

No. 627,462.

Patented June 20, 1899.

R. LEGG.

CIGARETTE CUTTING MACHINE.

(Application filed Dec. 28, 1897.)

(No Model.)

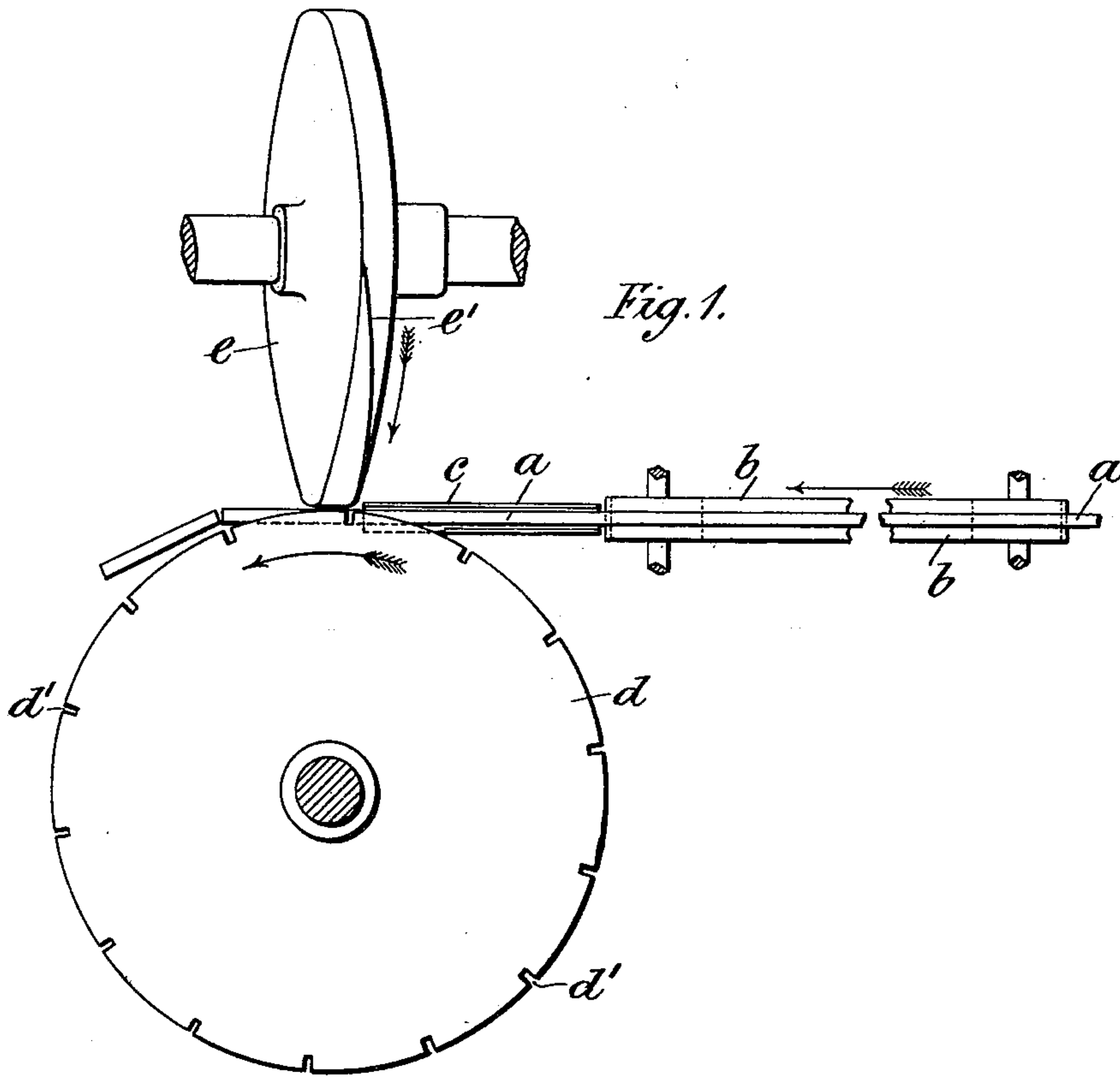


Fig. 1.

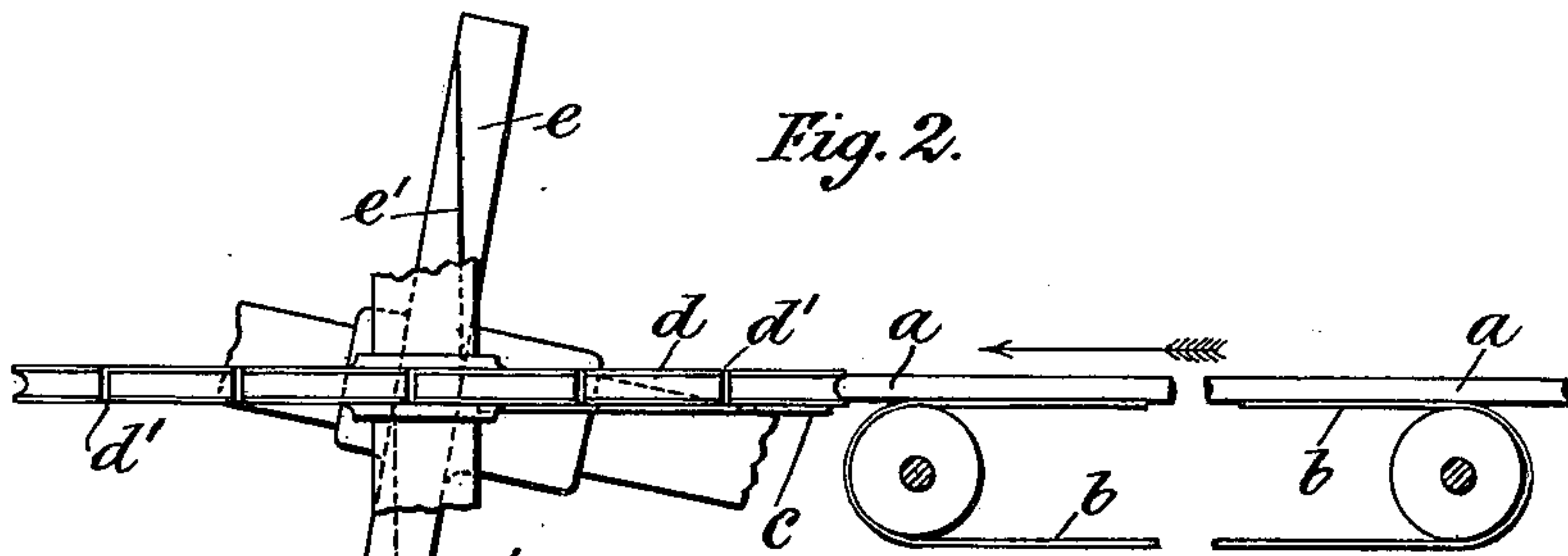


Fig. 2.

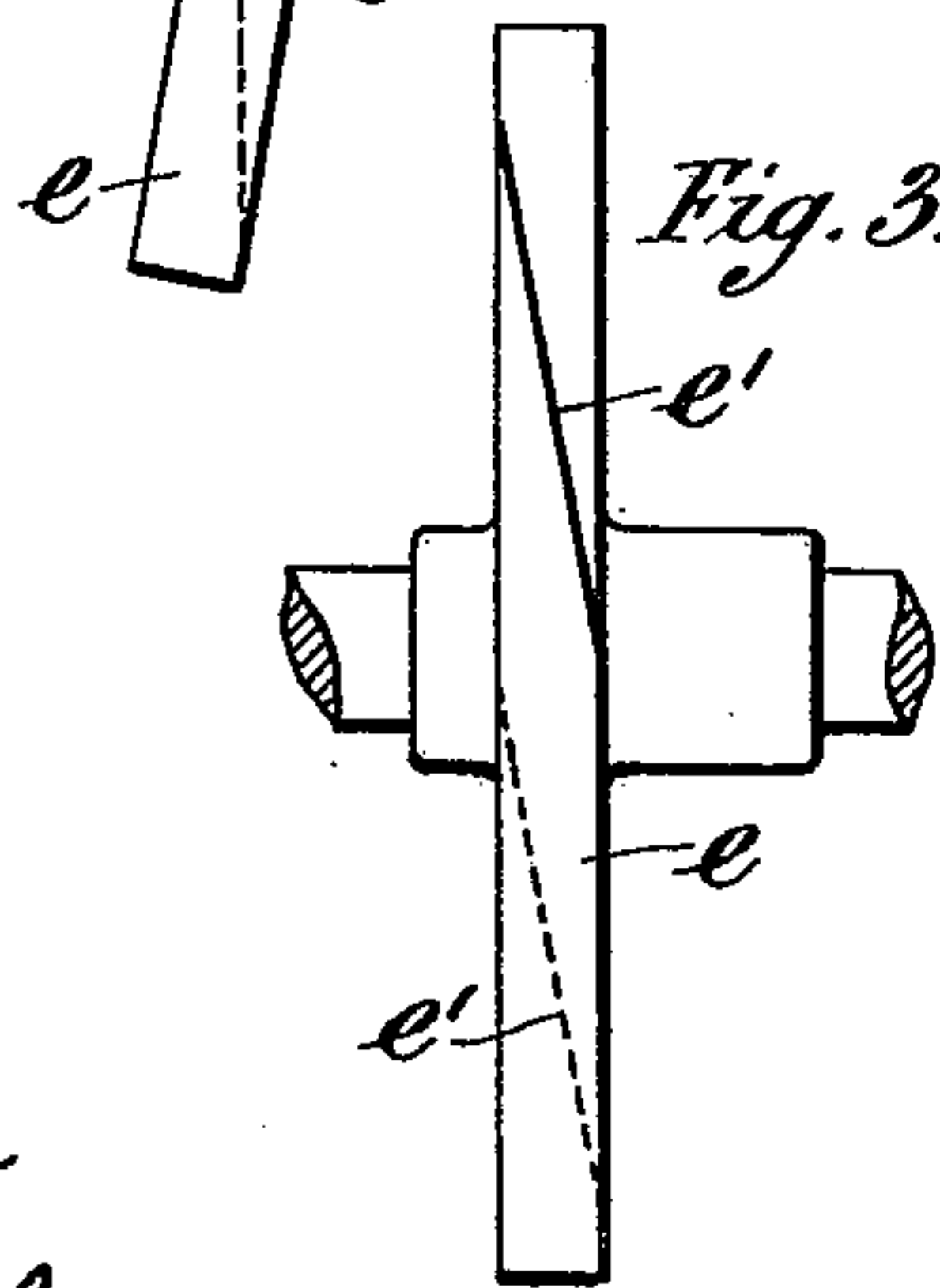


Fig. 3.

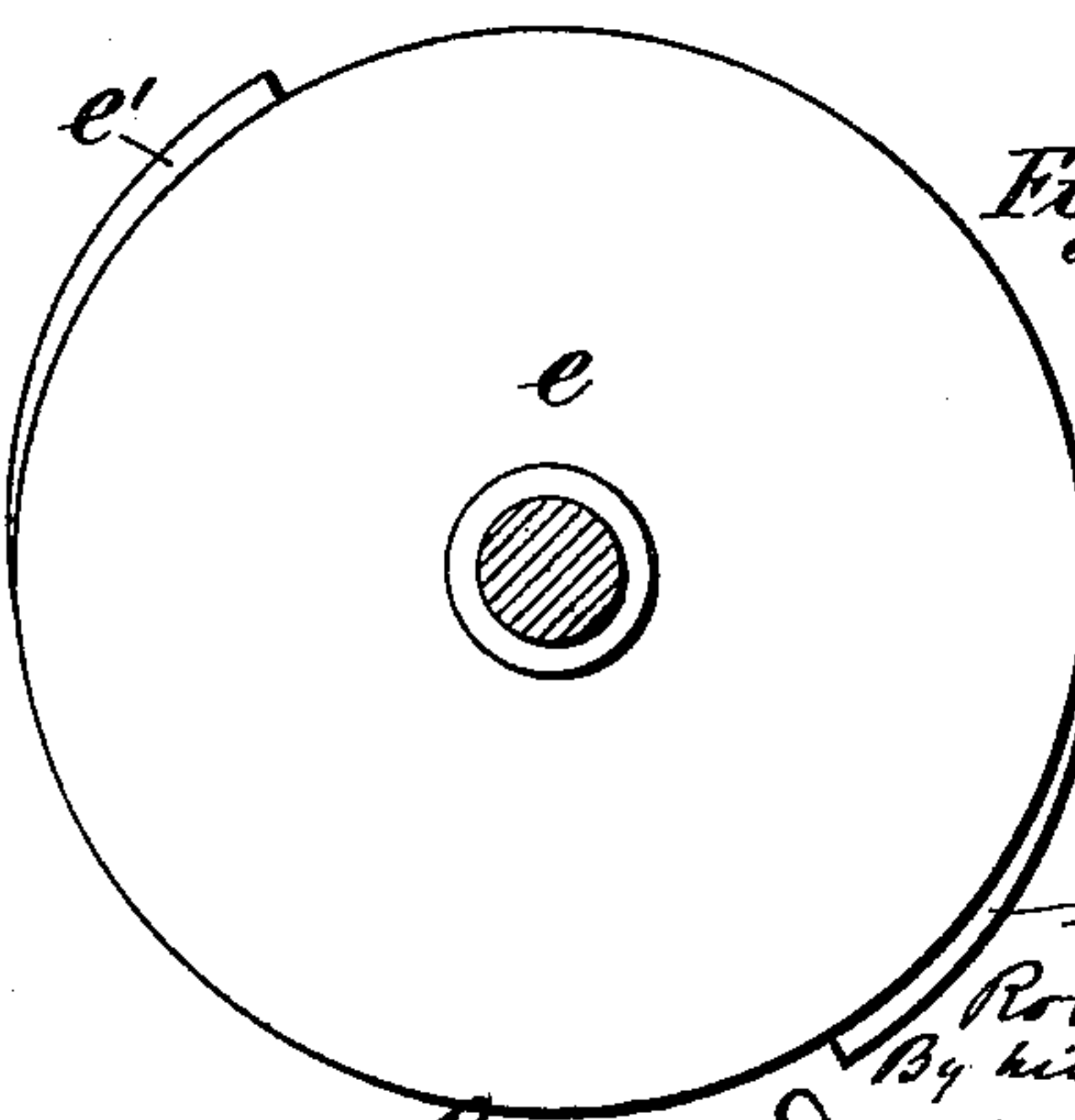


Fig. 4.

Witnesses,
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UNITED STATES PATENT OFFICE.

ROBERT LEGG, OF LONDON, ENGLAND.

CIGARETTE-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 627,462, dated June 20, 1899.

Application filed December 28, 1897. Serial No. 664,011. (No model.)

To all whom it may concern:

Be it known that I, ROBERT LEGG, engineer, a subject of the Queen of Great Britain, residing at City Engine Works, Eagle Wharf road, London, in the county of Middlesex, England, have invented a certain new and useful Cigarette-Cutting Machine, of which the following is a specification.

This invention relates to the cutting mechanism of that class of cigarette-machines which are adapted to making a continuous paper-covered rod of tobacco and cutting it into suitable lengths for cigarettes. The speed of such machines has hitherto been restricted by the limited rapidity of movement which can in practice be given to the compound reciprocating carriage of the rotating knife used to cut the lengths of cigarette from the continuously-advancing enveloped rod of tobacco. According to my invention I employ instead of these reciprocating parts a cutter in the form of a portion of a screw-blade fixed to a continuously-rotating shaft, the pitch of the screw and its speed of rotation being duly proportioned to the length of cigarette required. The continuously-rotating shaft is nearly, but not quite, parallel with the course of the enveloped rod of tobacco, so that the part of the cutter in operation at any time is always at right angles to the rod, and the cigarettes are therefore severed with a truly transverse and not an inclined cut. The necessary amount of penetration is obtained by making the radial distance of the edge of the screw-blade from the axis of the shaft increase toward the end which last comes into action. A moving guide is provided to resist the pressure of the knife.

Figure 1 is a plan, and Fig. 2 a side elevation, of the cutting mechanism. Fig. 3 is an edge view, and Fig. 4 a side view, of the cutting-wheel.

a is the paper-covered rod of tobacco, which

is continuously fed forward in the direction of the arrow, Figs. 1 and 2, by means of the endless band *b* onto a fixed trough *c*.

d is a wheel having a semicircular groove in its edge, the walls of the groove being slotted at *d'* by transverse slots.

e is a wheel having cutters *e'* on its edge. These cutters are in the form of segments of screw-threads, with their edges gradually advancing outward from the center of the wheel. One or more may be employed, but the arrangement shown, in which there are two, each occupying one-sixth of the circumference of the wheel, is convenient. These cutters traverse in contact with or in close proximity to the rear sides of the slots *d'*, the two together acting somewhat in the manner of shear-blades. Two cigarettes are cut in each rotation of the wheel *e*, which is driven by any suitable gearing.

I claim—

1. The combination of a continuously-rotating helical cutter mounted in fixed bearings, with its axis inclined relatively to the line of movement of the cigarette-rod, a wheel rotating in a plane at right angles to the cutter and having a groove in its edge and slots transverse to the groove to receive the cutter, and means for continuously feeding forward and guiding a cigarette-rod into the groove.

2. The combination of means for continuously feeding forward a cigarette-rod, a wheel rotating in a plane at right angles to the cutter, and having a groove in its edge and slots transverse to the groove, means for guiding the cigarette-rod, a continuously-rotating shaft, nearly but not quite parallel to the cigarette-rod, and a helical cutter fixed to the shaft and engaging in turn with the slots.

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