

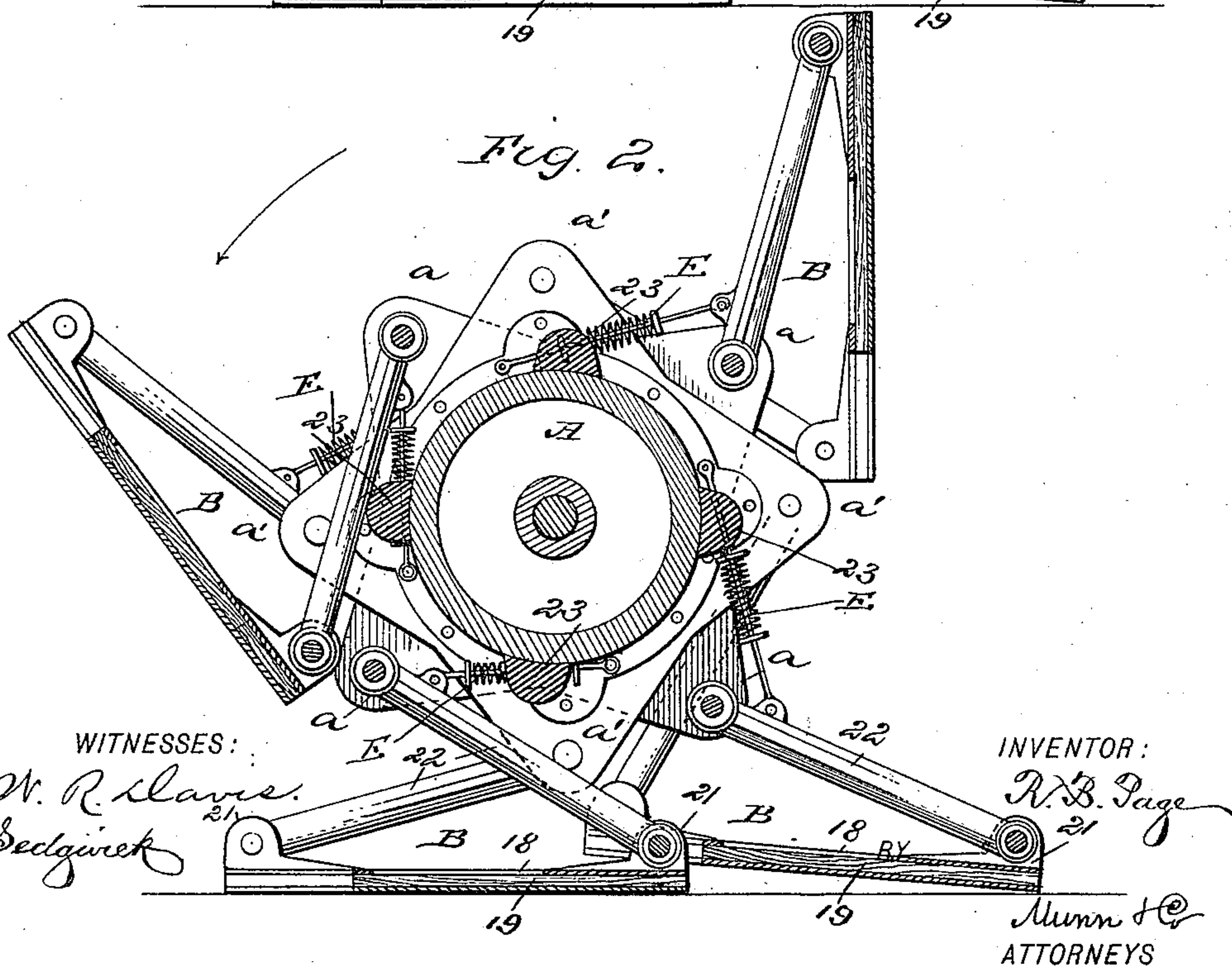
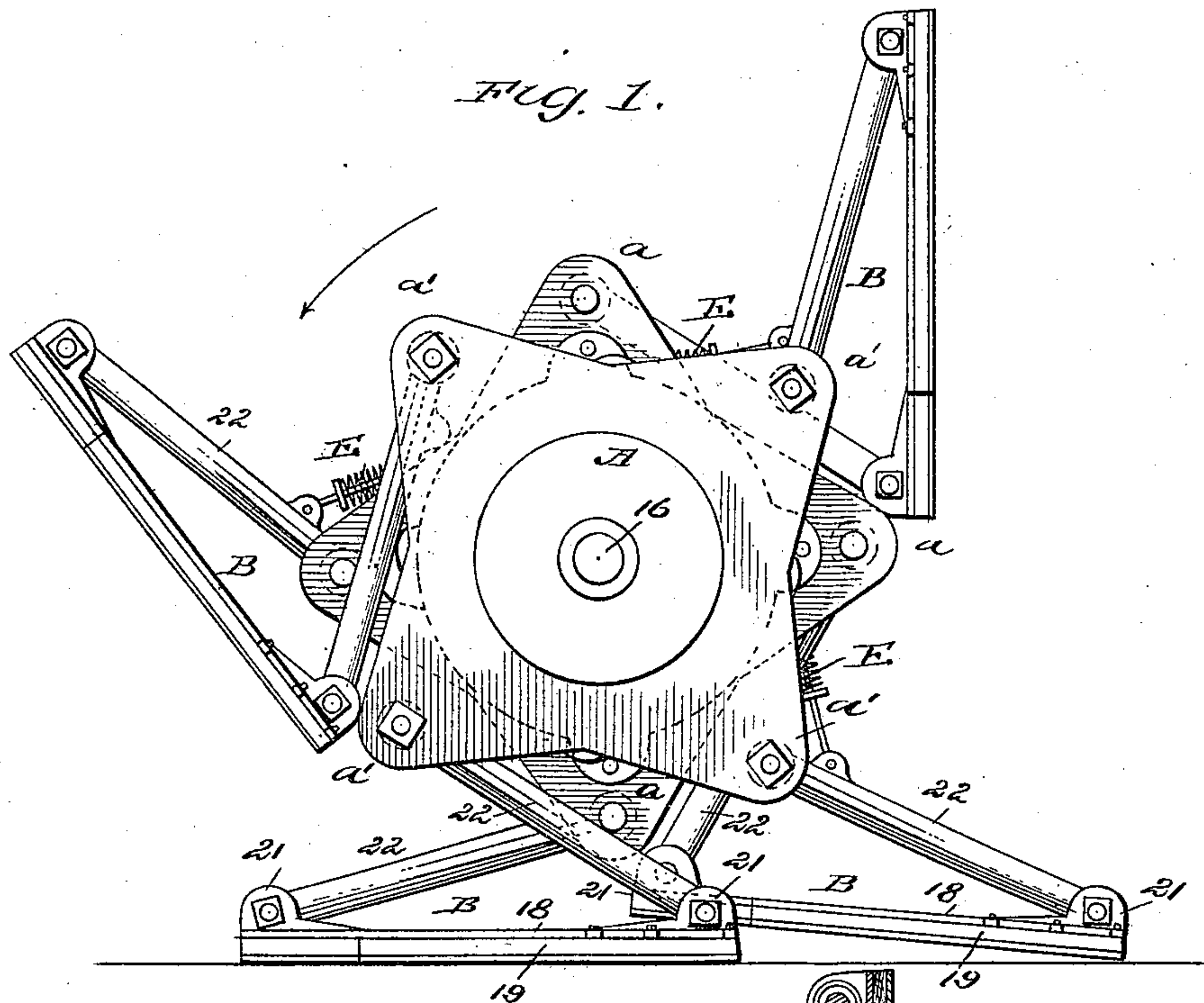
(No Model.)

2 Sheets—Sheet 1.

R. B. PAGE.
WHEEL FOR ROAD ENGINES.

No. 442,780.

Patented Dec. 16. 1890.



WITNESSES:

W. R. Davis.
C. Sedgwick

INVENTOR:

R. B. Page

Munn & Co.
ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

R. B. PAGE.
WHEEL FOR ROAD ENGINES.

No. 442,780.

Patented Dec. 16. 1890.

Fig. 3.

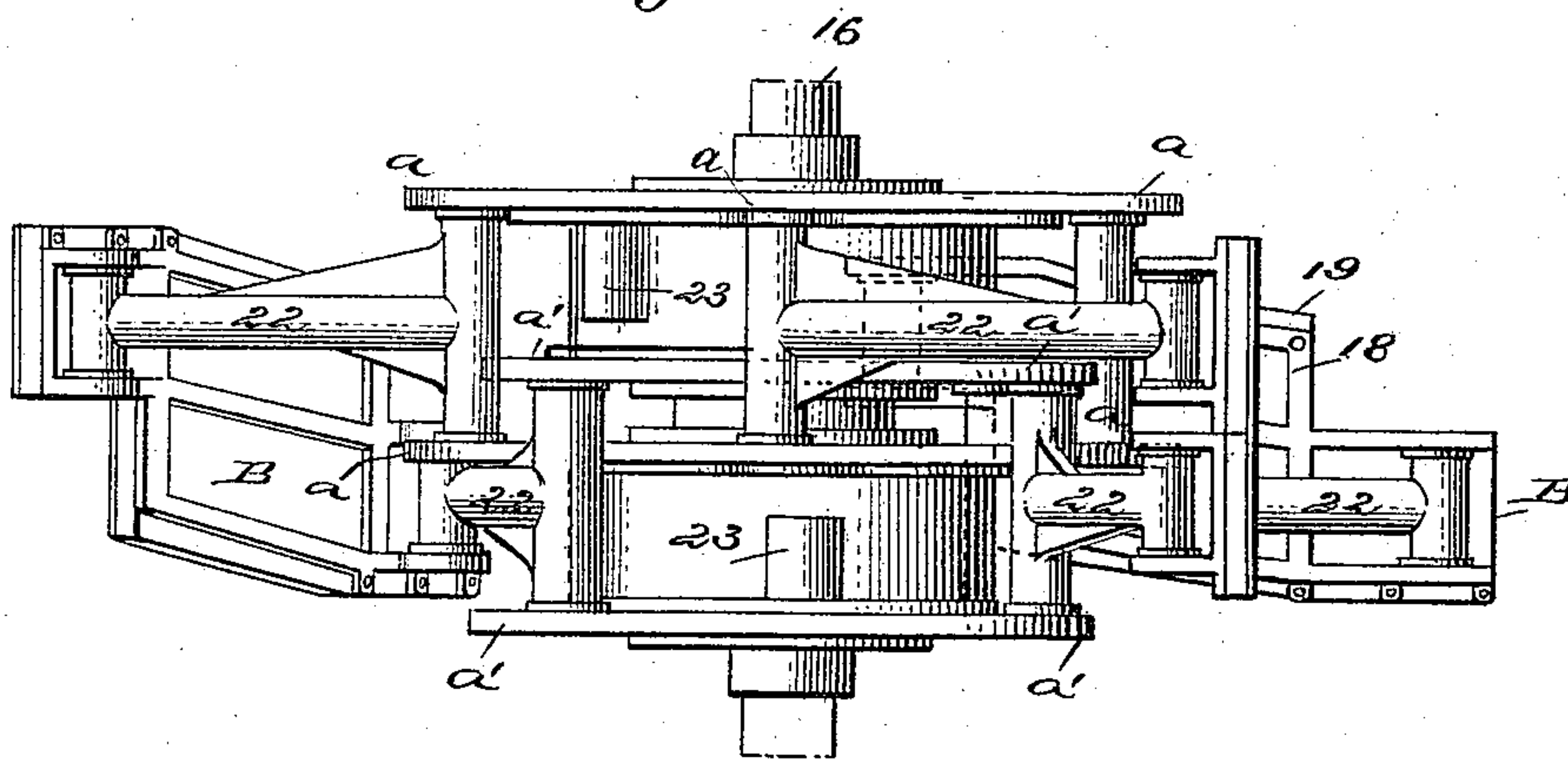


Fig. 4.

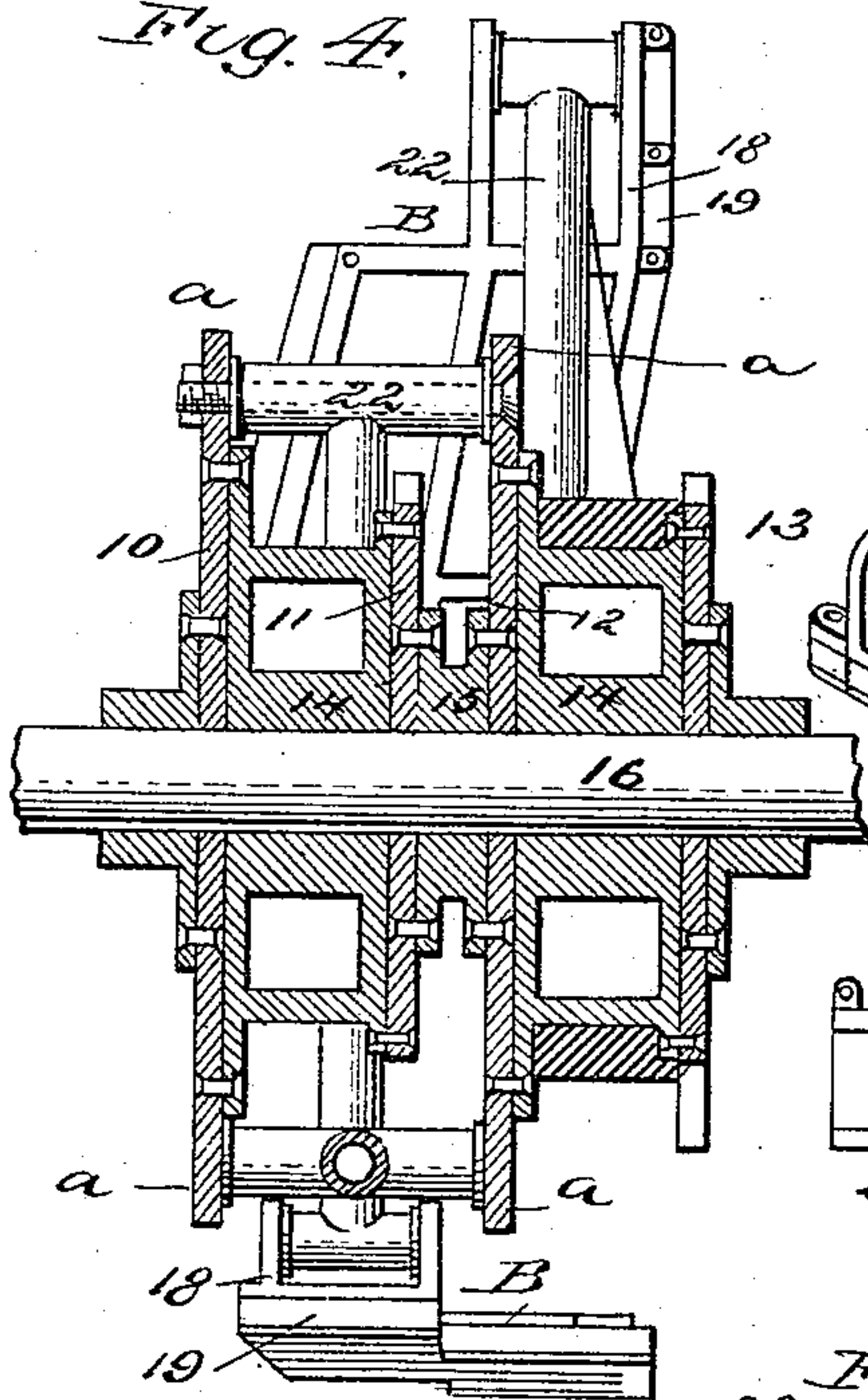


Fig. 5.

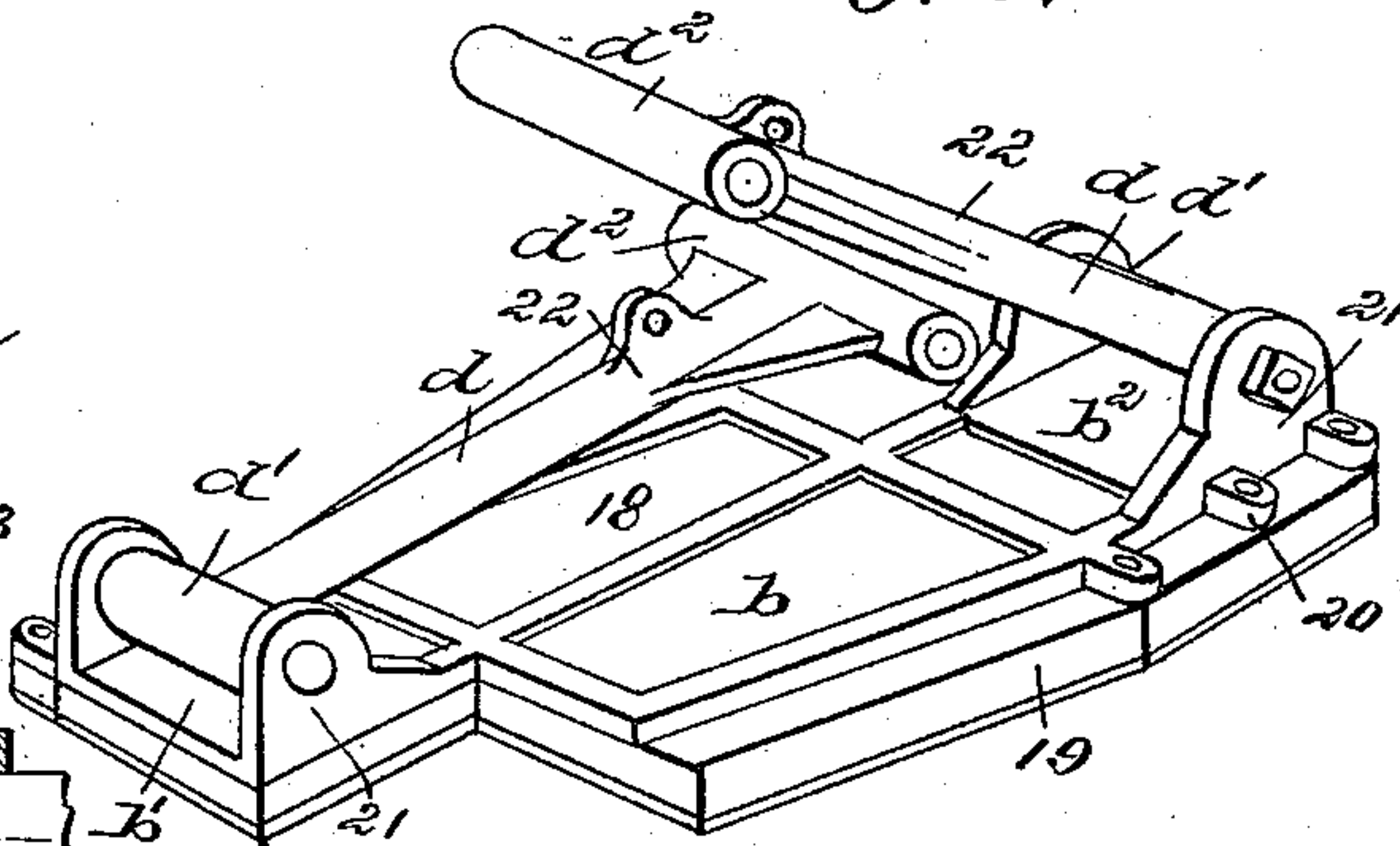


Fig. 6.

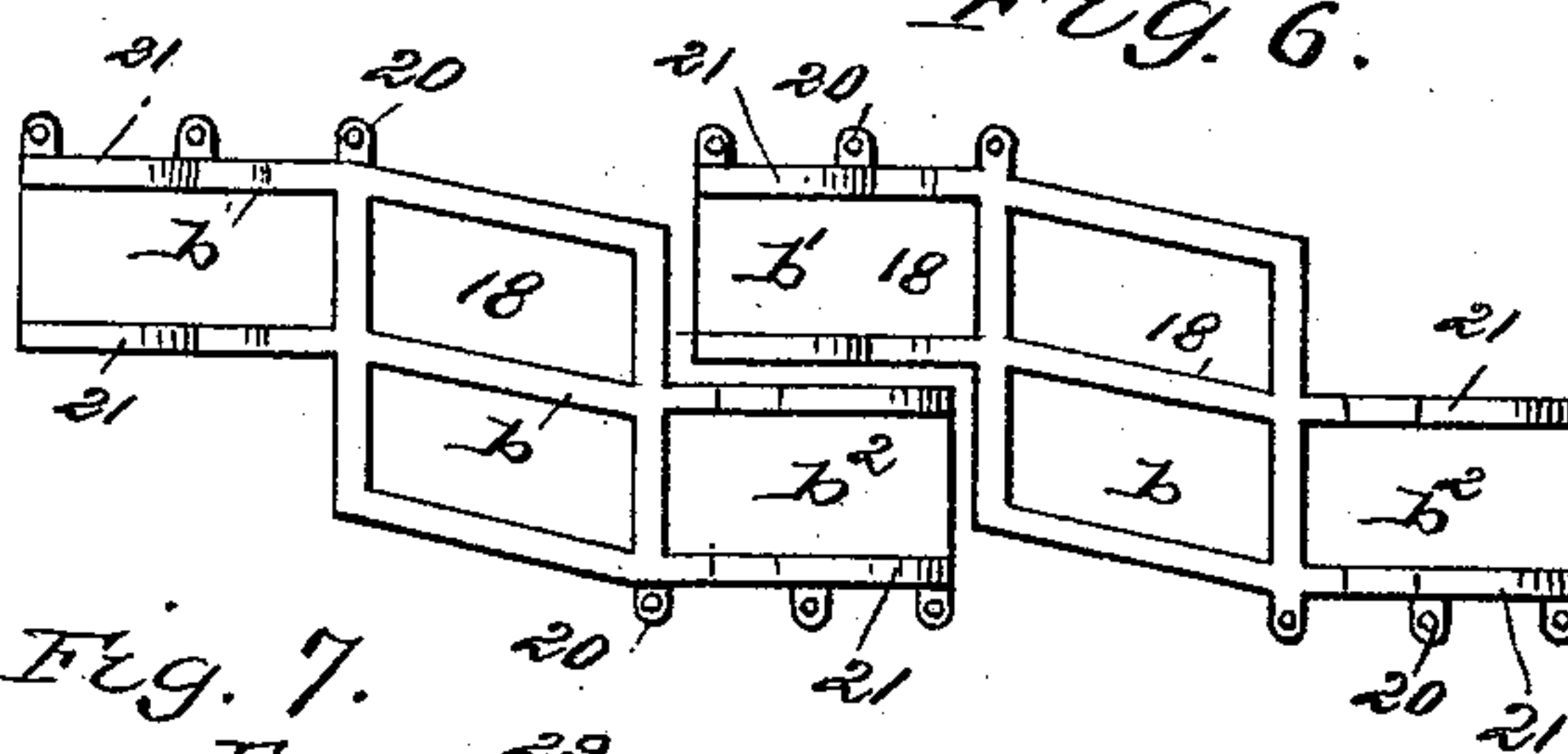
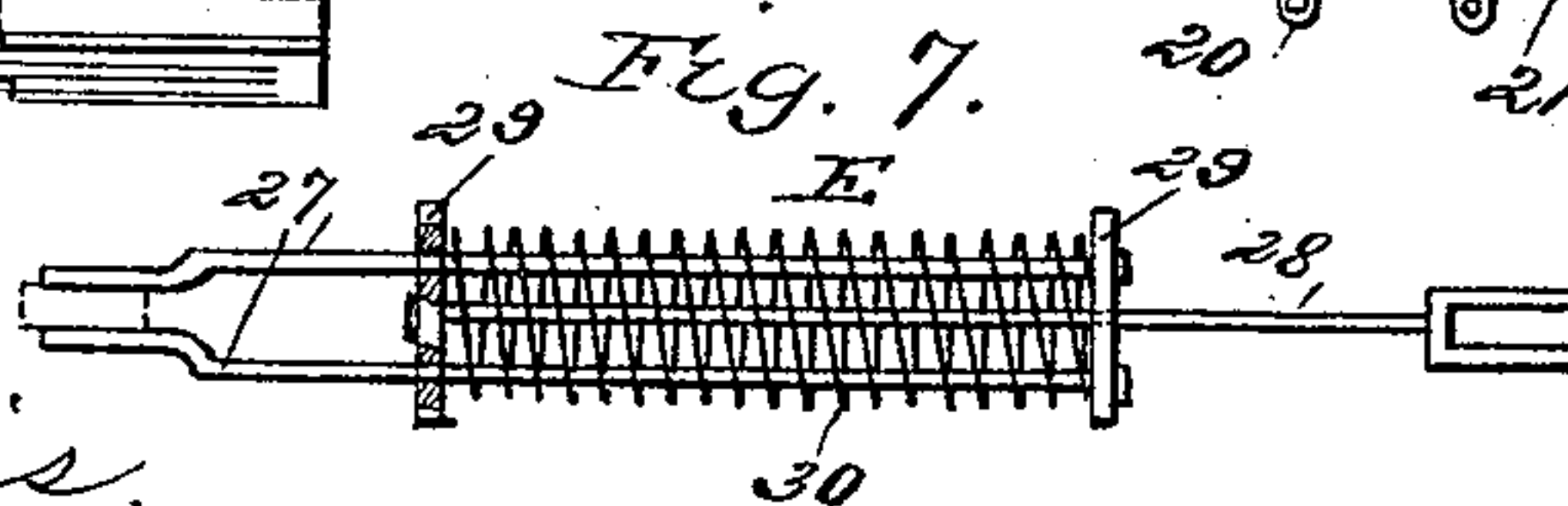


Fig. 7.



WITNESSES:

W. R. Davis.
C. Sedgwick

INVENTOR:

R. B. Page

BY

Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

RESCUE B. PAGE, OF OAKLAND, CALIFORNIA.

WHEEL FOR ROAD-ENGINES.

SPECIFICATION forming part of Letters Patent No. 442,780, dated December 16, 1890.

Application filed May 29, 1890. Serial No. 353,562. (No model.)

To all whom it may concern:

Be it known that I, RESCUE B. PAGE, of Oakland, in the county of Alameda and State of California, have invented a new and Improved Wheel for Traction-Engines and Similar Vehicles, of which the following is a full, clear, and exact description.

My invention relates to an improvement in wheels for traction-engines and like vehicles, and has for its object to so construct the wheel that the shoes used in connection therewith will not sink into the ground, no matter how moist or how sandy it may be, and also to provide a means whereby one of the shoes will at all times be in contact with the ground and will not by any possibility leave the same until a second shoe is brought in contact therewith, and, further, to provide a means whereby the shoe to be lifted will be elevated first at that end facing the line of travel of the wheel, thus removing any suction that might exist calculated to disturb the progress of the wheel.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the wheel. Fig. 2 is a central vertical section through the same. Fig. 3 is a plan view. Fig. 4 is a central vertical section through the wheel, taken at a right angle to the section illustrated in Fig. 2. Fig. 5 is a perspective view of one of the shoes detached from its hub. Fig. 6 is a plan view of the frames of two shoes, the position of said shoes being the same as illustrated in Figs. 1 and 2; and Fig. 7 is a plan view of spring-controlled lifting-rods detached from the device.

The hub A, as shown, consists of four plates 10, 11, 12, and 13, united by castings or forgings 14 and 15, the said plates and likewise the castings or forgings being provided with a central bore to receive a drive-shaft 16, to which the hub is preferably rig-

idly secured. The said drive-shaft in the present instance is intended to represent one axle of a traction-engine or vehicle. The hub is provided with a series of ears *a* and *a'*, arranged in pairs, each alternate pair *a*, for instance, being out of circumferential alignment with the contiguous pair *a'*. In the drawings the ears are shown as integral with the plate-sections of the hub; but the body of the hub may consist of one casting or forging and the ears made integral therewith or may be attached thereto.

In connection with the hub a series of shoes B are employed, and as each shoe is similarly constructed and attached to the hub and in operation each two adjoining shoes contact I will confine myself to the description of one pair only.

The shoes consist of a skeleton frame 18 of peculiar contour, to the bottoms of which a sole 19 of like shape is attached in any approved manner. The body *b* of the frame is a parallelogram, the sides of which, as shown, are laterally inclined. At the side of one end a true rectangular section *b'* is formed, preferably of about one-half the width of the body-section, and a similar section *b²* is formed at the opposite end and side of the body-section, as shown in Fig. 6.

Lugs 20 are produced at the sides of the frame, by means of which lugs the sole 19, which may be of wood or other approved material, is secured, and upon the upperside face of each end section *b'* and *b²*, near the outer ends, vertical ears 21 are produced.

In connection with each shoe two rods 22 are employed, which rods consist of a central body-section *d* and end sections *d'* and *d²*, which latter sections are attached or formed at a right angle to the body and extend beyond the sides thereof, the section *d'* being ordinarily shorter than the opposed section *d²*. The shorter sections *d'* of the rods are respectively pivoted to the ears of each of the end sections *b'* and *b²* of the frame, as is best illustrated in Fig. 5. The rods extend longitudinally across the shoe in opposite directions, and the end section *d²* of one rod is pivoted between one set of hub-ears *a*, and the similar section of the other rod is pivoted

between the next set of hub-ears a' , as illustrated in Figs. 1, 2, and 3.

In connection with the rods 22 of the wheel I employ a spring lifting device E, one form of which is illustrated in Fig. 7, and the application of which is illustrated in Figs. 1, 2, and 5, consisting of two rods 27 and 28, capable of sliding one upon the other, the rod 27 being double and the other single, and both are provided with a head 29 and encircled by a spring 30, located between and having a bearing against the heads.

A lifting device is attached at one end to each rod 22 and at its other end to the hub at one side of the cushion thereon, and the attachment is so effected that when the rods 22 come in contact with their cushions, either when the wheel is moving backward or forward, the springs of the attached device E will tighten. This movement prevents the rods from dropping down suddenly upon the cushions or the ground, and the device also serves to assist the feet when upon the ground to leave the same.

One of the shoes is at all times in a horizontal position upon the ground, and as the wheel moves either backward or forward the shoe contacting with the ground does not move from its position until the shoe in front or at the rear of it, according to the direction in which the wheel is traveling, also firmly contacts with the ground throughout its length, the connecting-rods being of just sufficient length to admit of this action. At the moment that the pair of shoes are in the above-described position, if the wheel is traveling forward, as shown by the arrows in Figs. 1 and 2, a further movement, no matter how slight, will cause the rod connected with the forward end of the rear shoe to lift said end, the opposite end remaining upon the ground, as illustrated in Figs. 1 and 2, thus destroying any suction which might exist and would be calculated to retard the wheel in its progress, and as the wheel moves farther forward the connecting-rod above referred to contacts with a cushion 23 upon the hub, whereby the shoe is carried vertically upward, then horizontally over the wheel, and is permitted to drop again downward upon the other side for another contact with the ground.

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

1. In a wheel of the character described,

the combination, with a hub provided with a series of ears arranged in pairs, the adjacent pairs being out of circumferential alignment, of a shoe, a rod connecting one end of the shoe with one pair of adjoining ears, and a second rod connecting the opposite end of the shoe with the other pair of ears, the said rods extending over the shoe in opposite directions, substantially as shown and described.

2. In a wheel of the character described, the combination, with a hub and a series of ears formed upon the periphery of the hub and arranged in pairs, the adjoining pairs being out of circumferential alignment, of a shoe consisting of a main body and end sections attached at opposite sides, the said end sections being of less width than the body section, a rod pivotally connecting one end of the shoe with one pair of ears of a set, and a second rod connecting the opposite end of the shoe in like manner with the other pair of ears of the set, the said rods extending over the shoe in opposite directions, substantially as shown and described, and for the purpose specified.

3. In a wheel of the character described, the combination, with the hub, the shoes, and the connecting-rods, of springs connected to the hub and rods, substantially as and for the purposes set forth.

4. In a wheel of the character described, the combination, with a hub, a series of ears formed upon said hub and arranged in pairs, the adjoining pairs of ears being out of circumferential alignment, of a shoe consisting of a body portion having parallel laterally-inclined sides and end sections of less width than the body section, and connecting-rods, each comprising a body parallel with the longitudinal axis of the shoe and having right-angular end sections, one of said rods being pivotally attached at each end of the shoe and extending across the same in opposite directions, the said rods being also respectively pivotally attached to one pair of ears of a set, substantially as shown and described, whereby when two shoes are in contact with the ground the end of the shoe to be lifted facing the line of travel of the wheel will be elevated first, as and for the purpose specified.

RESCUE B. PAGE.

Witnesses:

N. W. WINTON,
HENRY POTTER.