

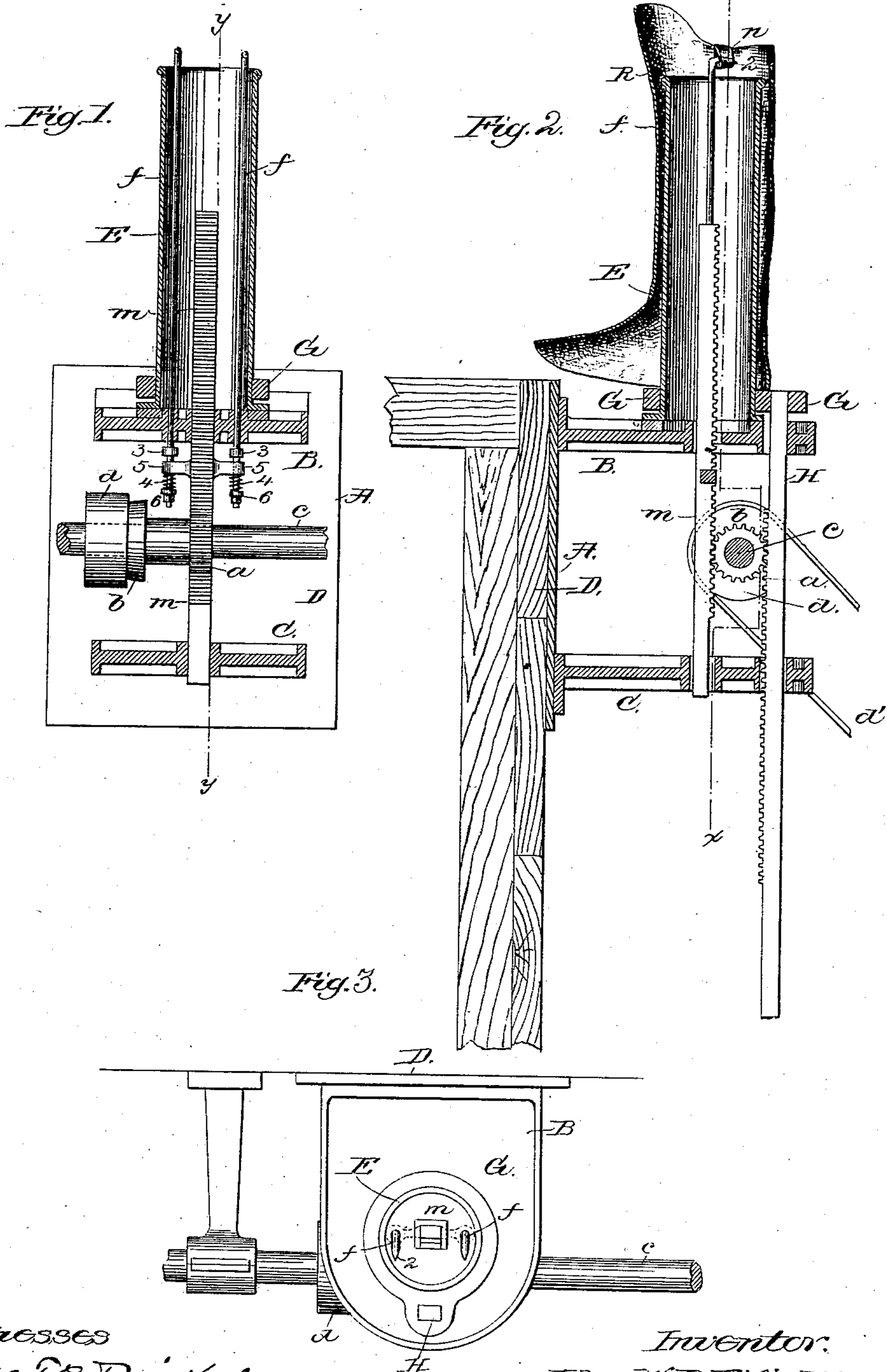
(No Model.)

J. W. D. FIFIELD.

MACHINE FOR TURNING BOOTS OR SHOES.

No. 347,233.

Patented Aug. 10, 1886.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN W. D. FIFIELD, OF NORTH BROOKFIELD, ASSIGNOR TO ALFRED H. BATCHELLER, OF BOSTON, MASSACHUSETTS.

MACHINE FOR TURNING BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 347,233, dated August 10, 1886.

Application filed May 24, 1882. Serial No. 62,324. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. D. FIFIELD, of North Brookfield, county of Worcester, State of Massachusetts, have invented an Improvement in Machines for Turning Boots or Shoes, of which the following description, in connection with the accompanying drawings, is a specification.

My improved machine contains a tube, upon which the boot-leg to be turned is placed. Within the tube are two pullers, connected, preferably in a yielding manner, with a slide-bar having rack-teeth, and reciprocated by means of a gear in engagement with it. The pullers have links to engage the boot-straps. Outside the tube, and resting against the lower end or quarter of the boot-leg, is a lifting-plate, which is moved toward the free end of the tube, outside of it, at a speed equal to the speed at which the pulling-bars are moved in the opposite direction, but inside of the tube, the lifting-plate thus moving the lower end of the boot-leg toward the end of the tube as the pullers connected with the boot-straps draw the upper end or top of the boot-leg down into the tube.

Figure 1 represents, partially in longitudinal section, a boot-leg-turning machine embodying my invention, the section being along the dotted line *xx*, Fig. 2. Fig. 2 is a longitudinal section taken alongside the slides or rack-bars which actuate the pullers, at the dotted line *yy*, Fig. 1, and lifting-plate; and Fig. 3 is a top view of the machine.

The base *A* of the machine, having brackets *B C* to support and guide the working parts, will be secured to a suitable bench, *D*, or other fixed part.

The tube *E*, about which the boot-leg to be turned is placed prior to being drawn over the top of and into the said tube, is fixed to the bracket *B*. Outside this tube is placed the lifting-plate *G*, it being secured to the upper end of a toothed slide or rack-bar, *H*, suitably guided by the brackets *B C*, and engaged by a toothed gear, *a*, on the shaft *c*, the said shaft having a conical clutch part, *b*, adapted to be engaged at suitable intervals by the fellow clutch part of a constantly-mov-

ing pulley, *d*, driven by a belt, *d'*, in any usual way. It is necessary that the gear *a* be driven positively only when the boot-leg is being drawn into the tube. While the lifting-plate *G* is being moved toward the lower end of the tube the parts *b d* may be unclutched.

If desired, I may employ with the shaft *c* and gear *a* any usual devices to rotate them in first one and then in the opposite direction sufficiently to move for the proper distance the rack or slide bars connected with the said gear *a*.

The pullers *f* are shown as two rods having hooks *2*, to engage the straps *n* of the boot-leg *R*. These pullers are located within the tube *E*, and have their ends inserted loosely through ears *5* of the slide or rack bar *m*, when springs *4* are applied to the said rods and then the nuts *b*. The rods *f* have collars *3* at opposite sides of the ears, and by means of the springs, nuts, and collars the rods are so held that the power applied to the rods comes through and is modified by the springs. The slide or rack bar *m*, guided in the brackets *B C*, is actuated by the gear *a*, and the said gear, as shown, moves the two rack-bars *m H* at the same speed in opposite direction, so that as the pullers in engagement with the boot-straps act to draw the upper end of the boot-leg into the tube over its top the lifting-plate, acting against the lower end of the boot-leg, lifts it gradually, thus obviating the binding of the boot-leg on the end of the tube, the lifting-plate co-operating with the pullers to lift the lower end of the boot-leg as the pullers draw its upper end into the tube.

I claim—

1. In a machine for turning boot-legs, a stationary tube and the brackets *B C* and base *A*, combined with the pullers and rack-bar guided in said brackets, and the lifting-plate and its rack-bar, also guided by said brackets, and a pinion to move said rack-bars in opposite directions, substantially as described.

2. The tube *E* and lifting plate or device outside of it, and the pullers *f* inside the tube, and connected in a yielding manner with the rack-bar *m*, combined with the lifting-plate and rack-bars *m* and *H*, and with a gear to

move them in opposite directions, substantially as described.

3. In a boot-leg-turning machine, the pullers combined with a rack-bar having ears 5, through which said pullers pass, and springs 4, interposed between the pullers and ears, and means, substantially as described, to limit the movement of the said pullers in said ears, substantially as described.

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

JOHN W. D. FIFIELD.

Witnesses:

W. H. HOLT,
H. D. STODDARD.