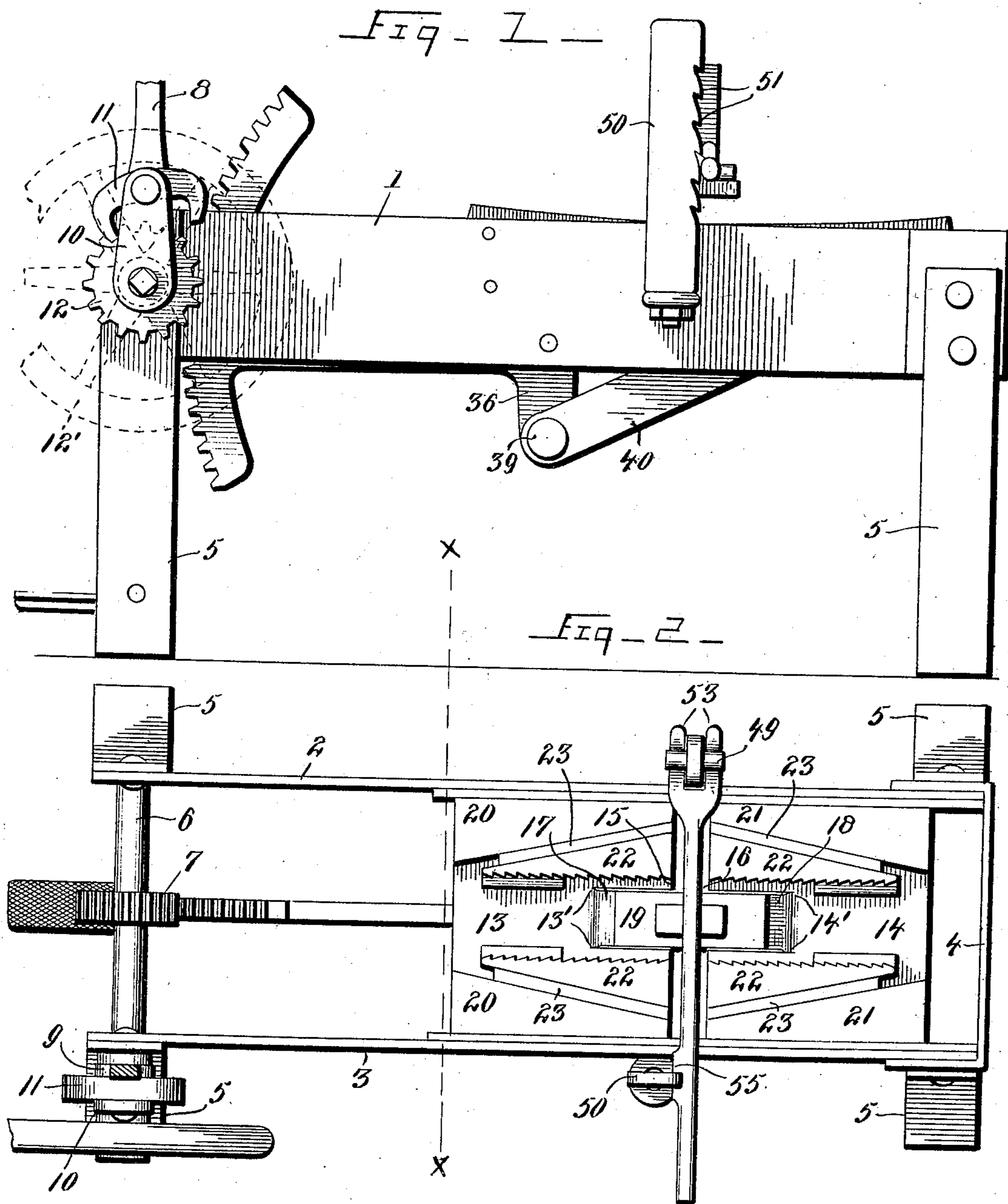


No. 843,062.

PATENTED FEB. 5, 1907.

C. W. BAKER.  
TIRE SETTING MACHINE.  
APPLICATION FILED JAN. 18, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

*W. F. Dyer*  
*E. Q. Langworthy*

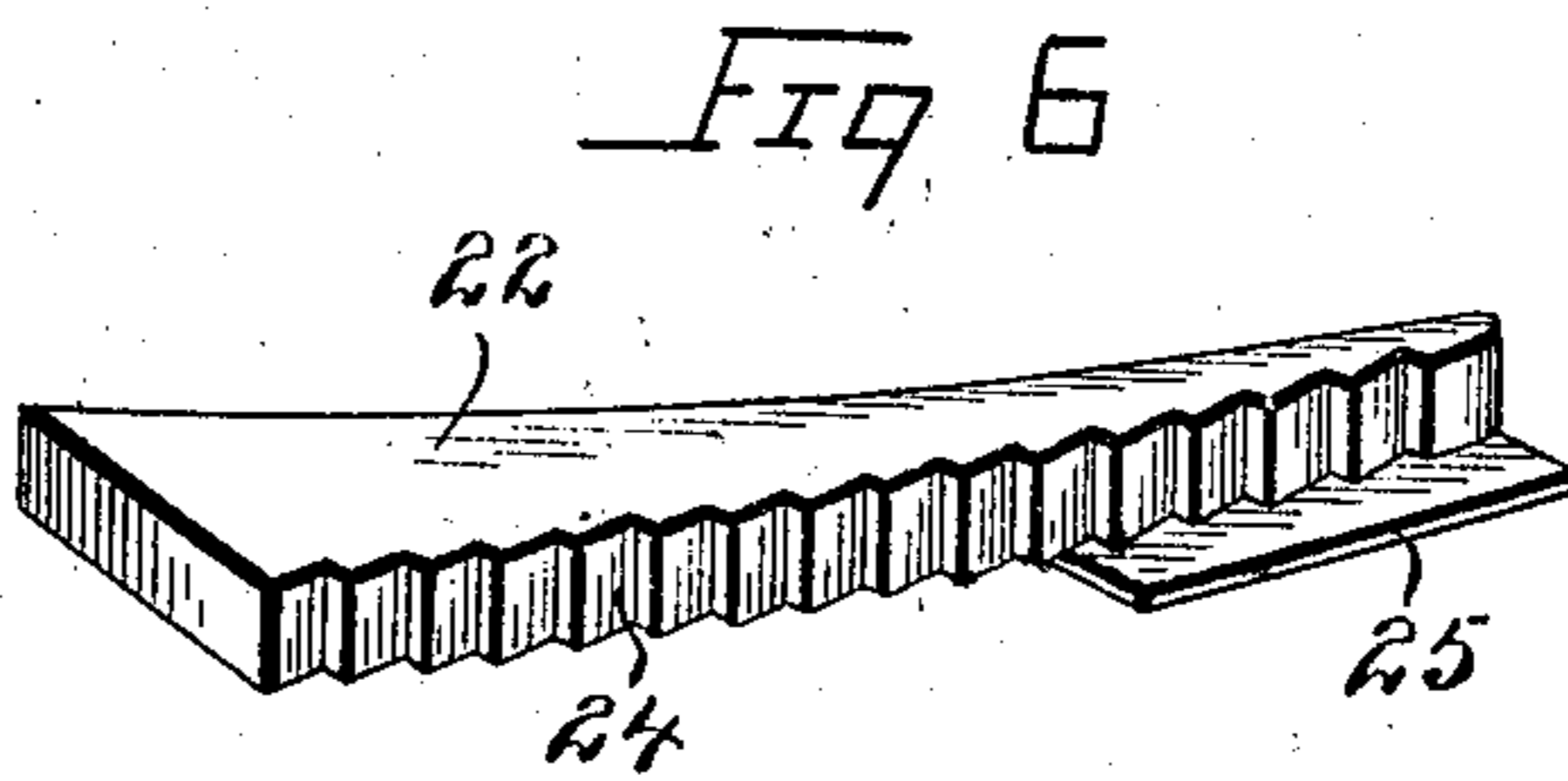
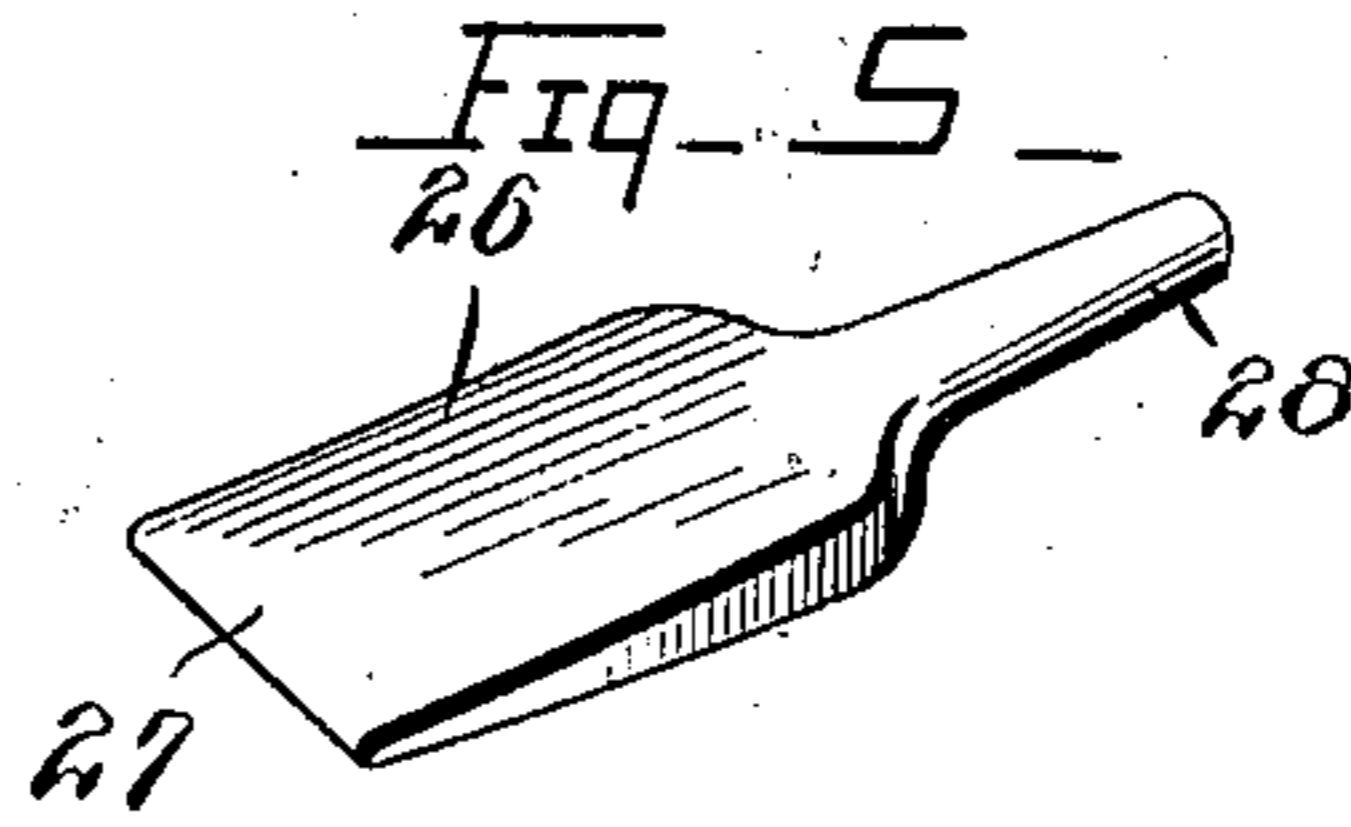
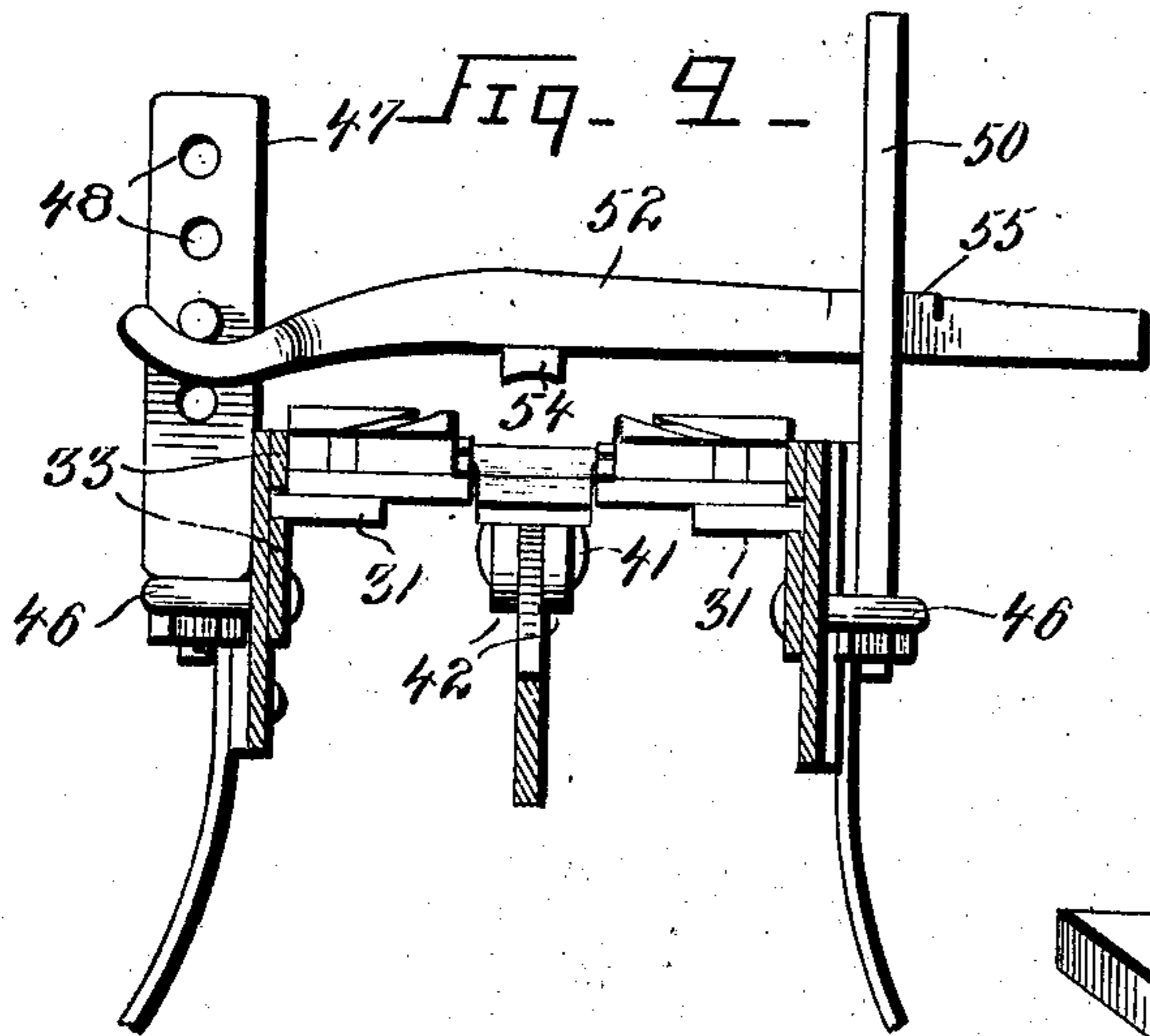
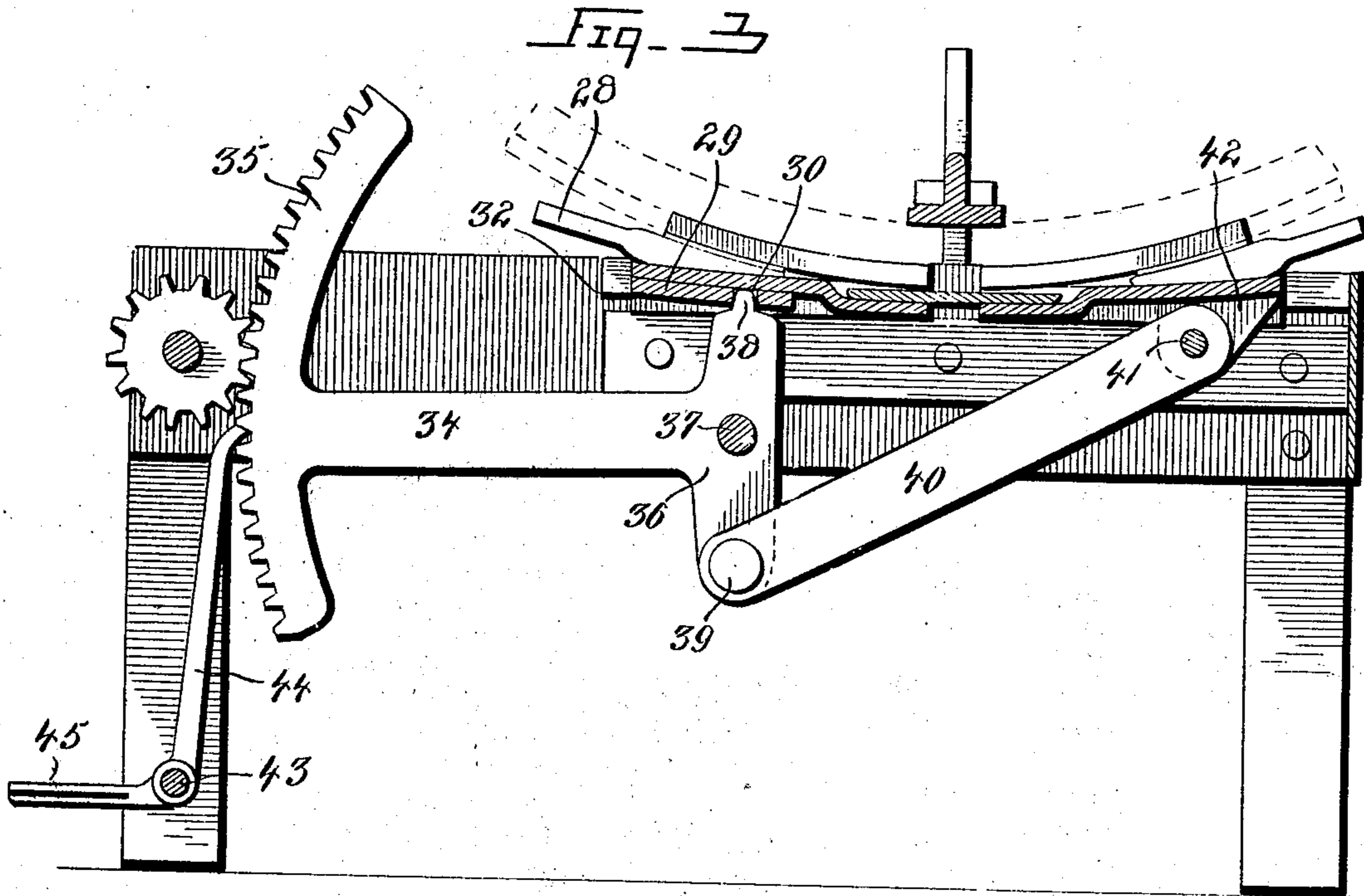
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

CHARLES WALTER BAKER, OF CELESTE, TEXAS.

## TIRE-SETTING MACHINE.

No. 843,062

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed January 18, 1906. Serial No. 296,590.

*To all whom it may concern:*

Be it known that I, CHARLES WALTER BAKER, a citizen of the United States, residing at Celeste, in the county of Hunt and State of Texas, have invented certain new and useful Improvements in Tire-Setting Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to machines for setting tires and particularly to such as comprise means for setting the tires while cold.

The object of the invention is the production of a machine which shall be simple in construction, easily operated, and which is adapted for setting a cold tire as securely and accurately as though "shrunk" to the felly as in ordinary practice.

The invention will first be described in connection with the accompanying drawings, in which—

Figure 1 is a broken side elevation of my improved machine. Fig. 2 is a top plan of the same. Fig. 3 is a vertical longitudinal section, partly in elevation. Fig. 4 is a vertical transverse section on line  $x-x$  of Fig. 2. Fig. 5 is a perspective view of an adjusting wedge. Fig. 6 is a perspective of a clamping member.

Referring to the drawings, in which like reference-numerals indicate like parts throughout the several views, 1 denotes the frame of the machine, comprising sides 2 and 3 and end 4, all supported by legs 5, of any ordinary form.

Revolubly mounted in sides 2 and 3 at one end thereof is a shaft 6 on which, equidistant from said sides, is rigidly fixed a gear-wheel 7. A lever 8, pivotally mounted on shaft 6 near one end thereof outside the frame side 1, has pivotally mounted between its head-plates 9 and 10 a two-pointed dog 11, designed to cooperate with cog-wheel 12, fixedly attached to shaft 6 between head-plates 9 and 10 of lever 8 and immediately below and in vertical alinement with dog 11, all as shown in Figs. 1 and 2. A power-wheel 12' is rigidly attached to the extreme end of shaft 6, beyond lever 8.

13 and 14 denote two similar movable beds extending nearly the full width of the frame, formed preferably of cast or forged metal and adapted for simultaneous reciprocatory movement longitudinally of the frame. These beds, at 13' and 14', respectively, are double slitted for a portion of their length

from their respective proximate edges 15 and 16 inward toward their outer edges, the tongues 17 and 18 thus formed being bent down into a plane lower than that of the remainder of the bed, as shown in Fig. 3.

19 designates a plate designed to rest on the depressed tongues 17 and 18.

Extending the full length of and permanently attached to the upper surface of beds 13 and 14, respectively, in corresponding position, are two pairs of quadrilateral wedge-plates 20 and 21.

22 denotes removable wedge-shaped clamping members, four in number, designed when in operative position to rest on the beds in position reverse to that of wedges 20 and 21, being separated therefrom by removable binding-strips 23, all as shown in Fig. 2. These clamping members, slightly concave in form, are formed with one serrated edge (denoted by 24) beyond which projecting from one end of said members and lying practically flush with the under surface thereof is a flange 25, for a purpose to be hereinafter described.

26 denotes two similar removable adjusting wedges increasing in thickness from their outer edges 27 toward their handles 28 and designed to assist in adjusting the machine to different-size wheels.

Permanently attached to the under surface of bed 13 is a bed-plate 29, formed with an aperture 30 near one end, as shown in Fig. 3.

Guide-bars 31, a pair correspondingly positioned on each bed, are permanently attached to the bed bottom, one on each side thereof and slightly overlying the bed edges, are adapted to fit in guideways 32, formed by parallel guide-plates 33, securely attached to the inner face of frame sides 2 and 3, all as shown in Figs. 3 and 4.

A T-lever 34 formed on one end with segment-gear 35 and on the opposite end with head 36 is rigidly attached to the middle of shaft 37 revolubly mounted between sides 2 and 3 of the frame. Projecting from the upper arm of head 36 is a lug 38, designed to snugly fit into aperture 30 of bed-plate 29. To the lower end of head 36 by means of bolt 39 is pivotally attached one end of a link-rod 40, the other end of which is pivotally swung by means of bolt 41 between lugs 42 depending from bed 14. In alinement with segment-gear 35 and rigidly fixed to shaft 43 revolubly mounted between legs 5 near the

lower end thereof is a dog 44, the upper end being adapted to engage the teeth of said gear and the lower end of which is bent and formed into a presser-foot 45 by means of which the dog is forced into and released from engagement with the segment-gear.

46 denotes a pair of eyebolts rigidly attached to each side of the frame in alinement with the proximate edges of beds 13 and 14 when said beds are in closed position.

47 represents a binding-post securely held in one eyebolt and provided with a series of apertures 48 in vertical alinement each adapted to receive a stop-pin 49. 50 denotes another binding-post held in the opposite eyebolt and formed with a series of notches 51 on the upper portion of its length. A binding-bar 52 is formed with a forked head 53, designed to embrace post 47, the curved prongs of the head passing beneath pin 49, positioned in one of the apertures 48. A clamping-shoe 54 concave on its under face is securely attached to bar 52 midway that portion of its length overlying the frame when in operative position.

55 denotes a locking edge formed integral with bar 52 and adapted to engage notches 51 when said bar is forced to binding position.

The operation of the machine is as follows: Assuming the beds to be in open position, as shown in Fig. 2, the wheel with tire fitted to the felly thereof is set between the four clamping members 22 longitudinally of the frame, the tire resting on flanges 25 of said members and at its lowest point on plate 19. An adjusting-wedge 26 is next inserted beneath the outer end of each pair of clamping members a sufficient distance to cause them to conform to the curvature of the tire being operated upon. By means of inserting a sufficient number of binding-strips 23 between plates 20 21 and the clamping members said members are now forced toward each other laterally of the frame until they securely grip the tire between their serrated edges. Shaft 6 is now revolved in a direction away from the beds either by means of lever 8 cooperating with cog-wheel 12 through the medium of

dog 11 or by means of power-wheel 12' and causing gear-wheel 7 to mesh with segment-gear 35, which in the above-described position of the parts is at or near its lowest point of travel. Continued revolution of shaft 6 will of course move gear 35 in its upward path of travel and force beds 13 and 14 toward each other supported and guided by guide-bars 31 in guideways 32, movement of bed 13 being effected through coöperation of lug 38 with aperture 30 in bed-plate 29 and movement of bed 14 through the coöperation of link 40 with head 36 of the T-lever. As the beds approach each other a strenuous pull is exerted on that portion of the tire free from the clamping members from its highest point downward in both directions along the felly, resulting in tightly binding said portion of the tire to its felly, while an equally strenuous crowding or pushing force is exerted toward its lowest point on that portion of the tire gripped by the clamping members, resulting in "upsetting" the tire at said point in the direction of the felly, the plate 19 effectively overcoming the tendency to upset in the opposite direction and, as obvious, forcing the upset portion into the felly and securely binding the whole tire to the felly.

Having thus described the invention, what is claimed as new is—

A tire-setting machine comprising a main frame, beds movably mounted in the frame, clamping members freely movable on the beds, a main shaft revolvably supported by the frame, a T-lever connected to and operated by said shaft, one arm of the lever engaging one of the beds, and a second lever engaging the other bed and connected to the other arm of the T-lever, whereby in the operation of the shaft the beds are reciprocated in relatively opposite directions.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

CHARLES WALTER BAKER.

Witnesses:

R. P. BRINDLEY,  
F. A. BEZLEY.