2 Sheets--Sheet 1.

LEWIS R. FITCH.

Improvement in Driving Gear for Portable Forges.

No. 120,957. Patented Nov. 14, 1871.

Fig. 1

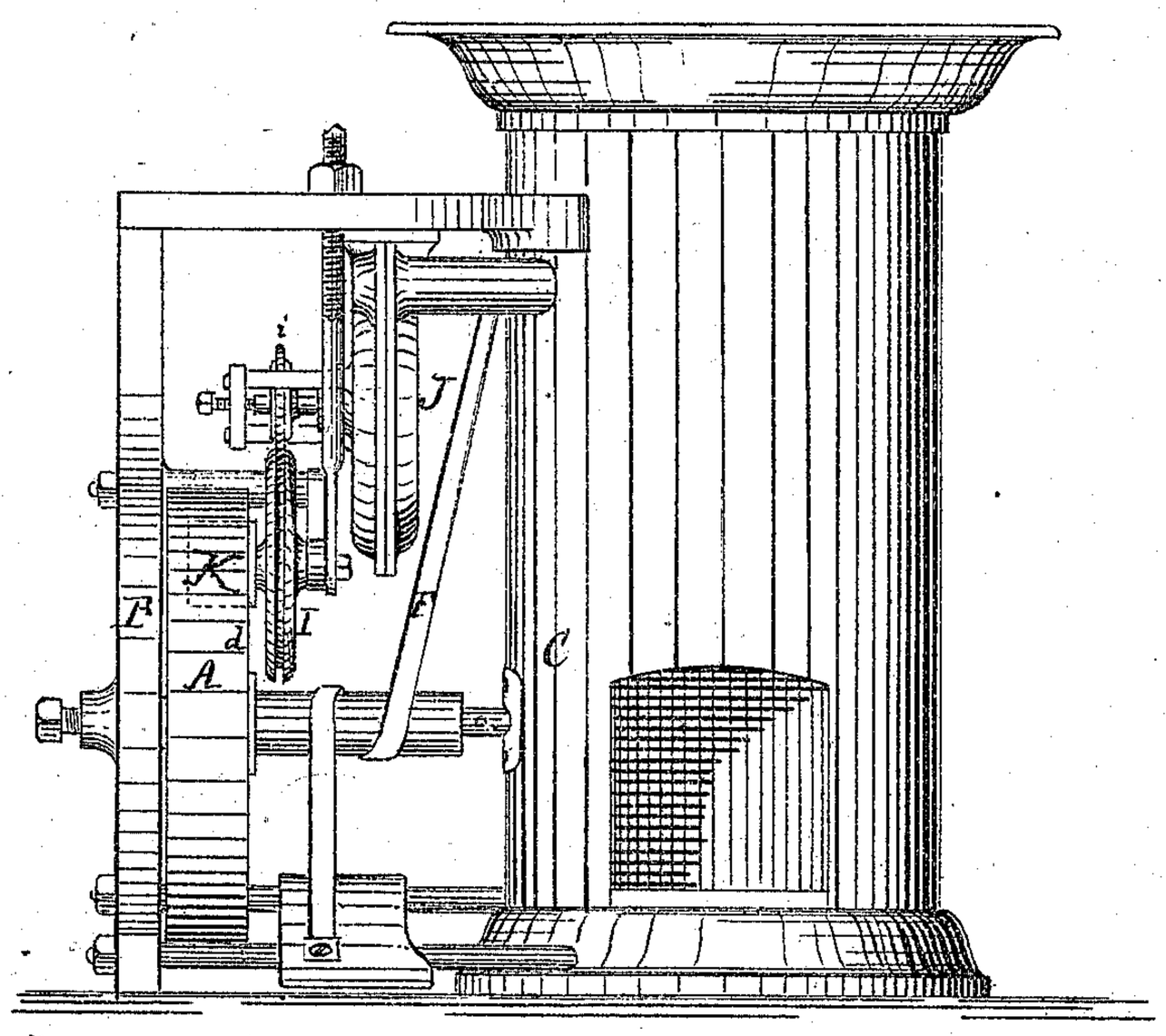
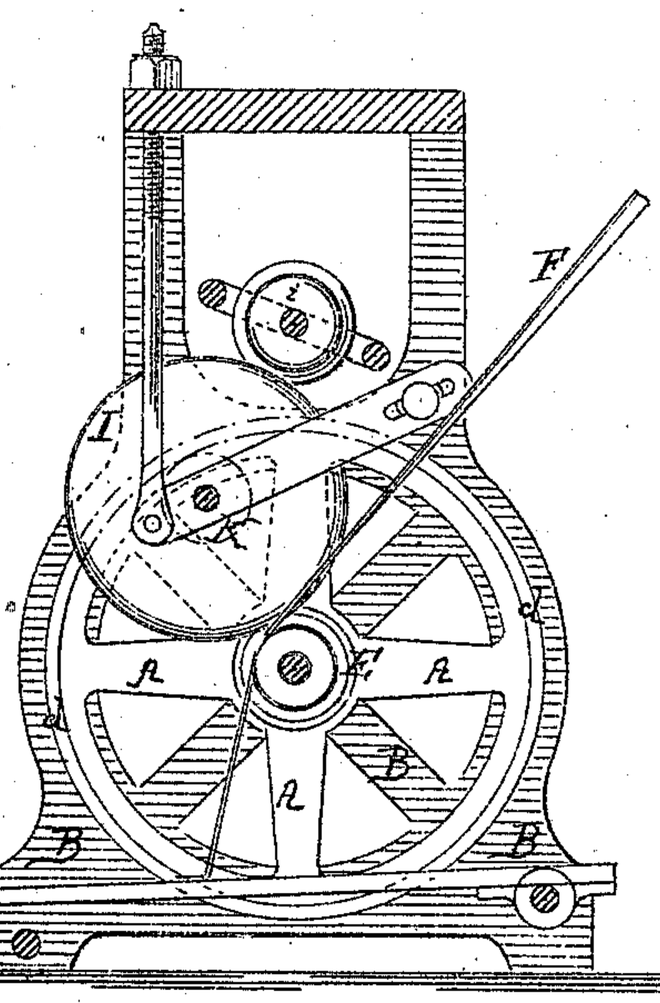


Fig. 3



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2 Sheets--Sheet 2.

LEWIS R. FITCH.

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No. 120,957. Patented Nov. 14, 1871.

Fig. 2

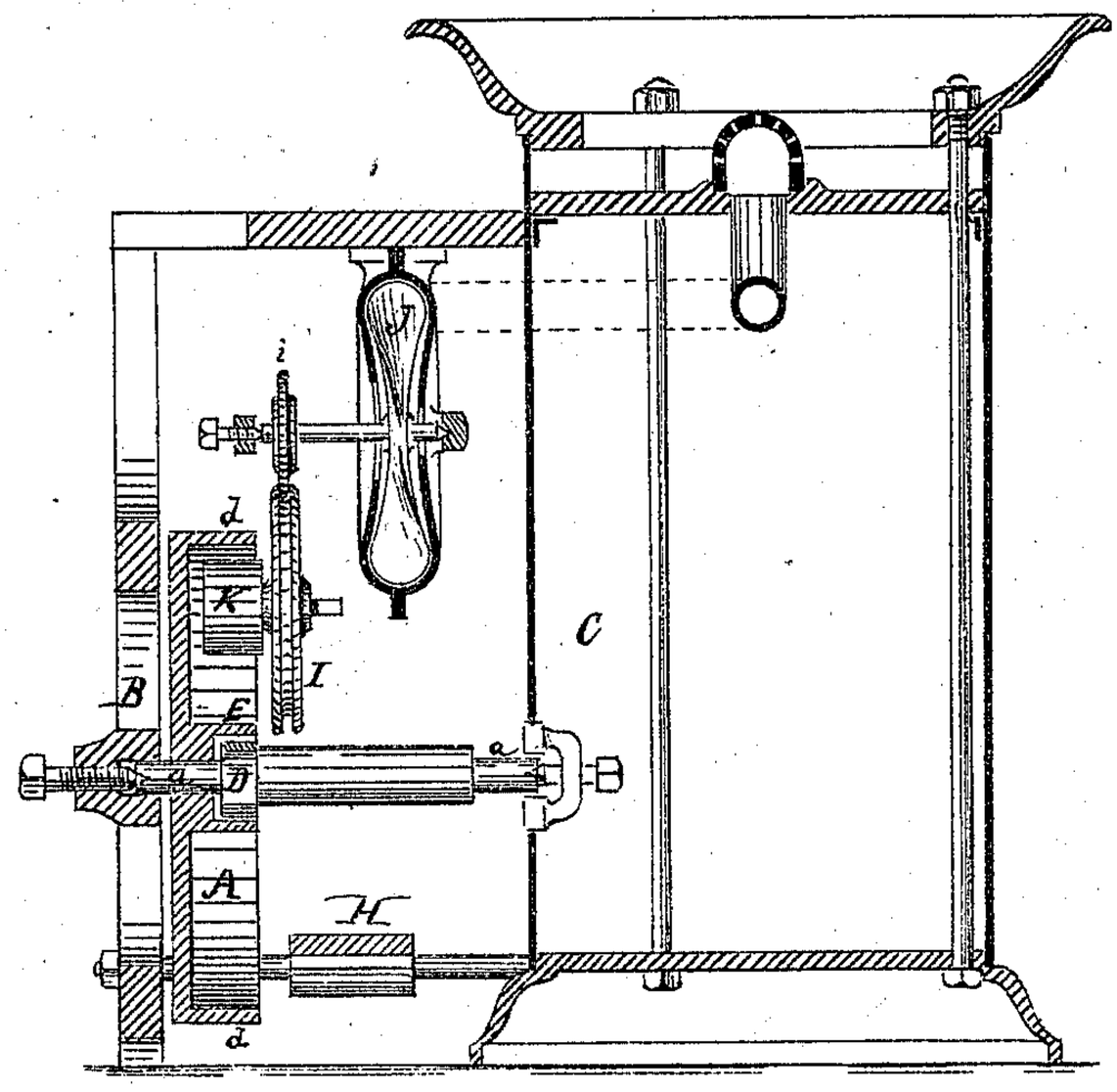


Fig. 5

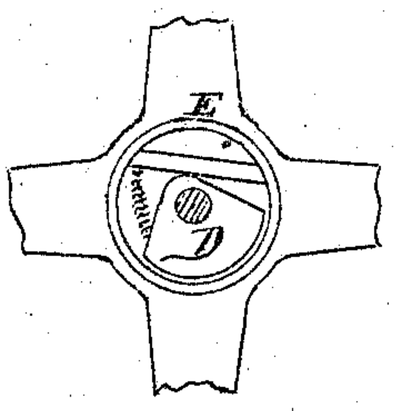


Fig. 6

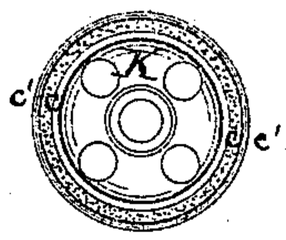
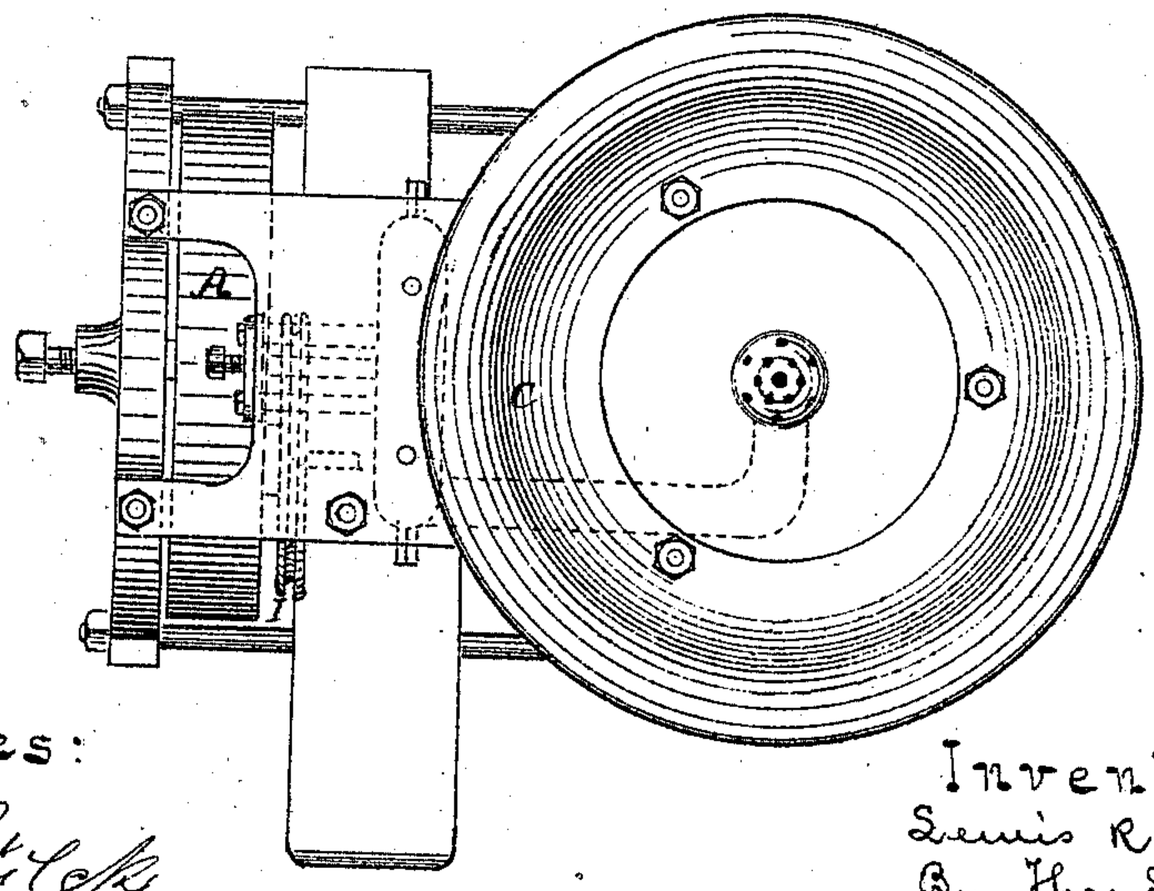


Fig. 4



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UNITED STATES PATENT OFFICE.

LEWIS R. FITCH, OF CHICAGO, ILLINOIS, ASSIGNOR TO NAPOLEON DUBRUL, OF SAME PLACE.

IMPROVEMENT IN DRIVING-GEARS FOR PORTABLE FORGES.

Specification forming part of Letters Patent No. 120,957, dated November 14, 1871.

To all whom it may concern:

Be it known that I, LEWIS R. FITCH, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Driving-Gear for Portable Forges; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a front elevation of a forge constructed with my improved gear. Fig. 2 is a vertical central section of same, and Fig. 3 is a view of the gear detached. Fig. 4 is a top or plan view. Fig. 5 is an inside view of the friction-clutch. Fig. 6 is a section of the friction-pinion.

Like letters of reference made use of in the several figures indicate like parts.

This invention relates to a novel construction and arrangement of a driving-pulley and pinion of the transmitting-pulley in portable forges, as will be presently more fully explained. It further relates to a novel arrangement of the driving-pulley within the leg or support of the gearing, whereby said leg or support is made to serve the purpose of a shield or guard to protect the mechanism, as will hereinafter more fully appear.

To enable those skilled in the art to make and use my invention, I will proceed to describe the same with particularity, making use in so doing of the aforesaid drawing.

A is the driving-pulley carried upon the shaft *a*, which has bearings in the leg or standard B, and in the shell or body of the forge C. The driving-pulley is made with a peripheral flange, *d*, and a hub, *e*. This hub receives an ordinary friction-pawl device, D, within the drum E, which is operated by means of the band F and treadle H, the construction and operation of which parts being well known need not be here particularly described. I is the transmission-pulley, which engages the pinion *i* upon the shaft of the fan-blower J. This pulley is driven by the pinion K. This latter pinion is surrounded by a layer of rubber, *c*, covered by a layer of leather, *c'*, so as to constitute a good friction surface. The interior of the peripheral flange *d* is likewise coated with leather, and the pinion engages with this peripheral flange in the manner of an internally-geared cog-wheel and pinion.

By arranging the pulley and pinion in this manner, instead of placing them one above the other in the ordinary way, a larger and more perfect contact of surface is had between the two, and consequently less liability to wear and slip. This will be evident upon considering that the rounded surface or convexity of the pinion engages the concave or inner rim of the pulley.

The standard B is made of a shape to guard or shield the pulley, as shown in the drawing, being placed on the outside of the gearing.

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

1. The combination and arrangement of the friction-pinion K, the wheel I, the pulley *i*, and the internally-geared friction-pulley A, substantially as specified and shown, for the purpose of transmitting power, as described.

2. The combination and arrangement of the driving-pulley A, and standard B placed outside of said pulley, and constructed to act as a guard or shield to the pulley in the manner specified, and as set forth and shown.

3. The combination, with the pinion K, of an inner band or layer of rubber, *c*, and an outer covering or layer of leather, *c'*, substantially as specified.

LEWIS R. FITCH.

Witnesses:
J. W. MUNDAY,
JULIUS WELCKE.

(60)