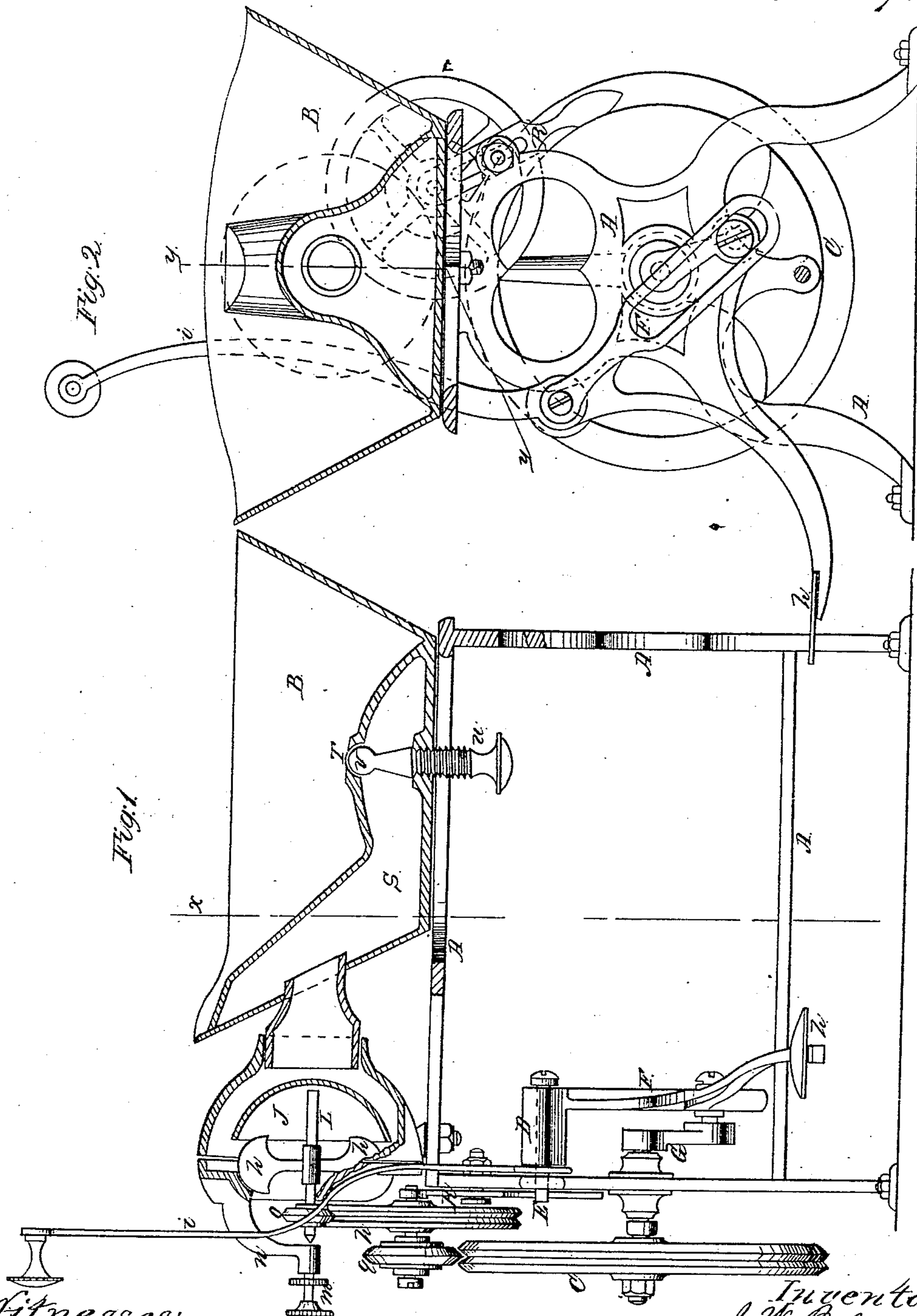


*J. B. Bolinger,*

*Portable Forge,*

*N<sup>o</sup> 81,048.*

*Patented Nov. 17, 1868.*



*Witnesses;*  
*A. C. Ashkewles,*  
*Amos Morgan*

*Inventor;*  
*J. B. Bolinger*  
*per* *Munroe*  
*Attorneys.*

# United States Patent Office.

JOHN B. BOLINGER, OF DETROIT, MICHIGAN, ASSIGNOR TO HIMSELF AND L. R. FITCH, OF SAME PLACE.

Letters Patent No. 84,048, dated November 17, 1868.

## IMPROVEMENT IN PORTABLE FORGE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JOHN B. BOLINGER, of Detroit, in the county of Wayne, and State of Michigan, have invented a new and improved Fan-Blast Portable Forge; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to an improvement in the means of supplying the air-blast to a portable smith's forge; and it consists in the arrangement of the parts of which it is composed, whereby simplicity of construction and effectiveness of operation are secured, while the apparatus or working-parts thereof are not liable to get out of order.

Figure 1 represents a sectional side elevation of the forge, showing the parts of which it is composed in their relative positions, the section being through the line *y y* of fig. 2.

Figure 2 is a transverse vertical section of fig. 1, through the line *x x*.

Similar letters of reference indicate corresponding parts.

A is the forge-frame.

B is the fire-box or forge proper.

C represents the driving-pulley, which is revolved either by the foot or hand of the operator.

D is a double lever, whose fulcrum is at E on the frame.

This lever has a slotted arm, F, in which the wrist of the driving-pulley-crank shaft G works.

*h* is the foot-piece on the lever, and

*i* is the hand-lever.

J represents the chamber in which the fans revolve.

*k* are the fans.

L is the fan-shaft.

The fan-shaft revolves on points or bearings.

In this example of my invention, the shaft revolves on points.

The inner end is supported by the fan-casing, and the outer end by an adjustable set-screw, *m*, in a projecting arm, *n*.

*o* is a pulley on the fan-shaft, and

*p* and *q* are intermediate pulleys, attached to an adjustable arm, R, as distinctly seen in fig. 2.

The pulleys named are all friction-pulleys, with *v*-faces, as seen in the drawing, but other friction-pulleys may be used, if desired.

The pulleys *o* and *q* are made adjustable, for the purpose of increasing or diminishing the friction.

The pulleys *o* and *q* are of peculiar formation, the body of those pulleys being formed of rubber or some other elastic substance, with a rim of metal thereon, so that those pulleys, although with a metallic rim, are made elastic.

S is the chamber beneath the fire-box B, which receives the air from the fan.

The blast is discharged through the central orifice T.

The blast is regulated by the screw *u*, which passes up from the bottom, with a ball, *v*, upon its upper end, as seen in the drawing.

This ball fits the globular cavity below the discharge-orifice T, and the blast is regulated by turning the screw *u* up or down, as may be required.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The pulleys *o* and *q*, formed of rubber, with metallic faces or peripheries, substantially as described, in combination with the pulleys C and *p*.

2. In combination with a portable fan-blast forge, the air-chamber S, the double lever D, and the slotted arm F, operating on the crank G, all constructed and arranged substantially as and for the purposes described.

J. B. BOLINGER.

Witnesses:

EUGENE FECHT,  
JNO. R. FIRMIN.