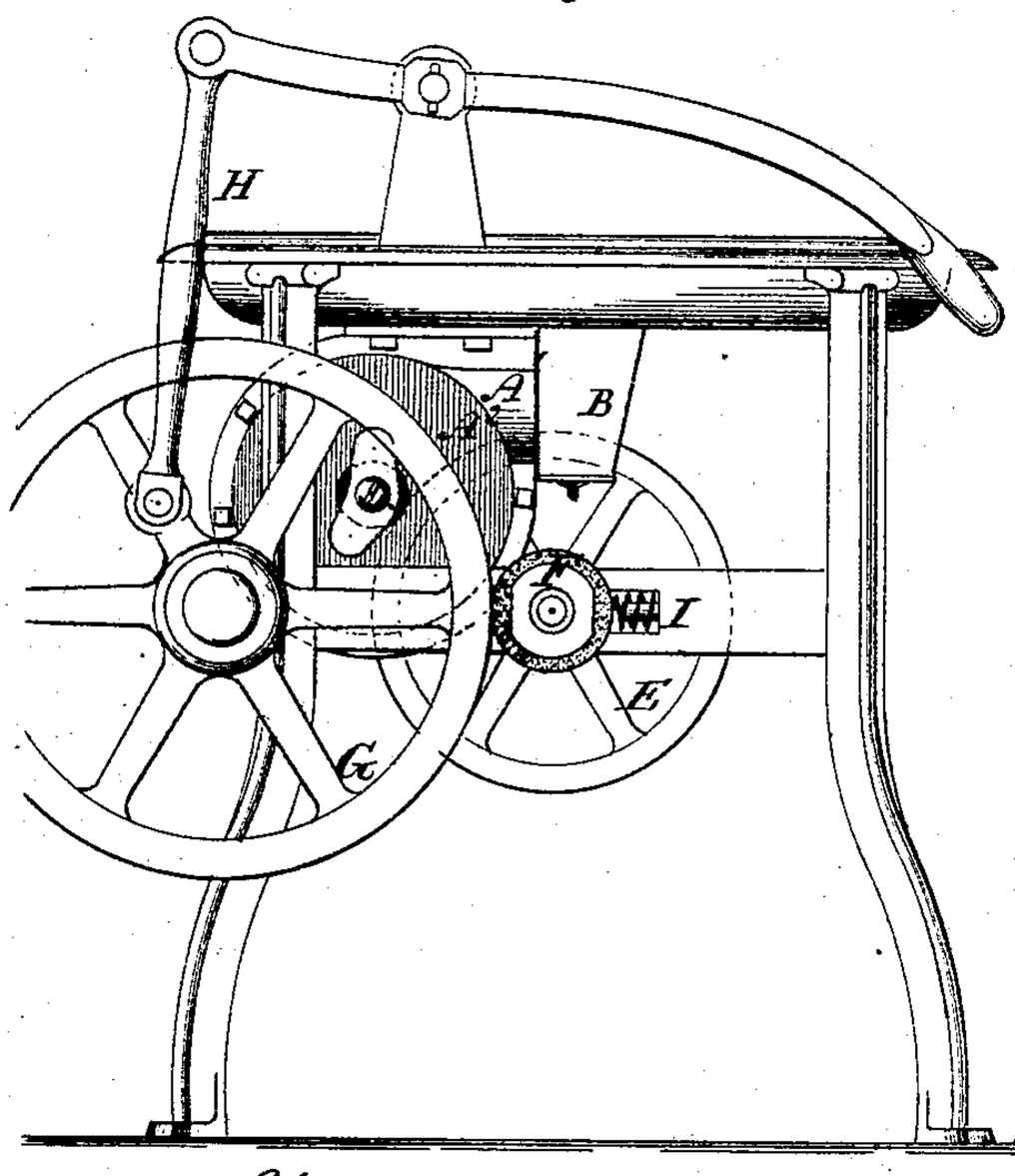


Fig. 2.

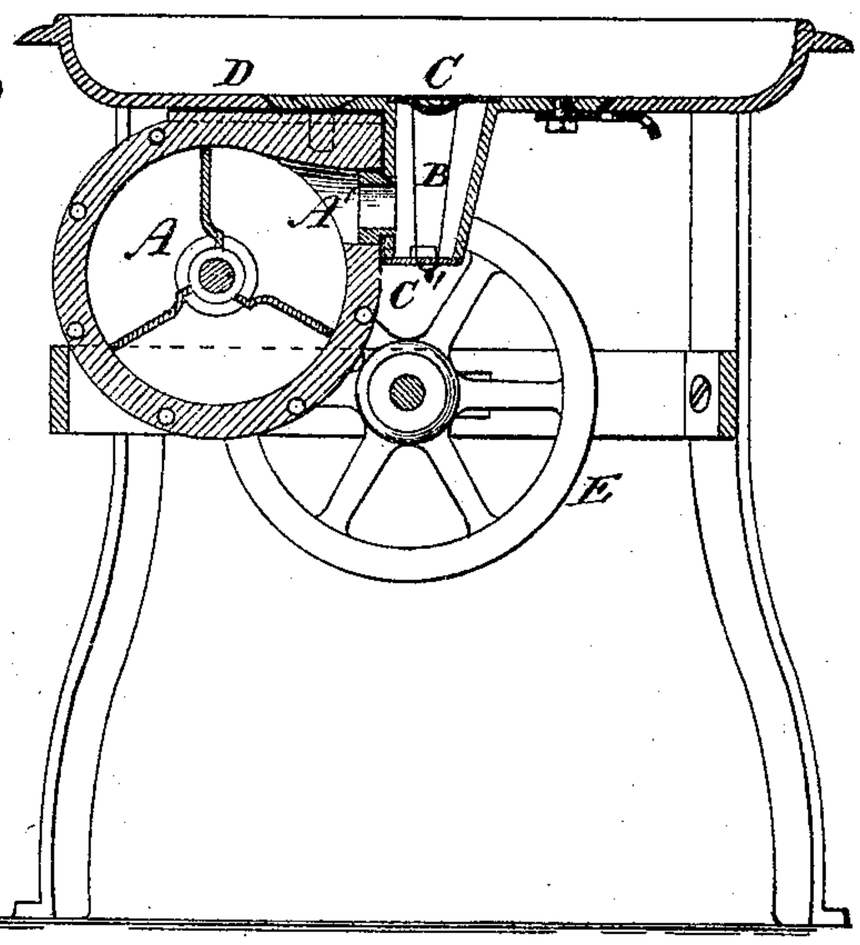


Fig. 3.

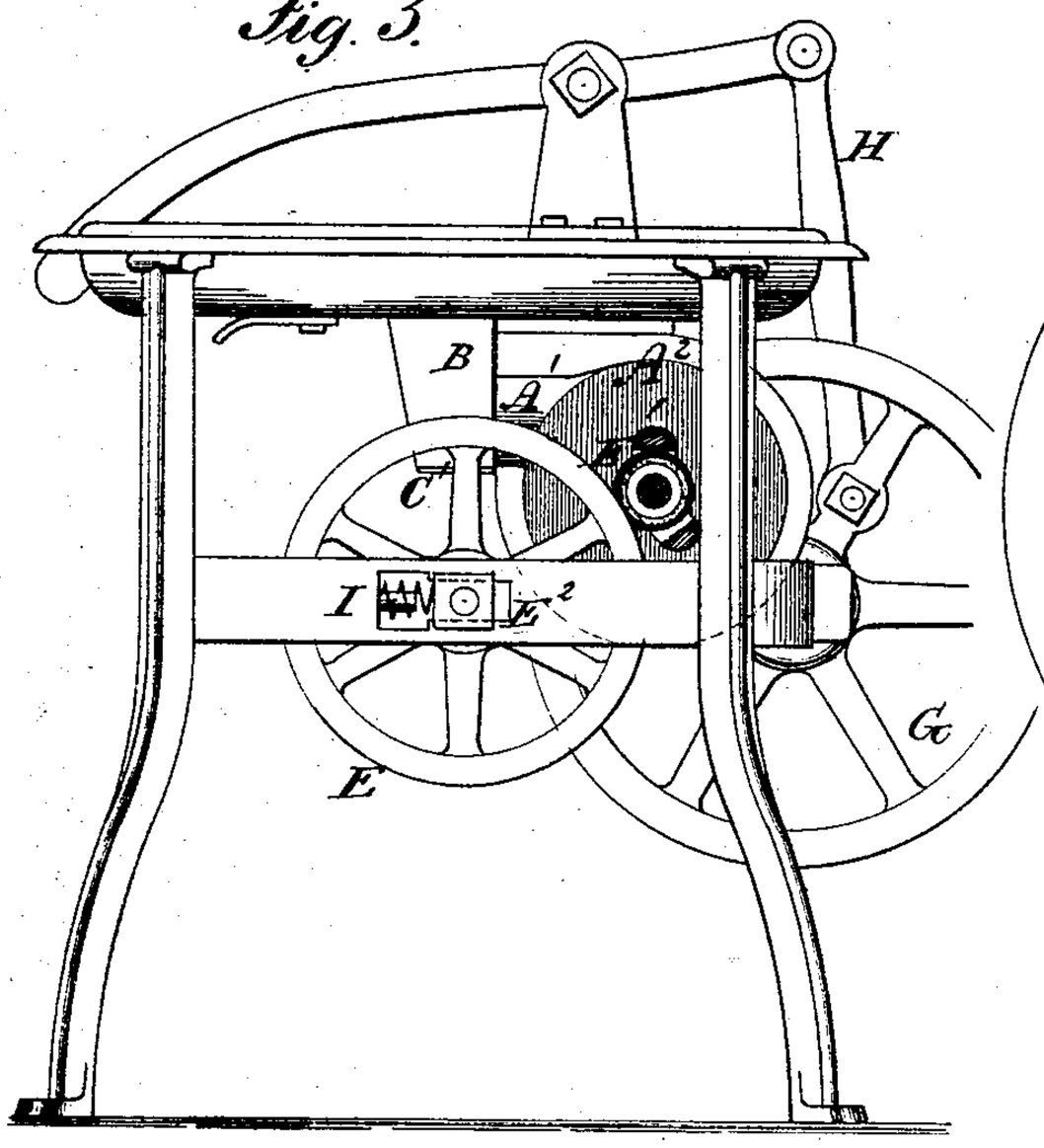
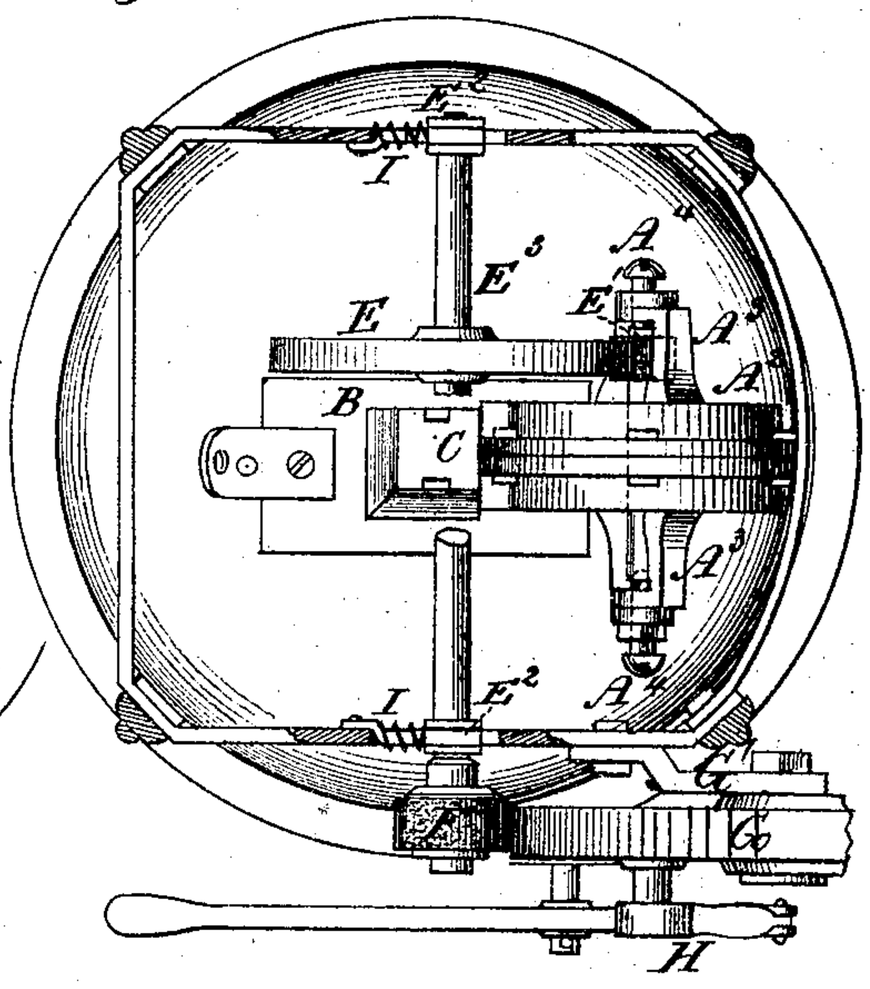


Fig. 4.



Witnesses.
A. Ruppert.
H. Bradford

Warren T. Kellogg
Inventor. by
D. P. Holloway Jr
Atty.

UNITED STATES PATENT OFFICE.

WARREN T. KELLOGG, OF TROY, NEW YORK.

IMPROVEMENT IN BLACKSMITHS' FORGES.

Specification forming part of Letters Patent No. **144,986,** dated November 25, 1873; application filed June 20, 1873.

To all whom it may concern:

Be it known that I, WARREN T. KELLOGG, of Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Portable Forges for Blacksmiths; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings making part of this specification, in which—

Figure 1 is a side elevation on the side of the operator. Fig. 2 is a vertical longitudinal section. Fig. 3 is an elevation, showing the opposite side. Fig. 4 is a bottom view, partly in section.

The same letters are employed in all the figures in the designation of identical parts.

This improvement relates to that class of smiths' forges known as portable forges; and consists in a new combination of parts for making a compact, cheap, and efficient forge.

The blast is derived from a fan, which drives the wind through an opening, A^1, formed in the case A^2 bolted under the hearth-plate D of the forge. Braces or brackets A^3 are cast on each side of the fan-case and through them screws A^4 are passed to form bearing-points for the shaft of the fan.

Motion is communicated to the fan from a heavy-rimmed pulley, E, turned smooth upon its face, and heavy enough to act also as a fly-wheel. The face of this pulley engages the small pulley E^1 on the fan-shaft. The shaft of the pulley E has its boxes E^2 in slots in the side braces of the stand which supports the forge, in which they slide freely, being fitted with grooves to receive guides or ways on the sides of the slots, as shown in Fig. 3. On the overhanging end of the driving-shaft is hung a small pulley, F, the face of which engages that of the smooth periphery of the fly-wheel H, which revolves upon a stud projecting from a bracket, G′, bolted to the frame of the stand. This fly-wheel is driven by a lever and connecting-rod, H, attached to a wrist-pin on one of the arms of the fly-wheel. The faces of the small pulleys E^1 and F are covered with rubber, leather, or other elastic material, to give adhesion to the faces of the driving-pulleys, against which they are continually pressed by the springs I, which are placed in the slots in the side pieces, so as to bear against the boxes E^2. These springs will not only accommodate themselves to any irregularities in the faces of the pulleys, but will automatically maintain the constant contact of the faces if they should become worn.

The fan-case and bearings for the driving-pulleys of the fan are all supported by and immediately under the fire-pan D. The pulley E and its shaft and small pulley are centrally placed under the fire-pan, and the pulley or fly-wheel H, although in the case as shown it is hung outside of the stand, is still below the plane of the fire-pan. Instead of so placing the pulley, it may be placed also within the stand and under the fire-pan. In such case the pitman extending from the lever would be attached to a crank on the shaft of the fly-wheel, instead of being attached to a wrist-pin on the wheel, as shown.

This arrangement of the gearing is important, as it is essential to the perfection of portable forges that they should be compact, so as to occupy the least amount of space, and also that they should be stable and not easily overturned, to which end the machinery is placed under the fire-pan, nothing standing above it but the lever.

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

The combination, substantially as shown and described, in a portable forge, of a blast-fan and system of friction-pulleys and adjustable journal-boxes and springs for constantly maintaining the contact of the faces of the pulleys, all arranged below the plane of the fire-pan and operated by a lever, in the manner set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WARREN T. KELLOGG.

Witnesses:

J. W. HINNSTREET,

E. L. CIPPULY.