

No. 755,895.

PATENTED MAR. 29, 1904.

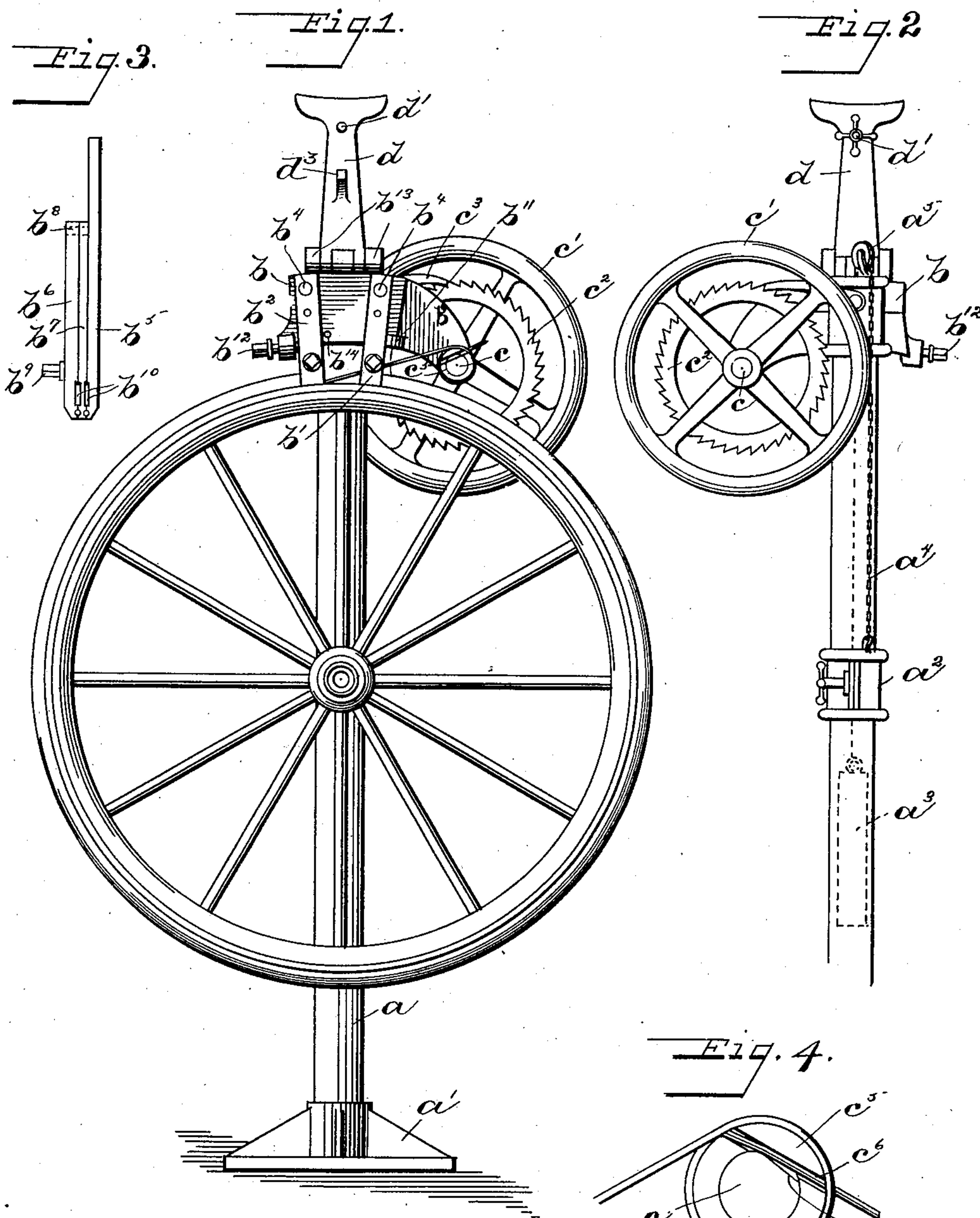
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APPLICATION FILED SEPT. 25, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

J. Lowell Walker
Percy Norton

INVENTOR

Geo. E. Linn

BY

Philo H. Brown
ATTORNEYS

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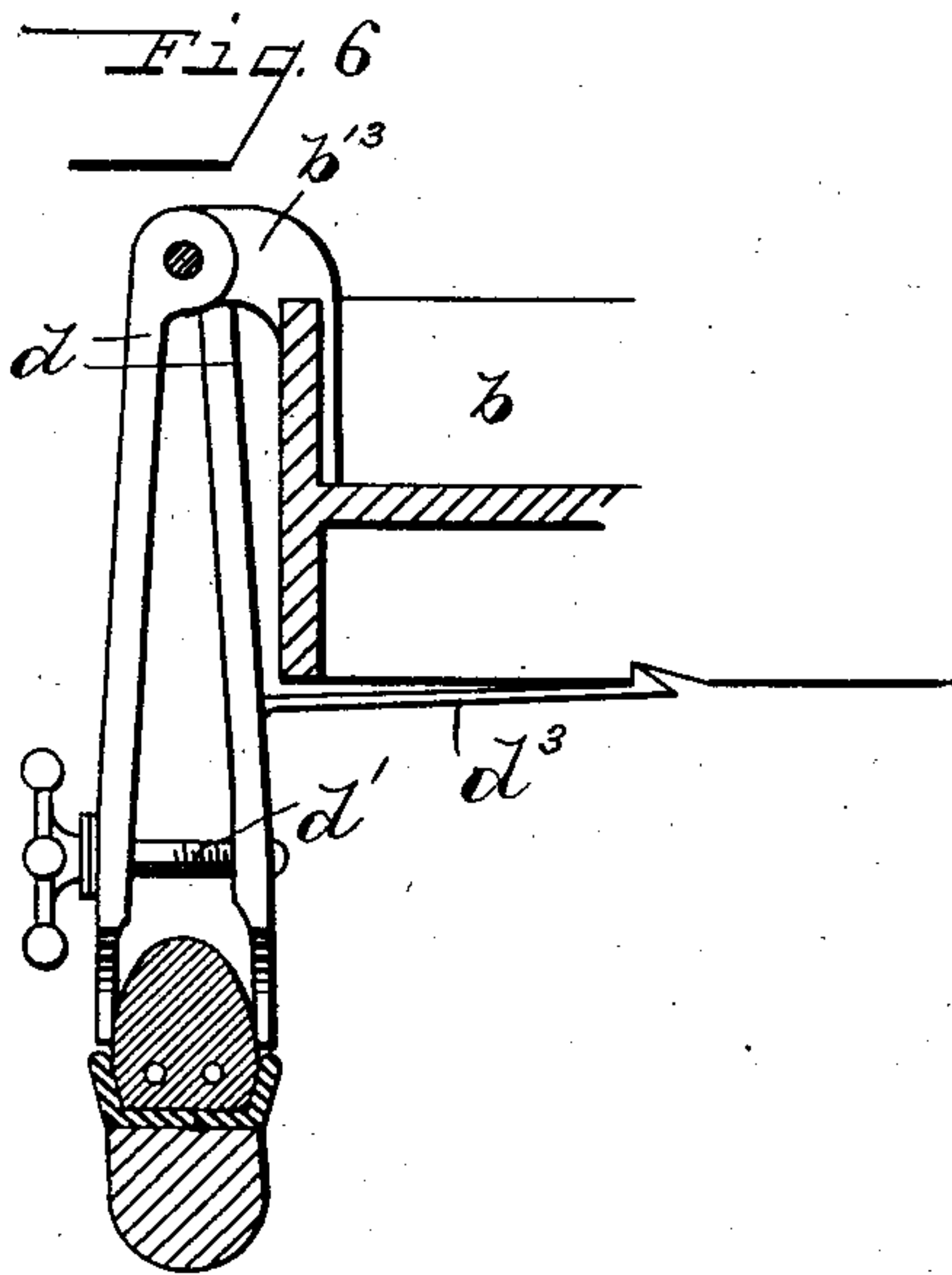
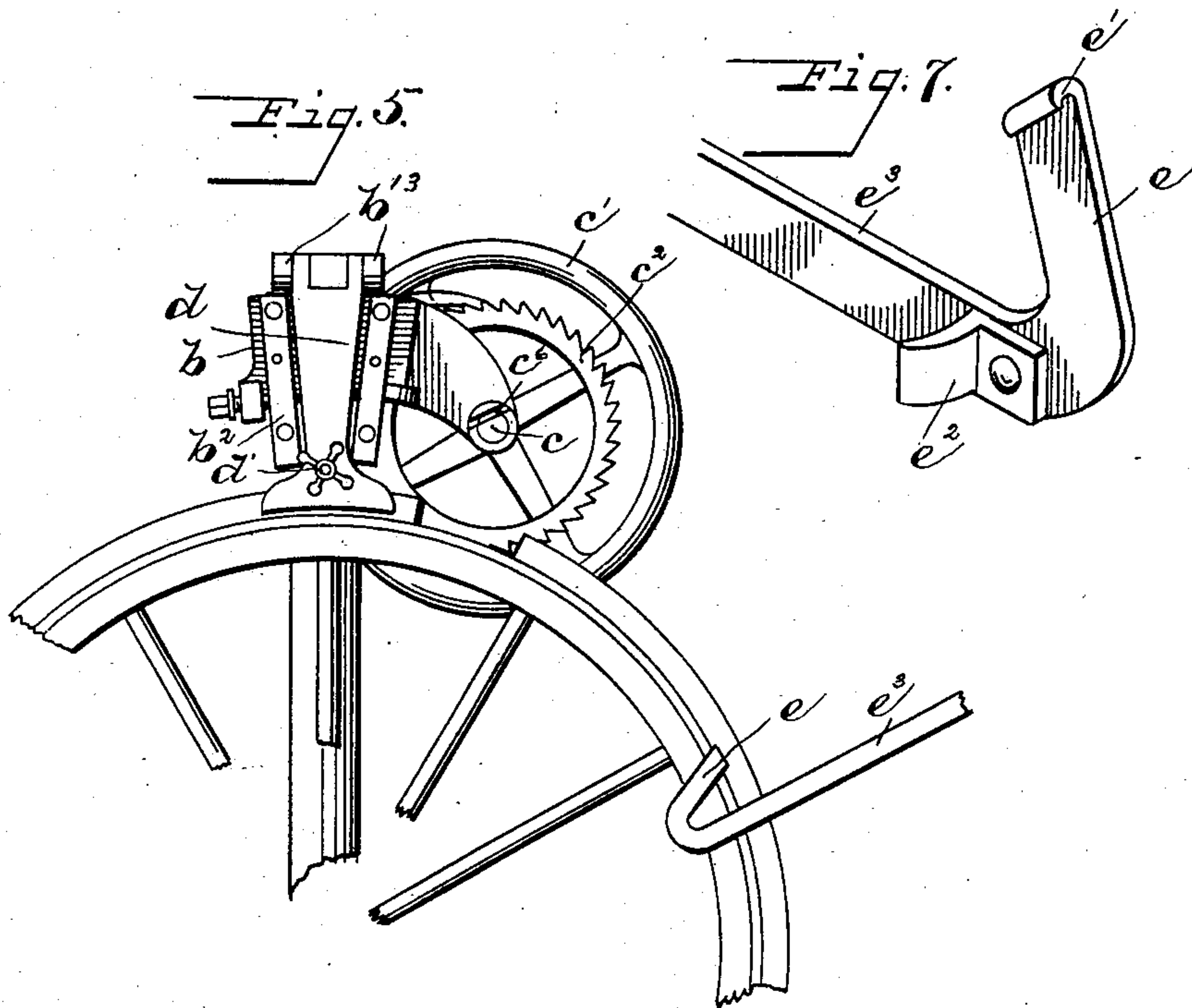
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J. Llewellyn Walker
Percy Norton

INVENTOR
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UNITED STATES PATENT OFFICE.

GEORGE E. LINN, OF SPRINGFIELD, OHIO.

MACHINE FOR EQUIPPING VEHICLE-WHEELS WITH RUBBER TIRES.

SPECIFICATION forming part of Letters Patent No. 755,895, dated March 29, 1904.

Application filed September 25, 1902. Serial No. 124,800. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. LINN, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Machines for Equipping Vehicle-Wheels with Rubber Tires, of which the following is a specification.

My invention relates to improvements in machines for equipping vehicle-wheels with rubber tires.

The object of my invention is to provide a machine consisting of few parts conveniently arranged within easy reach of the operator for securing the tire within the channel-rim and for bringing the ends of the tire together.

A further object is to increase the efficiency of the machine and reduce its cost by simplifying the parts.

My invention consists of the constructions and combinations hereinafter described, and set forth in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a front elevation of a machine embodying my invention. Fig. 2 is a rear view of same. Fig. 3 is a detail of the band-holding devices. Fig. 4 is a detail of the tension device. Fig. 5 is a detail showing the tire-holding clamps in position. Fig. 6 is another view of said tire-clamps. Fig. 7 shows a lever-arm, shown in operative position in Fig. 5, to pull the wheel around to close the space between the ends of the tire.

Like parts are represented by similar letters of reference in the several views.

In the drawings, *a* represents a hollow standard, for which I preferably use pipe of suitable size for the purpose. It has a suitable base *a'* and is provided with a sliding collar or support *a''*, having a spindle to carry the vehicle-wheel. A weight *a'''* within said standard is connected with said support by a chain *a''''*, said chain traveling over a grooved wheel *a'''''*, as shown in Fig. 2. This weight acts as a counterbalance, so that the vehicle-wheel may be readily adjustable in its relation to the clamping-jaws. At the upper end of the standard and connected thereto I provide a suitable frame *b*, preferably of cast material in

the form shown, on which I mount band-holding devices *b'* and *b''*, said devices being adapted for two or more bands or wires, as desired. On an extension *b'''* of the frame I form a journal for a shaft *c*, on which I mount a hand-wheel *c'*, having a ratchet *c''*, engaged by a pawl *c'''* on said frame. The shaft *c* is flattened at *c''''* and carries a sleeve or collar *c'''''*, having a transverse slot *c''''''*, which when said shaft is in one position will coincide or register with the flat portion of said shaft, so that after the end of the band or wire is inserted by turning the wheel and shaft the shaft will impinge and hold the wire or band, as particularly shown in Fig. 4. The band-holding devices *b'* and *b''* are pivoted at *b''''* to the frame and consist of two jaws *b'''''* and *b''''''* and an intervening tongue *b'''''''*, pivoted together at *b''''''''*, a screw *b'''''''''* operating to tighten and loosen the jaws.

To secure a tire to the wheel, the retaining band or bands are first inserted in the tire, extending beyond the ends thereof, and the tire is then placed loosely about the wheel, the clamp *b'* being tightened to hold one end of the bands, and the other ends are drawn through an opening *b''''''''* of the clamp *b'* and inserted through the slot *c''''''* of the sleeve past the flat portion of the shaft. The movement of the hand-wheel will pinch and tighten the band, and a continued movement will wind the band or bands about the sleeve until the tire is sufficiently tight in the channel, when the clamp *b''* is tightened and the bands cut and united in any suitable manner. The clamp *b'* rests against a projection *b''''''''* of the frame and the clamp *b''* against a screw *b'''''''''*, which is turned to adjust the ends of the bands to each other. In the perforation *b''''''''''* I place a pin to hold the clamp *b''* from movement while the band is being tightened, or I may use a block between the clamps *b'* and *b''* for this purpose.

I will now proceed to describe means for bringing the ends of the tire together. On a projection *b''''''''''* of the frame I hinge two clamping-arms *d*, having an operating-screw *d'*. While the tire is being secured, as hereinbefore described, the clamps *d* rest on the frame *b* in an upright position, as shown in Fig. 1; but when the tire has been secured the vehicle-wheel is lowered, and the clamping-arms

d are brought into position over the tire, the catch d^3 engaging a notch in the frame, as shown in Figs. 5 and 6, and the clamping-arms are tightened in place by the operating-
 5 screw d' . For the purpose of forcing the ends of the tire together I provide a special V-shaped lever, the arm e of which is formed with a hook end e' to engage the edge of the channel, while a pivoted lug e^2 engages the
 10 felly of the wheel, and the movement of the other arm e^3 will rotate the wheel and force one end of the tire against the other end that is held by the tire-clamp. The lug e^2 being pivoted to the lever, its flat portion will al-
 15 ways engage the felly.

Having thus described my invention, I claim—

1. The combination with a standard, a sliding wheel-support thereon, a frame fixed on the
 20 upper end of said support, two band-holding devices mounted on said frame extending downwardly into the wheel-channel, and a forwardly-extending projection at the top of said frame above said band-holding devices, of a
 25 tire-clamp consisting of two jaws having arms pivoted to said projection and a tightening device for same, said arms and jaws normally extending upwardly and resting on top of said frame but adapted to be turned downwardly
 30 with said arms between said band-holding devices and said jaws below said devices to clamp

the tire while said band-holding devices remain in normal position, substantially as specified.

2. The combination with a frame, of band- 35 holding devices, and a tension device mounted on said frame, said tension device consisting in part of a shaft and a sleeve on said shaft, said shaft being flattened on one side and said sleeve having a transverse slot cut in one end 40 thereof adapted to register with the flattened side of said shaft to receive the retaining-bands, and means to turn and hold said shaft, substantially as specified.

3. The combination with a frame and tire- 45 clamp, of a lever consisting of a single bar having a U-shaped portion with a hook end to engage one flange of the wheel-channel, and a lug pivoted to said bar near the bend forming said U-shaped portion, said lug hav- 50 ing a flat portion to engage the wheel-felly, to turn the wheel for the purpose of bringing the ends of the tire together in the wheel-channel.

In testimony whereof I have hereunto set 55 my hand this 19th day of September, A. D. 1902.

GEORGE E. LINN.

Witnesses:

PERCY NORTON,
 CHAS. I. WELCH.