

No. 765,868.

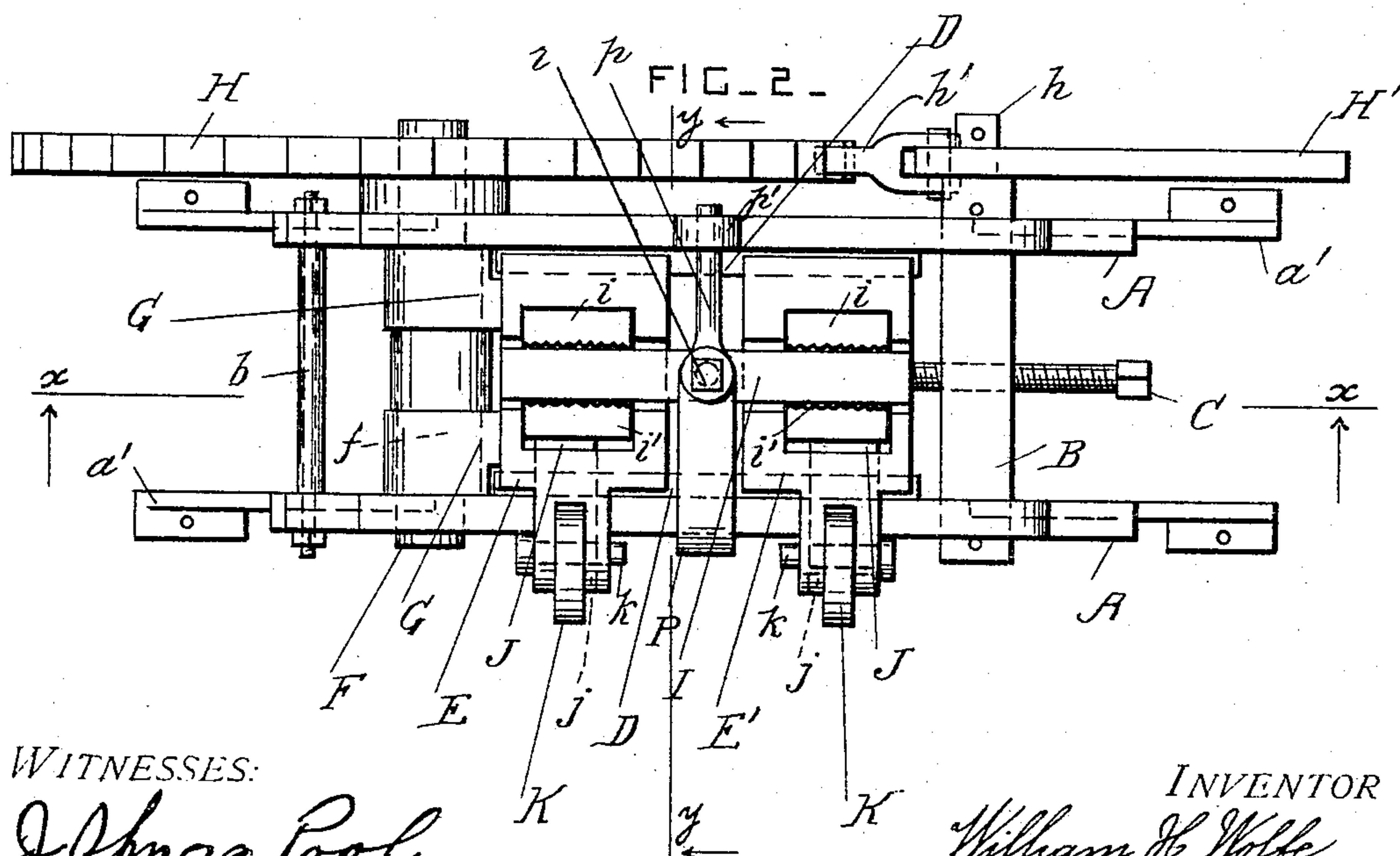
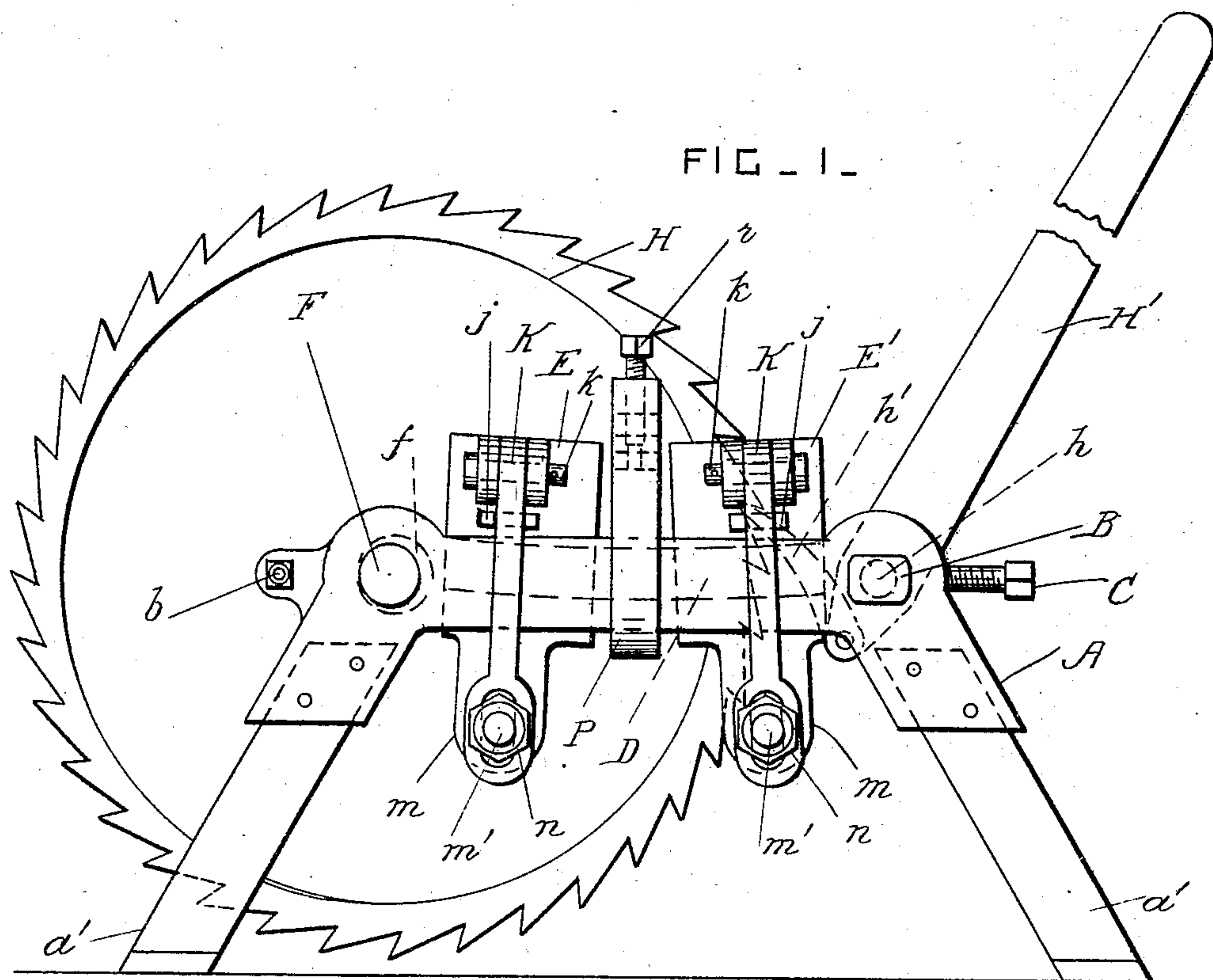
PATENTED JULY 26, 1904.

W. H. WOLFE.
TIRE UPSETTING MACHINE.

APPLICATION FILED MAR. 2, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

J. Spring Poole
 Mrs. V. Bates

INVENTOR

William H. Wolfe

By *Herbert W. Jenner*
Attorney

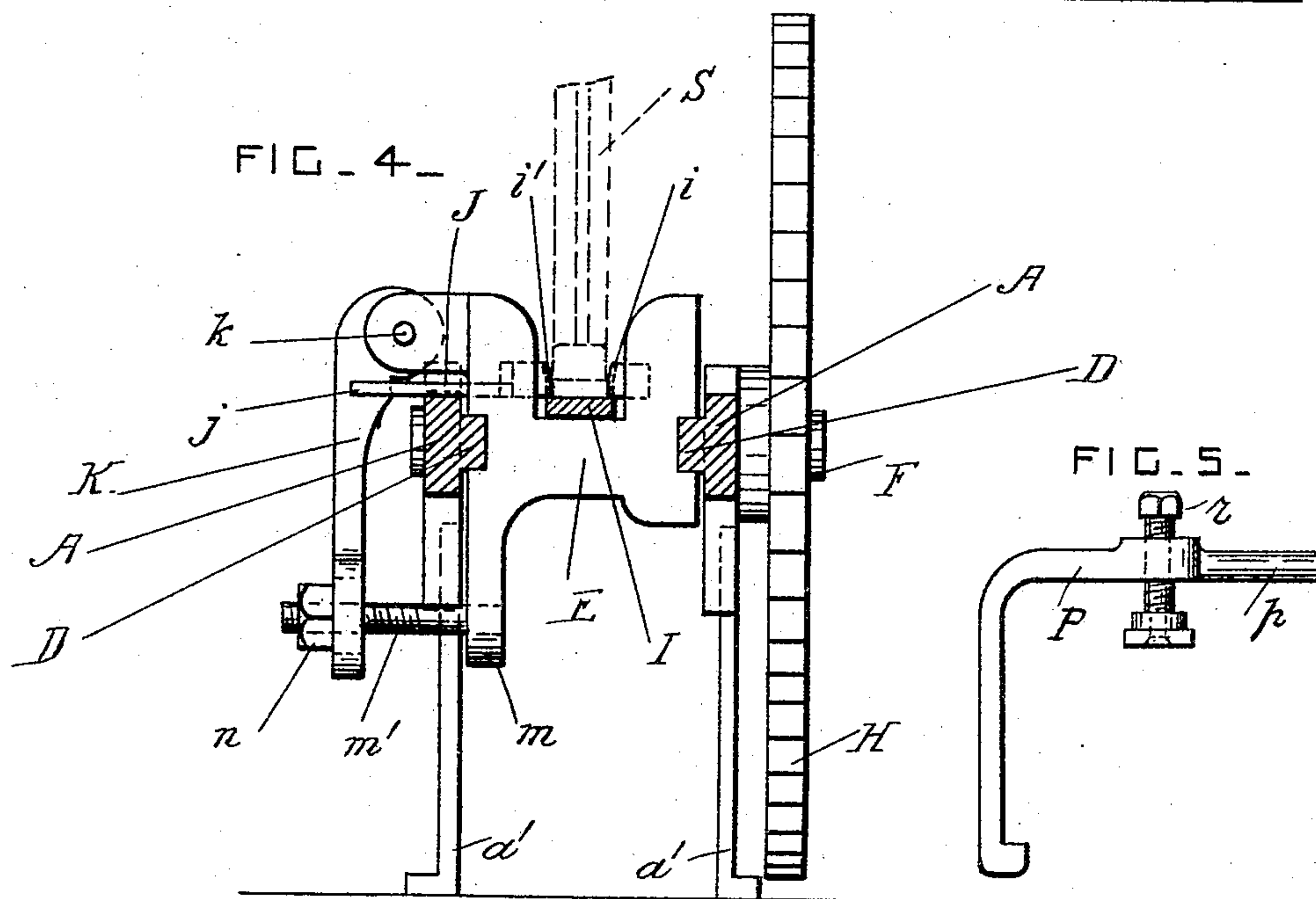
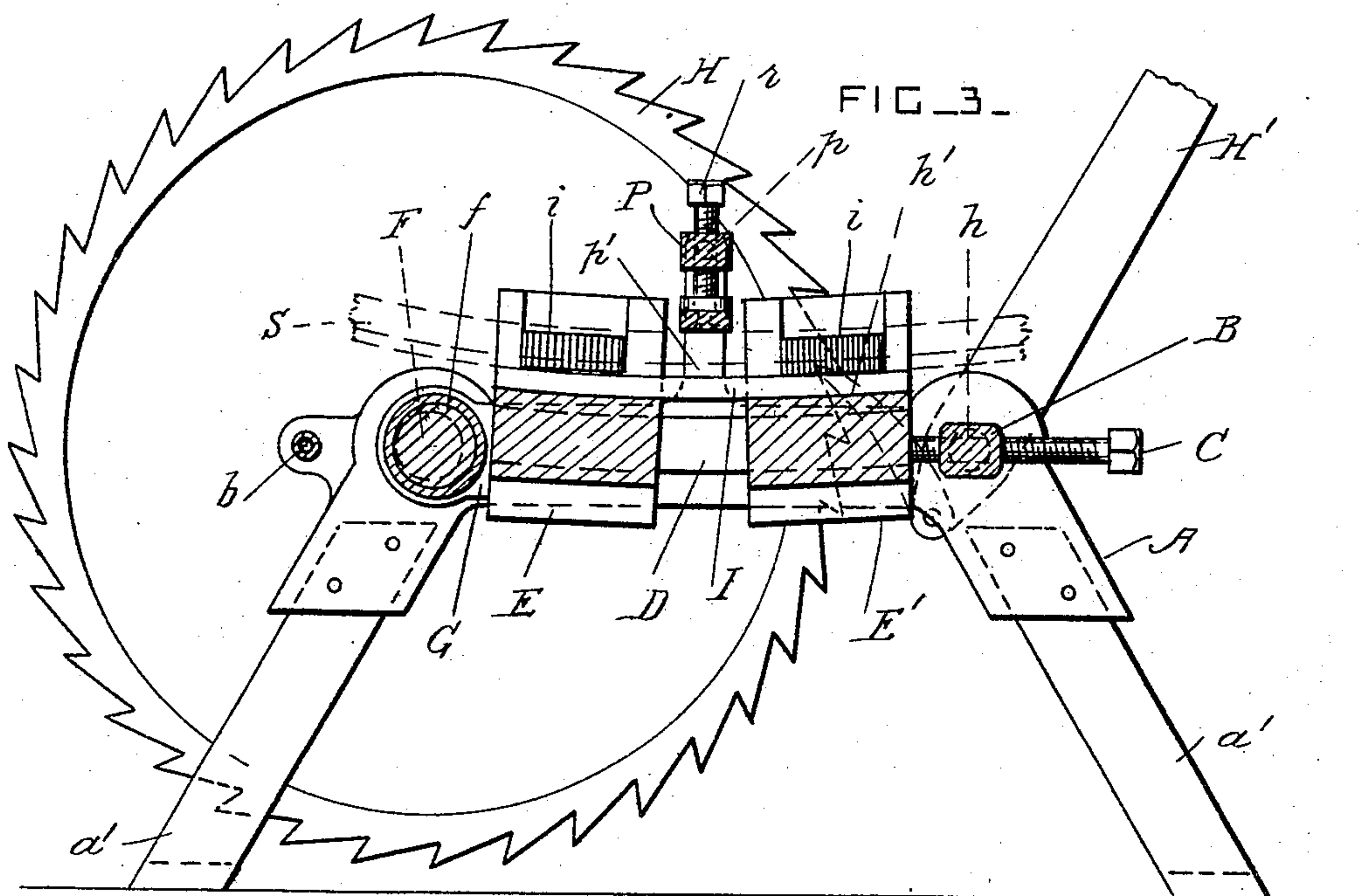
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J. C. P. Pool
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BY

Herbert W. Jenner
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. WOLFE, OF WAYNESBORO, PENNSYLVANIA.

TIRE-UPSETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 765,868, dated July 26, 1904.

Application filed March 2, 1904. Serial No. 196,152. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WOLFE, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Tire-Upsetting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to machines for upsetting and shrinking tires without removing them from the wheels and when cold; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of the machine. Fig. 2 is a plan view of the machine. Fig. 3 is a longitudinal section through the machine, taken on the line *xx* in Fig. 2. Fig. 4 is a cross-section through the machine, taken on the line *yy* in Fig. 2. Fig. 5 is a detail view of the hooked clip.

A represents the two side frames of the machine, which are preferably made of cast-steel, so that they may be very strong and rigid; but any other strong material may be used in carrying out the invention. These frames have legs *a'* for supporting them in a convenient position, and *b* is a distance-piece at one end of the side frames. At the other ends of the side frames a cross-bar B is secured in suitable slots in the frames, and C is a screw which is arranged longitudinally between the frames and which works in a hole in the said cross-bar. The two side frames have curved guide-tracks D, which project laterally from their inside surfaces.

E and E' are two similar head-blocks which are slidable upon the said curved guide-tracks at the middle part of the machine and which will be more fully described hereinafter. At the other end of the machine from the screw C a shaft F is journaled in the side frames, and this shaft is provided with an eccentric or cam *f*.

G represents boxes which work upon the eccentric and which bear against one of the

head-blocks E, the other said head-block E' 50 being in contact with the said screw C.

H is a ratchet-toothed wheel which is secured upon the shaft F outside the frames.

H' is the operating-lever of the machine, which is pivoted upon a pin *h*, which preferably projects from one end of the cross-bar B, but which may project from any other convenient support. A pawl *h'* is pivoted to the shorter end of the operating-lever and engages with the teeth of the wheel, so that the said wheel and the eccentric *f* are revolved step by step when the operating-lever is moved back and forth.

I is a curved segment-plate which rests on the two head-blocks. This segment-plate is removable, and it supports the wheel while its tire is being upset. Segment-plates of various curvature may be used, according to the size of the wheels being operated on in the machine.

Each head-block has a stationary serrated jaw *i* upon one side and an opposed and slidable serrated jaw *i'* upon the other side. These jaws are carried in recesses in the head-blocks, so that they cannot slide endwise of the head-blocks.

A plunger J is slidable in each head-block behind the slidable jaw *i'* and is provided with a forked outer end *j*.

K is a lever which is pivoted to each head-block by a pin *k* and which engages with the forked end of its plunger. Each head-block has a downwardly-projecting arm *m*, and *m'* is a screw-threaded stud which projects from the said arm and engages with a hole in the lower end of the lever K. A nut *n* is provided on the said stud, and when the said nut is screwed up it causes the lever to operate the plunger and press the slidable jaw toward the stationary jaw.

P is a hooked clip which is slipped under the middle part of one of the side frames. This hooked clip has a projection *p* at its upper part which is inserted in a hole in a lug *p'* on the other side frame. This clip carries a screw *r*, which has a shoe on its lower end. S indicates a portion of the wheel-rim and its tire, showing how it is held upon the curved

segment-plate by means of the hooked clip and its screw.

The operation of the machine is as follows: The wheel is first secured in position on the segment-plate and the head-blocks are set at the required distance apart. The tire is then gripped tightly in two places by the serrated jaws of the head-blocks. If desired, the screw may be slackened, so that the wheel is not locked to the frames. The eccentric is now revolved, so that one head-block is moved toward the other head-block, which abuts against the screw C, and the portion of the tire between the head-blocks is upset. When the eccentric releases the head-block adjacent to it, the screw C is turned, so as to take up the slack or the amount compressed or upset, and the wheel is again revolved, so that the eccentric again forces the one head-block toward the other and the tire is again upset. This action is repeated until the tire has been tightened upon the wheel to the required extent.

By making both head-blocks slidable they can be arranged at various distances apart, and the distance can be adjusted by means of the screw C.

What I claim is—

1. In a tire-upsetting machine, the combination, with side frames provided with guide-tracks, and head-blocks slidable on the said tracks and arranged at an angle with each other and provided with means for gripping the edges of the tire in two places; of a cross-bar secured at one end of the frames, a screw working in the said cross-bar and bearing against one of the said head-blocks, and a revoluble eccentric or cam supported at the other end of the said frames in operative relation with the other said head-block.

2. In a tire-upsetting machine, the combination, with side frames provided with guide-tracks, and two head-blocks arranged at an angle with each other and provided with means for gripping the edges of a tire; of a cross-bar at one end of the frames, a setting-up screw working in the cross-bar and bearing against one head-block, a shaft journaled at the other end of the frames and provided

with an eccentric, a box mounted on the said eccentric and bearing against the other said head-block, a ratchet-toothed wheel secured on the said shaft, and a pivoted lever and a pawl for revolving the said wheel step by step.

3. In a tire-upsetting machine, the combination, with a head-block provided with a stationary gripping-jaw at one side and a slidable gripping-jaw at the other side, of a slidable plunger carried by the said head-block and bearing against the back of the said slidable jaw, a lever pivoted to the said head-block and bearing against the said plunger, and tightening mechanism arranged between the free end of the said lever and the said head-block.

4. In a tire-upsetting machine, the combination, with side frames, of a head-block slidable in the side frames and provided with a stationary gripping-jaw on one side and a slidable jaw on the other side, said head-block having also a downwardly-projecting arm arranged between the side frames, a plunger slidable in a hole in the said head-block and bearing against the back of the said slidable jaw, a lever pivoted to the said head-block and bearing against the said plunger and arranged outside the side frames, and a tightening-screw arranged between the free end of the said lever and the lower end of the said arm.

5. In a tire-upsetting machine, the combination, with two side frames, and two head-blocks provided with gripping devices for the tire and carried by the said side frames; of a hooked clip which engages with the middle part of one of the side frames between the said head-blocks and which has a projection which engages with the other said side frame, a fastening-screw carried by the said clip, and a segment-plate supported by the said head-blocks under the said fastening-screw.

In testimony whereof I have affixed my signature in the presence of two witnesses.

WILLIAM H. WOLFE.

Witnesses:

CHAS. B. CLAYTON,

HARRY E. FLANAGAN.