

(No Model.)

2 Sheets—Sheet 1.

I. M. SKILLMAN.
BRAKE FOR RAILWAY CARS.

No. 535,867.

Patented Mar. 19, 1895.

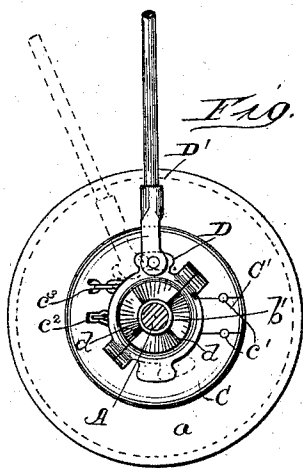
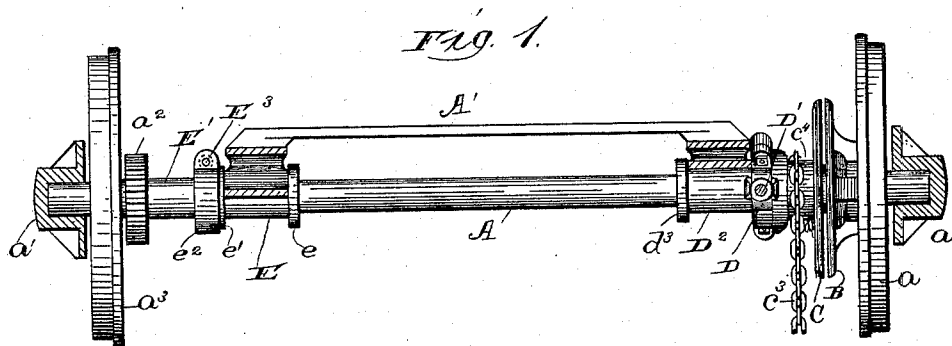


FIG. 2.

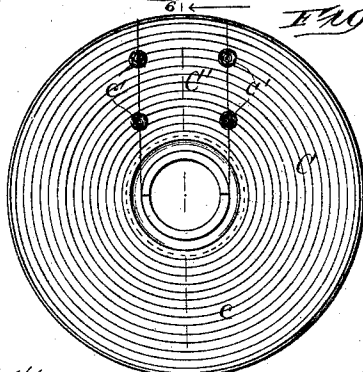
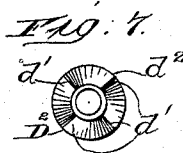
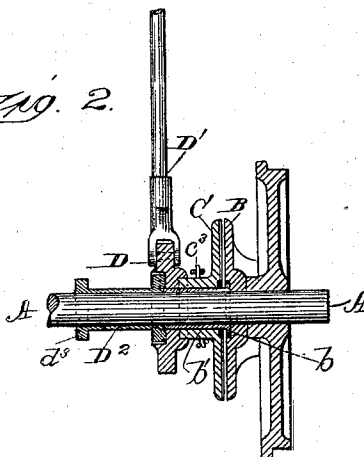
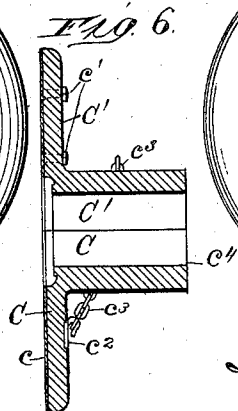
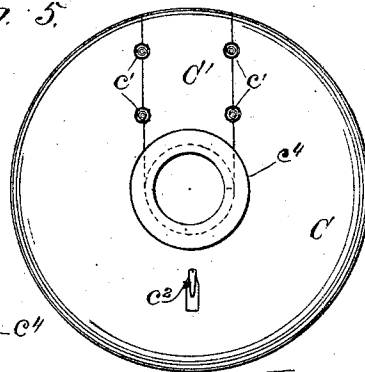


FIG. 5.



Witnesses:
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C. A. Duggan.

Inventor:
Ivan M. Skillman

By Chas. C. Skillman
Atty.

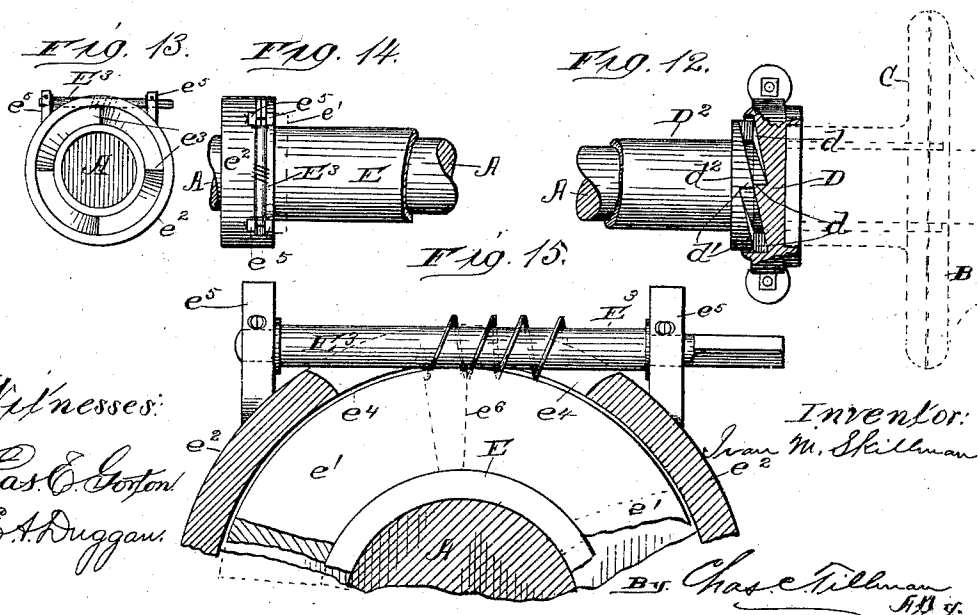
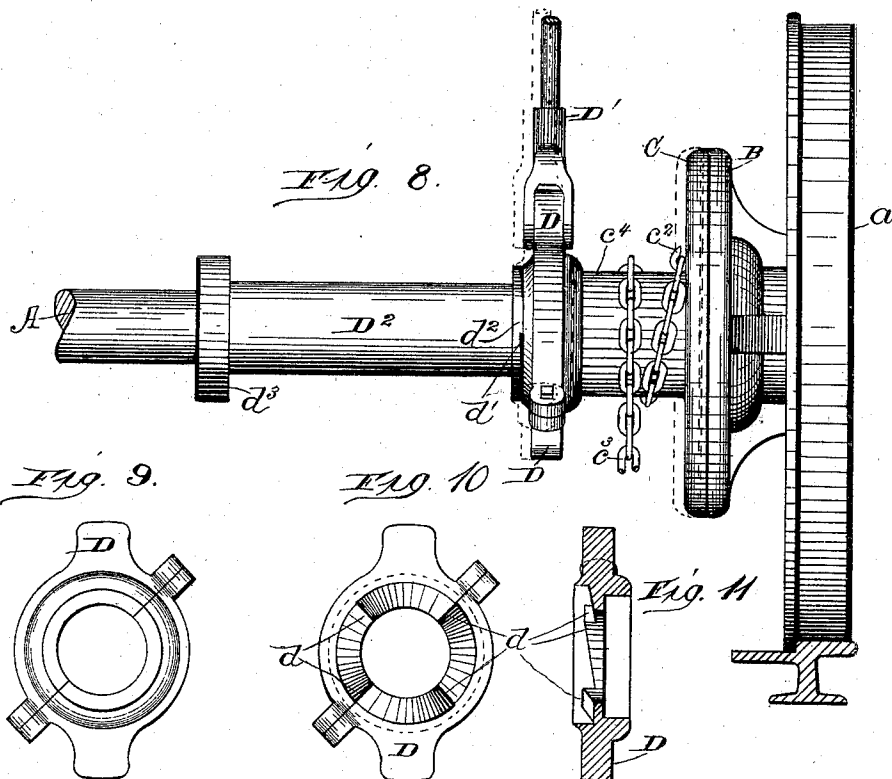
(No Model.)

2 Sheets—Sheet 2.

I. M. SKILLMAN.
BRAKE FOR RAILWAY CARS.

No. 535,867.

Patented Mar. 19, 1895.



Witnesses:

Chas. C. Coffey
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UNITED STATES PATENT OFFICE.

IVAN M. SKILLMAN, OF CHICAGO, ILLINOIS.

BRAKE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 535,867, dated March 19, 1895,

Application filed April 30, 1894. Serial No. 509,473. (No model.)

To all whom it may concern:

Be it known that I, IVAN M. SKILLMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Motor-Brakes, of which the following is a specification.

This invention relates to improvements in brakes, and while it is more especially adapted for electric-motors, yet it may be employed in connection with various kinds of motors, and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The object of my invention is to provide a brake, which shall be simple and inexpensive in construction, strong and durable, and more effective in operation than the brakes of the ordinary construction, and now in general use.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1, is a plan view, partly in section, of a portion of one of the trucks, and a part of the motor-frame, showing the journal-boxes and car-wheels connected with the axle in the ordinary manner, and my brake in position. Fig. 2, is a vertical sectional view of the brake and one of the wheels, showing them in position on a portion of the axle, and disengaged. Fig. 3, is a face view of the brake, and one of the car-wheels and a portion of the operating-lever. Fig. 4, is a face or inner view of one of the clutch-disks. Fig. 5, is a rear view thereof. Fig. 6, is a vertical sectional view of the same, taken on line 6, 6, of Fig. 4. Fig. 7, is an end view of a sleeve to engage the clutch-disk. Fig. 8, is an enlarged detail view of one of the car-wheels, a portion of the axle and the brake in position thereon, showing it set. Fig. 9, is a rear view of the clutch-collar. Fig. 10, is a face view of the same. Fig. 11, is a vertical sectional view thereof. Fig. 12, is a detail plan view partly in section of a part of the axle, a portion of the adjusting-sleeve and clutch-collar, illustrating their manner of engagement and operation. Fig. 13, is a face view of the adjusting collar. Fig.

14, is a plan view thereof, and Fig. 15, is an enlarged detail view in elevation of the same.

Similar letters refer to like parts throughout the different views of the drawings.

A, represents the axle upon which are mounted the wheels a , a^3 , and journal-boxes a' , in the ordinary or any preferred manner. Near the inner side of one of the wheels and on the axle is mounted a gear a^2 , which engages with the operating mechanism of the motor, a portion of the frame A' , of which is shown in Fig. 1, of the drawings. To the inner surface of the other wheel is secured a friction disk B, which may be shrunk on the hub of said wheel, or otherwise rigidly secured thereto, as desired. This disk is provided at its center, with an opening, through which is passed the axle A, and around said opening is formed a peripheral recess b , for the reception of the sleeve b' , which extends longitudinally on the axle, as is clearly shown in Fig. 2. On this sleeve is fitted a friction or clutch disk C, which has its face provided with a covering of leather, or other suitable friction creating substance.

The disk C, is formed with a movable section C' , which is held in place by means of suitable nuts and bolts c' , and which section may be taken out when it is desired to remove the disk from the axle, or to place it thereon. The rear surface of the disk C, is provided with a hook c^2 , to which is secured a chain c^3 , which is adapted to be wound around the hub of the car. On that portion of the hub c^4 , of the disk C, farthest from the disk B, is secured a clutch or controlling collar D, which has pivotally connected thereto the operating lever D' , which lever may have any suitable connections for the operation thereof. The face of the clutch or controlling collar D, is provided in its hub with a series of beveled or ratchet-teeth d , which are adapted to engage similar teeth d' , on one end of the sleeve D^2 , which sleeve, as is clearly shown in Figs. 1, 2, 8, and 12, is provided at each of its ends with a peripheral collar d^2 , and d^3 , between which collars rests and may be secured a portion A' , of the motor-frame, which frame extends longitudinally with the axle to near the other car-wheel, and rests on a sleeve E, which is also provided with collars or flanges e , and

e' , the flange or collar thereof, being provided on its outer surface or the surface adjacent to the car wheel, with beveled or ratchet-teeth similar to the teeth d' , on the sleeve D^2 .

5 Between the sleeve E , and the gear a^2 , and on the axle is placed another sleeve E' , which is provided with a collar e^2 , having on its surface adjacent to the collar e' , beveled or ratchet-teeth e^3 , to engage similar formed
10 teeth on the last named collar. The upper portion of the collar e^2 , is cut away as at e^4 , and is provided on each side of said cut-away portion or recess with lugs or projections e^5 , within
15 ings. This threaded rod is adapted to engage one of the teeth e^6 on the collar e' , and thereby afford adjustment of the brake.

From the foregoing and by reference to the drawings, it will be seen and readily understood that by moving the operating lever
20 D' , the controlling or clutch-disk D , will be turned, and as the ratchet or beveled-teeth d , thereof engage like teeth d' , on the collar d^2 , of the sleeve D^2 , the said disk and collar
25 will by reason of the inclination of the teeth be separated, which operation will force the disk C , against the disk B , with such a degree of force or friction that as the wheels revolve, the disk C , will turn therewith, thus
30 causing the chain c^3 , which is secured at one end to said disk or the hub c^4 , thereof, and at the other end to the brake-bar to be made taut, thus pressing the brake-shoes against the peripheries of the car-wheels. As soon
35 as it is desired to let the brake off, or free the wheels, the operating lever may be moved in the opposite direction, which operation will cause the disk C , to be withdrawn from contact with the disk B , and allow of its unimpeded movement. When it is desired to ad-
40 just the tension or to increase or lessen the friction of the brake, all that is necessary is to turn the screw-threaded rod E^3 , by means

of a wrench applied to one end thereof, or otherwise, when the threads will engage one
45 of the teeth on the collar e' , and force the sleeves E , and D^2 , nearer to the wheel carrying the disk B , or they may be withdrawn therefrom by the reverse movement of the screw-threaded rod, as is obvious.

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

1. The combination of the axle A , with the wheels a , and a^3 , mounted thereon, the wheel
55 a , having the disk B , on its inner surface, the disk C , having the hub c^4 , and frictional face, mounted on the axle and adapted to impinge against the disk B , the clutch-collar D , provided with a lever to operate the same and
60 having in its face a series of beveled or ratchet-teeth, the sleeve D^2 , mounted on the axle and having the beveled teeth d' , to engage the teeth on the clutch-collar, the sleeve
65 E , having a collar e' , provided with beveled or ratchet-teeth, the collar e^2 , having the screw-threaded rod E^3 , to engage the teeth on the collar e' , and the piece A' , uniting the sleeves E , and D^2 , and supported thereby, all
70 constructed, arranged and operating substantially as shown and described and for the purpose set forth.

2. The combination with an axle of the sleeve E' , having the collar e^2 , provided with beveled or ratchet teeth e^3 , to engage similar-
75 ly formed teeth on an adjacent collar, the collar e^2 , having the cut-away part e^4 , provided on each side thereof with projections e^5 , a screw-threaded rod E^3 , having its bearings in said projections and adapted to engage one
80 of the teeth on the collar adjacent to the collar e^2 , substantially as described.

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Witnesses:

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