

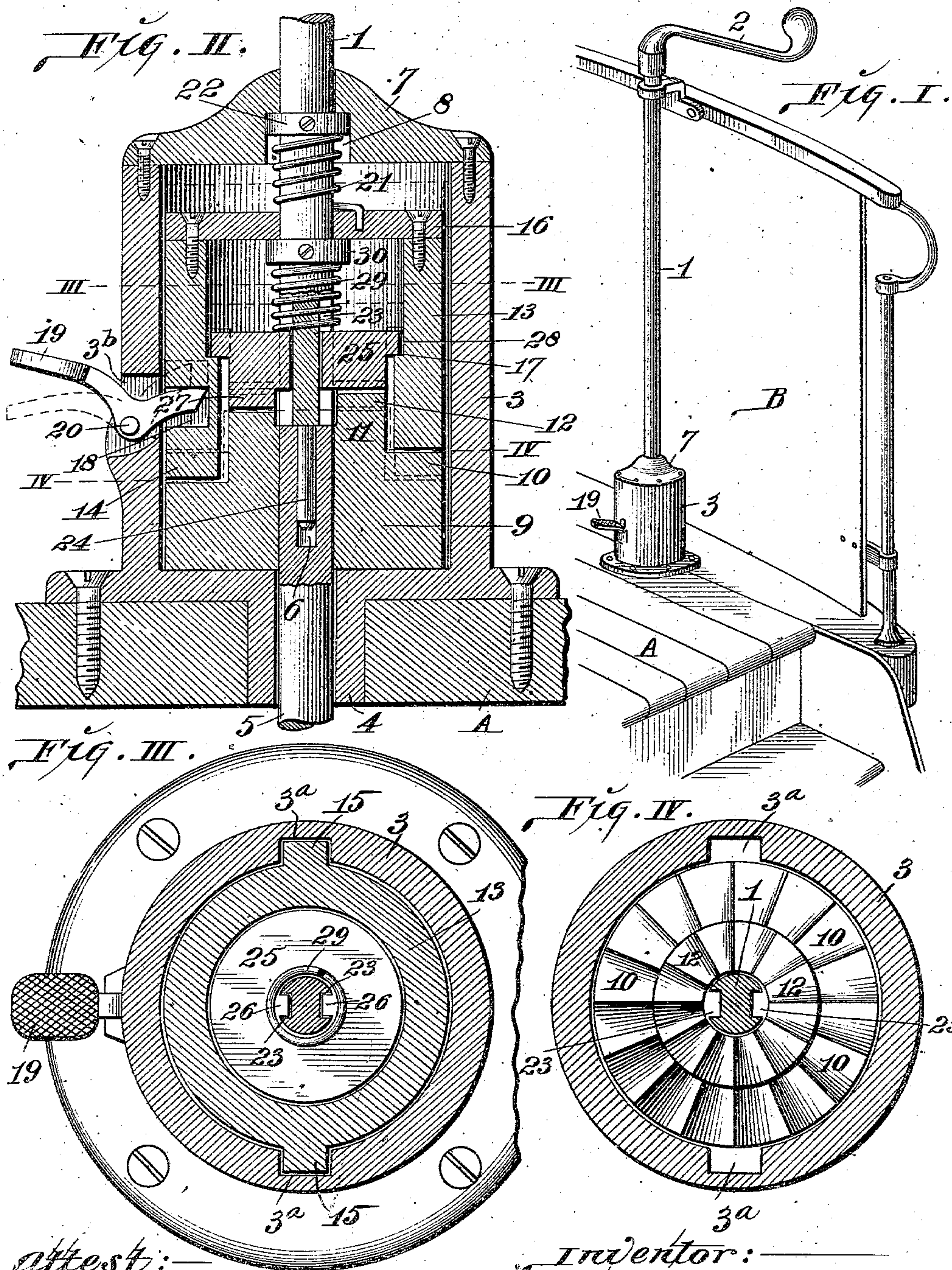
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P. C. BAGGERMAN.
RATCHET HANDLE FOR CAR BRAKES.

APPLICATION FILED JULY 31, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

PETER C. BAGGERMAN, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE ST. LOUIS CAR COMPANY, OF ST. LOUIS, MISSOURI.

RATCHET-HANDLE FOR CAR-BRAKES.

SPECIFICATION forming part of Letters Patent No. 725,393, dated April 14, 1903.

Application filed July 31, 1902. Serial No. 117,751. (No model.)

To all whom it may concern:

Be it known that I, PETER C. BAGGERMAN, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have
5 invented certain new and useful Improvements in Ratchet-Handles for Car-Brakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this
10 specification.

My invention relates to a ratchet-handle for the class of manually-operated brakes used upon street-cars; and it consists in features of novelty hereinafter fully described,
15 and pointed out in the claims.

Figure I is a perspective view of my brake-handle shown mounted upon the platform of a street-car. Fig. II is an enlarged vertical section of the ratchet mechanism. Fig. III
20 is a horizontal section taken on line III III, Fig. II. Fig. IV is a horizontal section taken on line IV IV, Fig. II.

A designates the platform of a car, and B the dashboard, carried by said platform.

25 1 designates the staff of the brake-handle, and 2 the crank-handle arm, fixed to the upper end of said staff.

3 designates a housing in which the mechanism of the brake-handle is located, the said
30 housing being mounted upon the platform A and provided with a downwardly-extending bushing 4, that extends through the platform-floor.

5 is a twist-rod, to which the brake-chain is
35 connected in the usual manner. This twist-rod extends upwardly through the bushing 4 and bottom of the housing 3 to the interior of the housing and contains in its upper end a socket 6.

40 7 is a cap mounted on the housing 3 and provided at its under side with a recess 8.

9 designates a ratchet-head fixed to the twist-rod 5 within the housing 3. This ratchet-head is provided upon its upper face with a series of lower outer ratchet-teeth 10 (see Fig. IV) and has a central neck 11, that extends
45 upwardly beyond the level of the ratchet-teeth 10 and is provided with a series of ratchet-teeth 12.

50 13 designates a ratchet-barrel positioned in the housing 3 above the ratchet-head 9 and provided at its lower end with a series of ratchet-teeth 14, that oppose the lower outer

ratchet-teeth 10 of the head 9, as seen in Fig. II. The ratchet-barrel 13 is loosely positioned
55 in the housing 3 and arranged for vertical movement therein, but is held from rotation by outwardly-extending tongues 15, that are seated in vertical grooves 3^a, (see Figs. III and IV,) this arrangement permitting of ver-
60 tical movement of the ratchet-barrel, while preventing rotation thereof.

16 is a top plate surrounding the ratchet-barrel 13, and 17 is an annular shoulder on the interior of the barrel. In the wall of the
65 ratchet-barrel 13 is a recess 18. (See Fig. II.)

19 is a foot-lever pivoted at 20 in an opening 3^b in the wall of the housing 3 and the inner end or point of which lever extends into the recess 18 in said ratchet-barrel. On
70 the depression of the foot-lever 19 to the position seen in dotted lines, Fig. II, the point of said lever acts against the ratchet-barrel 13 to elevate it, lifting its ratchet-teeth 14 away from the teeth 10 of the ratchet-head 9.
75

The ratchet-barrel 13 is normally held in lowered position by a spring 21, that surrounds the staff 1 within the housing 3, and rests upon the top plate 16 of said barrel, to which it is held by an adjustable collar 22,
80 fixed to the staff 1 and located in the recess 8 of the housing-cap 7. The lower end of the staff 1 within the housing 3 contains vertical grooves 23, and the staff terminates in a stem 24, that is seated in the socket 6 of the twist-
85 rod 5 and by which the staff is held centralized in the housing.

25 designates a ratchet-collar located within the ratchet-barrel 13 and surrounding the neck 11 of the ratchet-head 9. This ratchet-
90 collar 25 surrounds the grooved portion of the staff 1, on which it is vertically movable; but it is held from rotation on said staff by tongues 26 therein, that are arranged in the grooves 23 of the staff, as seen most clearly
95 in Fig. III. At the bottom of the ratchet-collar 25 are ratchet-teeth 27, which are arranged to engage the ratchet-teeth 12 on the neck of the ratchet-head 9. The ratchet-collar 25 is provided with an annular outer rim
100 28, that is adapted to rest on the annular shoulder 17 in the barrel 13. (See Fig. II.)

29 is a spring surrounding the staff 1. This spring is surmounted by an adjustable collar 30, mounted on the staff 1, and it rests
105 upon the ratchet-collar 25 to depress said col-

lar and maintain its teeth in engagement with the ratchet-teeth 12 of the ratchet-head 9.

In the practical use of my brake-handle the operation is as follows: In applying the brakes
5 to the car the operator moves the crank-handle arm 2 to and fro, thereby rocking the staff 1. On the movement of the staff a corresponding movement is imparted to the ratchet-collar 25, and said collar is rotated, with the
10 result that like movement is imparted to the brake-head 9 through the engagement of the ratchet-teeth 27 and 12 on said parts, and the twist-rod 5 is rotated to wind the brake-chain thereon. As the parts are actuated in the
15 manner described the ratchet-teeth 10 of the ratchet-head 9 travel beneath the ratchet-teeth 14 of the ratchet-barrel 13, and as said barrel is spring-pressed downwardly its teeth are constantly maintained in engagement
20 with the head ratchet-teeth 10 and serve to prevent retrograde rotation of said head and the twist-rod. When the operator desires to release the brakes, he places a foot upon the
25 foot-lever 19 and, depressing said lever, elevates its inner end or point that is in engagement with the ratchet-barrel 13, thereby lifting said barrel and freeing it from engagement with the ratchet-head teeth 10. On the
30 upward movement of the barrel 13 the ratchet-collar 25 is carried therewith through the medium of the shoulder 17 on the interior of the barrel, which engages the annular rim 28 of said collar. It will be seen that when
35 the ratchet-barrel and ratchet-collar have been raised, as stated, they are disengaged from the teeth of the ratchet-head 9 and that therefore said head is free to partake of retrograde rotation, with the result that the twist-rod 5 is permitted to revolve and discharge
40 the brake-chain therefrom.

I claim as my invention—

1. The combination in a brake-handle mechanism, of a staff, a twist-rod, ratchet members carried by said staff and twist-rod and adapted for interengagement, and a slidable ratchet
45 member arranged to engage the ratchet member fixed to said twist-rod ratchet member to prevent retrograde movement thereof, substantially as set forth.

2. In a brake-handle mechanism, the combination of a staff, a twist-rod, a housing, a
50 ratchet member carried by said twist-rod, a ratchet member carried by said staff, and a ratchet member slidably mounted in said housing and held from rotation therein, and adapted to engage said twist-rod ratchet member to prevent retrograde movement of said
55 twist-rod ratchet member, substantially as set forth.

3. In a brake-handle mechanism, the combination of a staff, a twist-rod, a housing, a
60 ratchet-head fixed to said twist-rod, a ratchet-collar slidably held to said staff and adapted to engage said ratchet-head, and a ratchet-barrel slidably held in said housing and adapted to engage said ratchet-head, substantially
65 as set forth.

4. In a brake-handle mechanism, the combination of a staff, a twist-rod, a housing, a
70 ratchet-head fixed to said twist-rod, a spring-pressed ratchet-collar slidably held to said staff and adapted to engage said ratchet-head, and a spring-pressed ratchet-barrel slidably held in said housing and adapted to engage
75 said ratchet-head, substantially as set forth.

5. In a brake-handle mechanism, the combination of a staff, a twist-rod, a housing, a
80 ratchet member fixed to said twist-rod, an outer ratchet member slidably held in said housing and adapted to engage said twist-rod ratchet member, an inner ratchet member slidably held to said staff adapted to engage
85 said twist-rod ratchet member, having engagement with said outer ratchet member whereby, upon the movement of said outer ratchet member, both said outer and inner ratchet members are separated from said
twist-rod ratchet member, substantially as set forth.

6. In a brake-handle mechanism, the combination of a staff, a twist-rod, a housing, a
90 ratchet-head fixed to said twist-rod, a ratchet-barrel slidably held in said housing and adapted to engage said ratchet-head, an annular shoulder on the interior of said barrel, a
95 ratchet-collar slidably held to said staff and adapted to engage said ratchet-head, and a rim on said collar adapted to bear against the shoulder in said ratchet-barrel, substantially as set forth.
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7. In a brake-handle mechanism, the combination of a staff, a twist-rod, a housing having interior grooves, a ratchet-head fixed to
105 said twist rod, a ratchet-barrel adapted to engage said ratchet-head, tongues on said ratchet-barrel seated in the grooves in said housing, and a ratchet-collar slidably held to said staff within the said ratchet-barrel, and adapted to engage said twist-rod ratchet-head, substantially as set forth.
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8. In a brake-handle mechanism, the combination of a staff, a twist-rod, a housing, a
115 ratchet-head fixed to said twist-rod, a ratchet-barrel slidably held in said housing and adapted to engage said ratchet-head, a ratchet-collar slidably held to said staff within the said ratchet-barrel, and adapted to engage said twist-rod ratchet-head and having engagement with said ratchet-barrel, and a lever adapted to engage said ratchet-barrel, substantially as set forth.
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9. In a brake-handle mechanism, the combination of a housing, a twist-rod, a ratchet-head fixed to said twist-rod, a grooved staff, a
125 ratchet-collar arranged to engage said ratchet-head, surrounding said staff and having a tongue seated in a groove in said staff, and a ratchet-barrel slidably held in said housing and adapted to engage said twist-rod ratchet-head, substantially as set forth.

PETER C. BAGGERMAN.

In presence of—

GEO. BOTHO,

M. H. MURPHY.