(No Model.)

J. P. HOLT.

PORTABLE FORGE.

No. 280,824. Patented July 10, 1883.

Fig. 1.

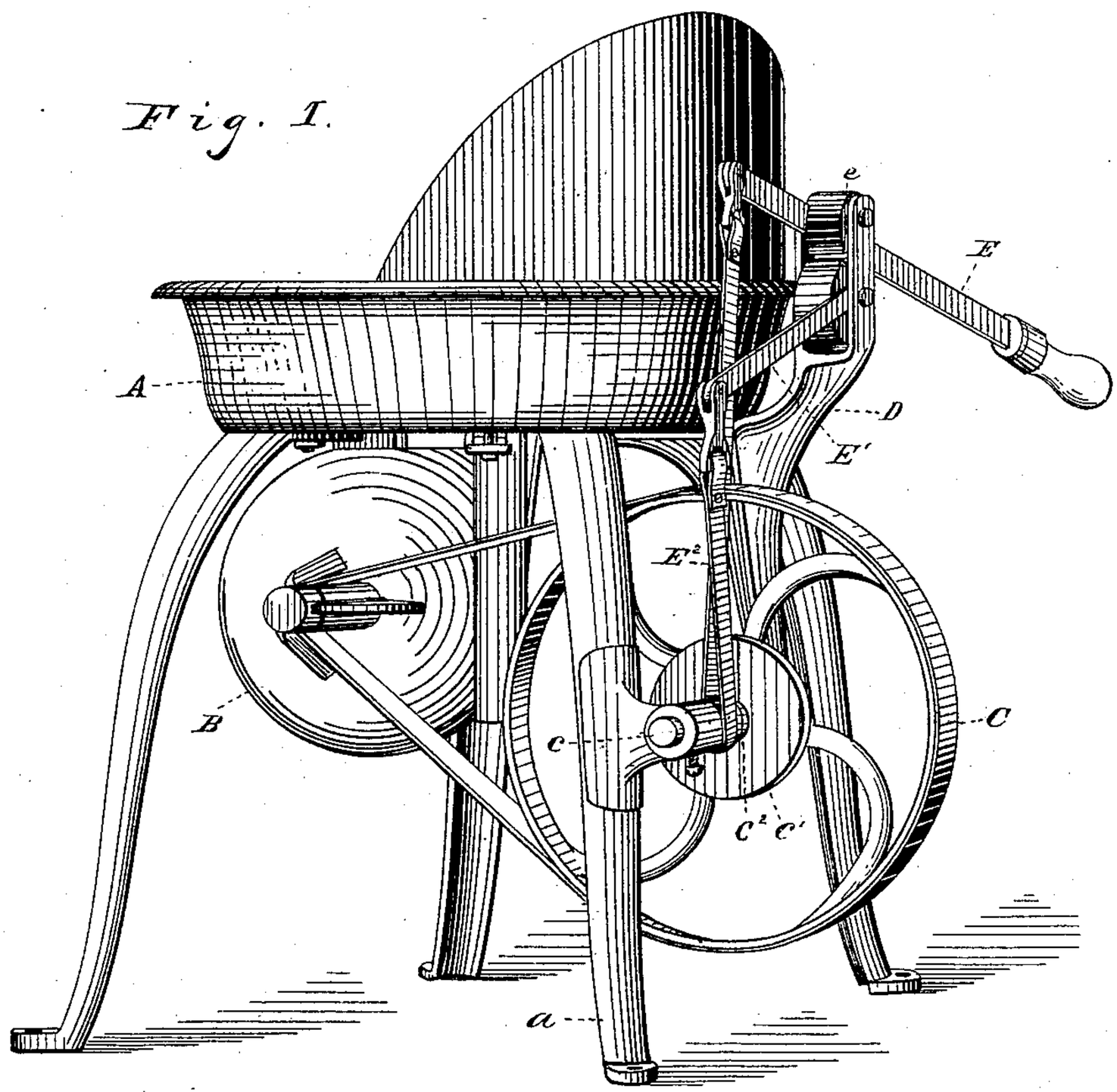
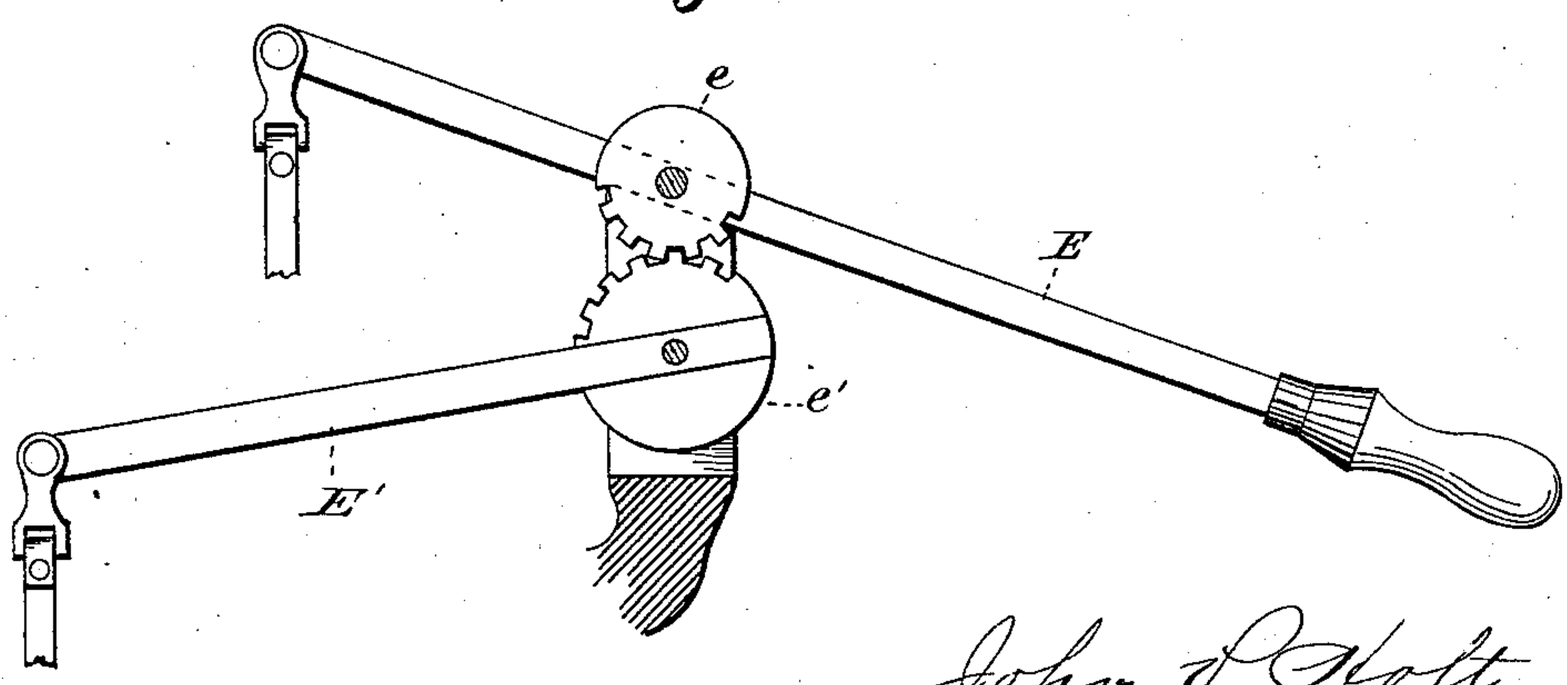


Fig. 2.



WITNESSES

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JOHN P. HOLT, OF CLEVELAND, OHIO.

PORTABLE FORGE.

SPECIFICATION forming part of Letters Patent No. 280,824, dated July 10, 1883.

Application filed March 14, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. HOLT, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Portable Forges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in portable forges; and it consists of certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

The object of my invention is to improve certain devices for which I obtained Letters Patent No. 219,640, in September, 1879, and to which reference is made in this specification.

In the drawings, Figure 1 is a view in perspective of a portable forge embodying my invention. Fig. 2 is an enlarged detailed view, showing the lever, tension-arm, and segment-gears.

A represents the body of a forge; B, the blower that is attached to the said body, and whose fan is driven by a belt from the band-wheel C, that is supported by the shaft *c*. The said shaft has a bearing at one end in a short bracket that is attached to the leg *a*. The other end of the shaft has its bearing in a branch of the bracket D. This bracket also supports the lever E, the tension-arm E′, and the segment-gears *e* and *e′*. The clutch *c′* attaches the sleeve e^2 to the hand-wheel C in such a manner that the wheel is turned when the sleeve is rotated in one direction; but the sleeve may rotate freely in the opposite direction without the clutch engaging the wheel. This sleeve is actuated alternately in opposite directions by means of the strap E^2, the tension-arm E′, and the lever E, so that by actuating the lever E the bow-drill motion given to the sleeve c^2 causes the hand-wheel C to be turned and the fan operated.

In my former device, patented as aforesaid, the tension-arm was below the shaft *c*, and the tension regulated by a spring acting on the said arm. In my new device I have placed the tension-arm above the said shaft, and so as to receive positive motion from the lever E by means of the segment-gears *e* and *e′*. The strap E^2 is wound once or more around the sleeve c^2, and the ends are attached, as shown, to the end of the lever and to the end of the tension-arm. As winding the strap E^2 around the sleeve c^2 causes the two ends of the strap to be separated a short distance, it is necessary to have the tension-arm and the arm of the lever to which an end of the strap is attached of different lengths to accommodate the lead of the respective ends of the strap. To compensate for this difference in the length of arms, and to cause the two ends of the strap to move equal distances, the segment-gears are made of diameters that are to each other as the length of the lever and arm, respectively attached to the gears, are to each other, so that the said end of the said lever to which the strap is attached will move the same distance at each stroke as the end of the tension-arm will move to which the other end of the strap is attached, thereby causing the strap to operate with equal tension in all parts of the stroke.

What I claim is—

1. In a portable forge, the combination, with an actuating-lever and a tension-arm, of the intergearing segmental gears secured respectively thereto, whereby the motion of the lever is positively conveyed to the tension-arm and the two made to act simultaneously, substantially as shown and described.

2. In a portable forge, the combination, with an actuating-lever, a tension-arm, and the segmental gears, of a driving-strap having its ends attached respectively to the actuating-lever and the tension-arm, the said lever and arm being of unequal length, and the said gears of unequal diameter, whereby the proper lead and an equal tension is given the strap throughout the stroke, substantially as described, and for the purpose specified.

3. In a portable forge provided with a band-wheel and a blower, the combination, with an actuating-lever provided with a segmental gear, and a tension-arm provided with a like gear, the said lever and arm being of unequal length from their pivotal point, and the gears of unequal diameter, and adapted to intergear, of a driving-strap adapted to embrace the shaft of the band-wheel, and having its respective ends secured to the lever and the arm, substantially as shown and described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 23d day of February, 1883.

JOHN P. HOLT.

Witnesses:

C. H. DORER,

A. E. LYNCH.