

J. H. MACDONALD.

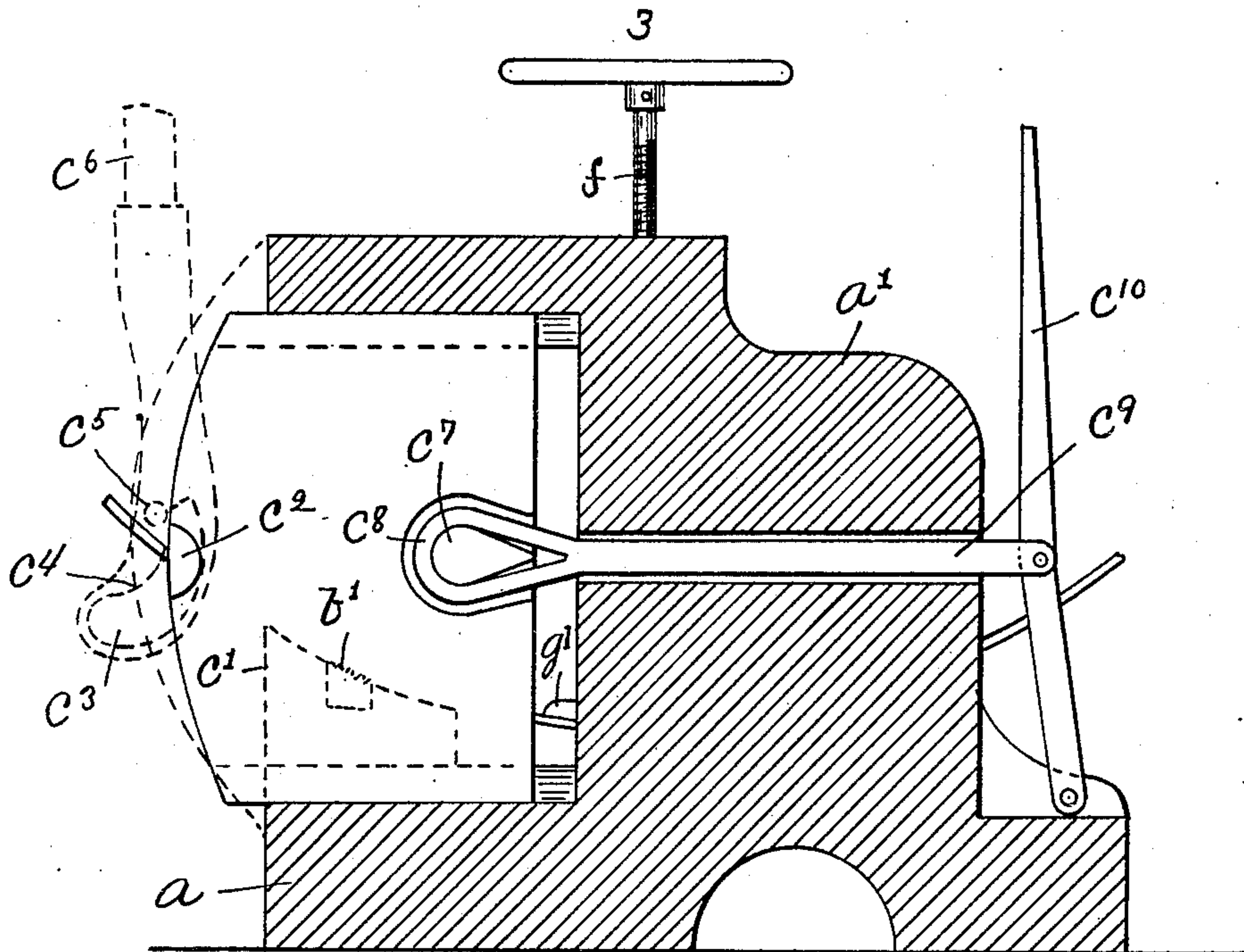
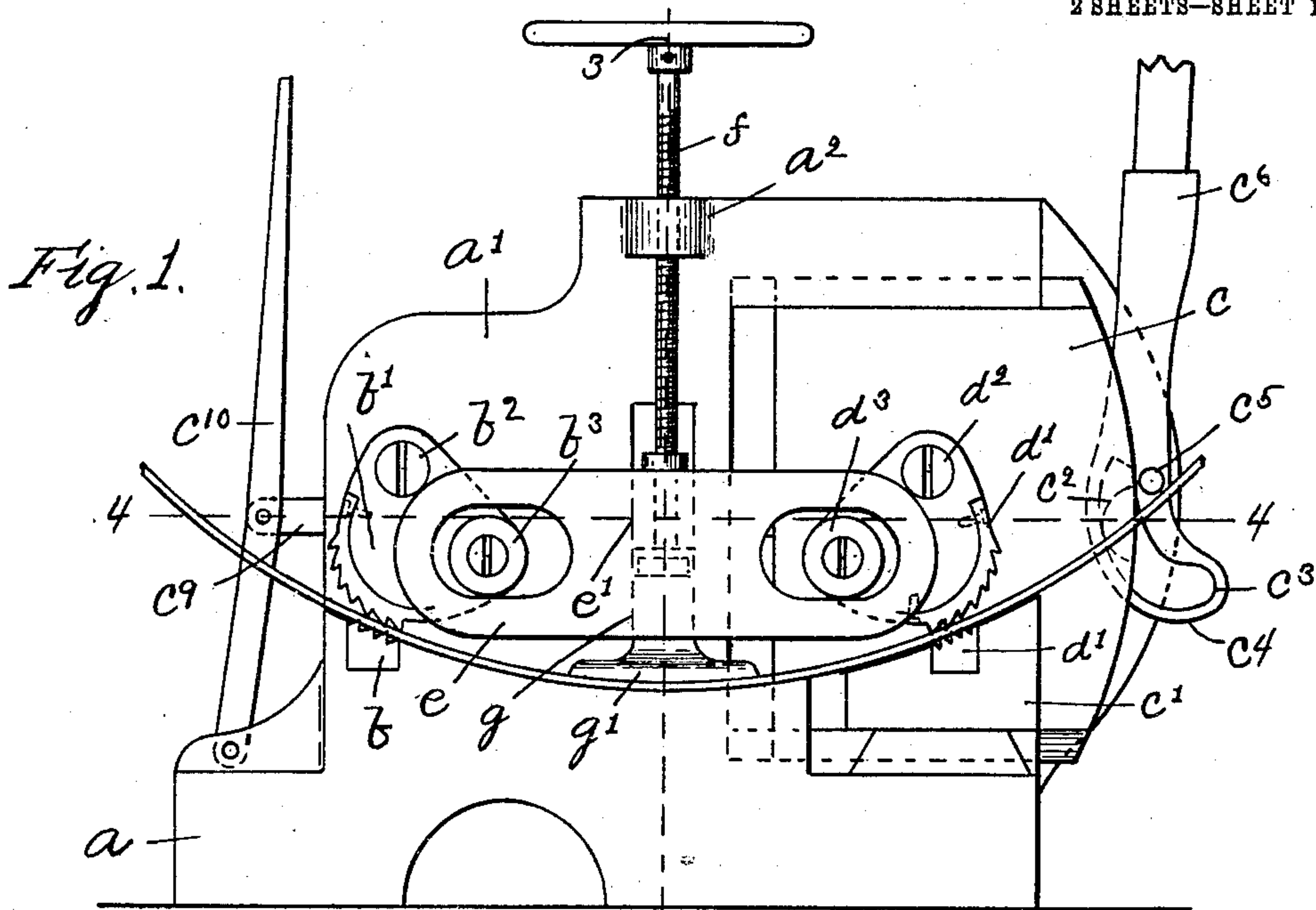
TIRE UPSETTER.

APPLICATION FILED JULY 5, 1907.

931,325.

Patented Aug. 17, 1909.

2 SHEETS—SHEET 1.



Witnesses:
H. B. Davis.
H. A. Boyle.

Fig. 2.

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Fig. 3.

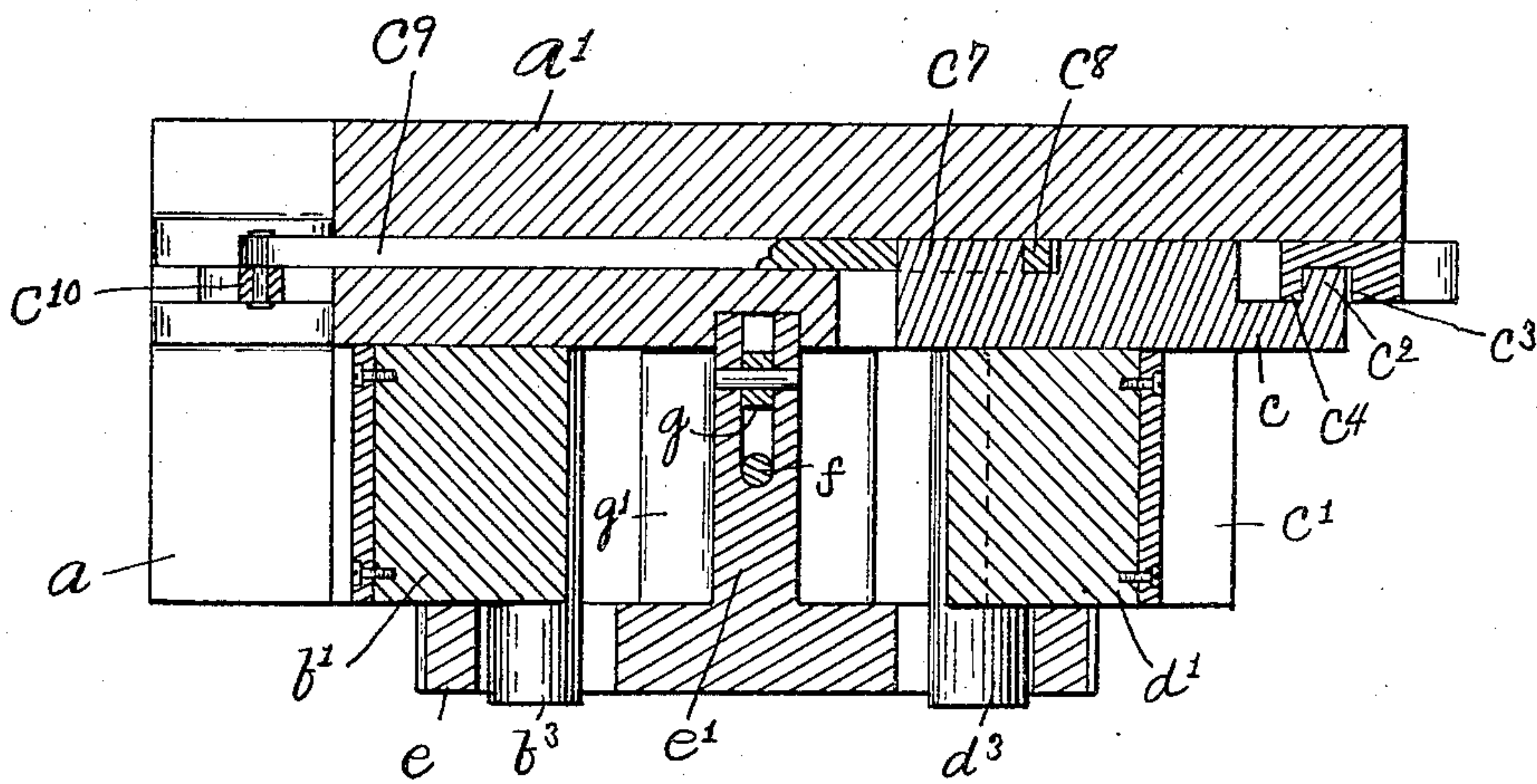
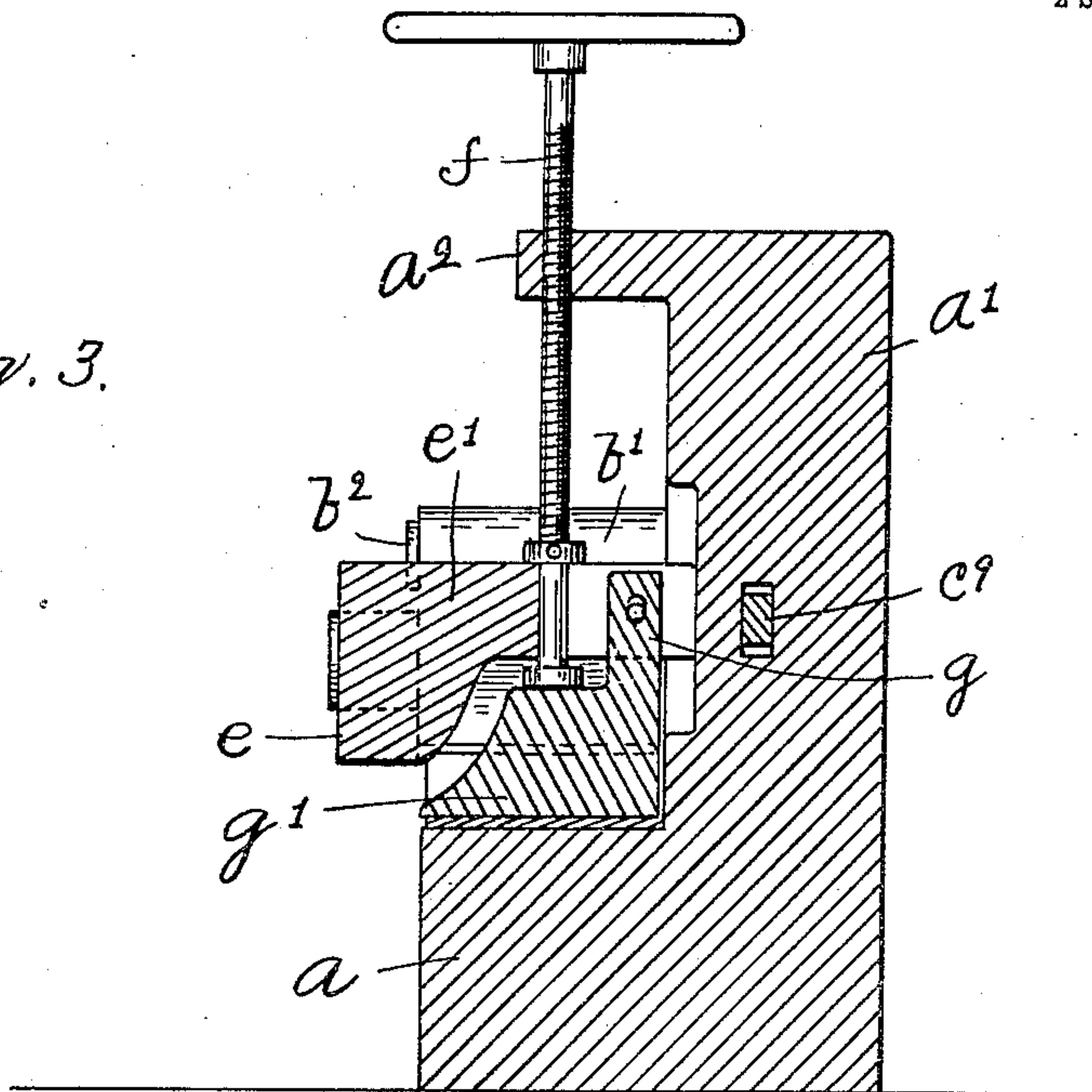


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN H. MACDONALD, OF BEVERLY, MASSACHUSETTS.

TIRE-UPSETTER.

No. 931,325.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed July 5, 1907. Serial No. 382,167.

To all whom it may concern:

Be it known that I, JOHN H. MACDONALD, of Beverly, county of Essex, State of Massachusetts, have invented an Improvement in Tire-Upsetters, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to tire upsetters, especially adapted for upsetting hot tires, and has for its object to improve the construction of the actuating means for the sliding member which carries one of the two sets of tire gripping jaws; also, to improve the construction of the means for moving the movable jaws of both sets toward and from the stationary jaws; also, to improve the construction of the clamping-member which is located between the two sets of jaws.

Figure 1 is a front elevation of the tire-upsetter embodying this invention. Fig. 2 is a rear view, the upright portions of the frame being broken away. Fig. 3 is a transverse vertical section taken on the dotted line 3—3, Fig. 1. Fig. 4 is a horizontal section taken on the dotted line 4—4, Fig. 1.

The stationary frame-work of the apparatus comprises essentially a base a and an upright a' rising from the base at its rear side. On said frame-work one set of tire-gripping jaws is located, the stationary jaw of the set being located on top of the base a and the movable jaw b' of the set being supported on the front side of the upright portion a' , above the stationary jaw. The stationary jaw b is set into a recess in the base. The movable jaw b' is made as an eccentric which is pivotally connected to the upright portion by a bolt b^2 , and the toothed portion of said movable jaw is set into a recess in the support bearing it. The frame-work is formed with a dove-tail recess to receive the sliding member c . This member is made as a flat plate, disposed in upright position in the recess provided for it. On the front side of said sliding member the other set of tire-gripping jaws is located, the stationary jaw d being located on an extension c' on said sliding member and the movable jaw d' being located above the stationary jaw. The movable jaw d' is made as an eccentric which is pivotally connected to the sliding member by a bolt d^2 , and the toothed portion of said movable jaw d' is set into a recess in the support bearing it. Each movable jaw b' and d' has a for-

wardly extended pin b^3 and d^3 which enter respectively horizontally arranged slots in a cross-head e , and movement of said cross-head vertically operates to move the jaws b' and d' toward and from the stationary jaws b and d to thereby engage and release the tire.

The cross-head e is secured to a vertically movable block e' fitted to slide in a guide-way provided for it in the upright portion of the frame-work, and said block has connected with it a vertical screw f which extends upward through a threaded hole in a boss a^2 in the upright portion of the frame-work, said screw having secured to it a hand wheel or other means by which it may be rotated to thereby raise and lower the cross-head. The lower end of the screw extends through the block and is provided both above and below the block with a flange or collar to thereby connect it with the block. The block bearing the cross-head is not only moved up and down by said screw but is carried or supported by said screw, and may be moved positively and held in whatever position it may be set. The block e' is recessed to receive the upright standard or support g , of a clamping-head g' , to thereby support said clamping-head between the two sets of tire-gripping jaws. The upright standard or support for the clamping-head is provided with a vertical slot through which a pin passes which connects said head with the block e' . The clamping-head is thus loosely connected with the block and is free to rock. The slot is of such length that when the cross-head is depressed and the clamping-head is moved into engagement with the tire, the pin will occupy a position near the lower end of the slot. If the tire should tend to buckle at a point between the tire-engaging jaws it will be prevented from doing so by said clamping-head, which ceases to move upward when the lower end of the slot engages the pin. This form of clamping-head is simple and effective and being connected with the cross-head is movable therewith.

The sliding member c has upon its rear side a lug c^2 which enters a slot c^3 in a cam pivoted at c^5 to the frame-work at one end thereof, and a hand lever c^6 is connected to said cam which serves as a means for operating it to move the sliding member in opposite ways, and thereby move one set of jaws with respect to the other set, said lever moving outwardly or in a direction away

from the frame to move the sliding member to operate the jaws. The sliding member has also upon its rear side a lug c^7 which is embraced by the loop-like end c^8 of a horizontal link c^9 which extends through a hole in the upright portion of the frame-work at the opposite end thereof and is connected with an actuating lever c^{10} which is pivoted to the base and which is also movable outwardly or in a direction away from the frame to move the sliding member to operate the jaws. The lug c^7 is made oblong and is disposed with its longest diameter in the direction of movement of the link c^9 , so as to better adapt it to resist a severe strain. The outer end of the lug is flush with the back-side of the plate on which it is formed, and to form the lug a groove is cast in the plate which is oblong in shape and both of its ends terminate at the edge of the plate. The loop-like end c^8 of the link which embraces the lug is contained in said groove and when the link is moved in a direction toward the right, Fig. 2, said loop-like end will engage the inner wall of the groove, or the lug which is formed by the groove, and move the plate, and when the link is moved in the opposite direction said loop-like end will engage the outer wall of said groove and move the plate in the opposite direction. The lug is located substantially midway the height of the upright member c , and the link c^9 extending therefrom is connected to the actuating lever c^{10} at a point above the pivot of said lever and the hole in the frame through which said link extends is made large enough to provide for the sliding up and down movement of said link, which is required of it as the actuating lever c^{11} is moved on its pivot. The lever c^6 serves as the main actuating lever and the lever c^{10} as the supplementary actuating lever, the former being operative to move the sliding member with or without the assistance of the supplementary lever c^{10} , and the latter only being operative to move said sliding member in conjunction with the main actuating lever.

The supplementary actuating lever will be employed only for heavy tires as for light tires the main actuating lever alone is sufficient.

It will be noted that the two actuating levers are located at opposite ends of the frame and that they both move outwardly or in a direction away from the frame when operated to move the sliding member, so that the two operators will stand facing each other when operating said levers and will not interfere with each other.

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

1. In a tire-upsetter, the combination of two sets of tire-gripping jaws, each set comprising a stationary jaw and a movable jaw, a slotted cross-head engaging pins on said movable jaws, means for moving said cross-head vertically, a recessed support bearing said cross-head, and a clamping-head having an upright standard or support which enters the recess in said support and is pivotally connected thereto, substantially as described.

2. In a tire-upsetter, the combination of two sets of tire-gripping jaws, each set comprising a stationary jaw and a movable jaw, a cross-head engaging the movable jaws, a support bearing said cross-head movable in a vertical guideway provided in the frame-work, an independent clamping-head located between said two sets of jaws which is loosely connected to said support, substantially as described.

3. In a tire-upsetter, the combination of two sets of tire gripping jaws, each set comprising a stationary jaw and a movable jaw, a cross-head engaging the movable jaws, a recessed support bearing said cross-head, means for moving it up and down, a clamping-head having a slotted upright standard which enters the recess in said support, and a pin extended through the recessed portion of said support which passes through the slot in said standard, substantially as described.

4. In a tire upsetter, the combination of two sets of tire gripping jaws, a vertical plate contained in a recess in the frame-work and adapted to slide therein, its upper and lower edges entering guideways formed in said recess, said plate having on its front side one of said sets of jaws and having on its back side two lugs at about the same elevation, a main actuating lever pivoted to one end of the frame and engaging one of said lugs, a horizontal link engaging the other lug which extends through a hole in the frame to the opposite end thereof, and a supplementary actuating lever pivoted to said opposite end of the frame to which said link is connected, substantially as described.

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

JOHN H. MACDONALD.

Witnesses:

B. J. NOYES,
H. B. DAVIS.