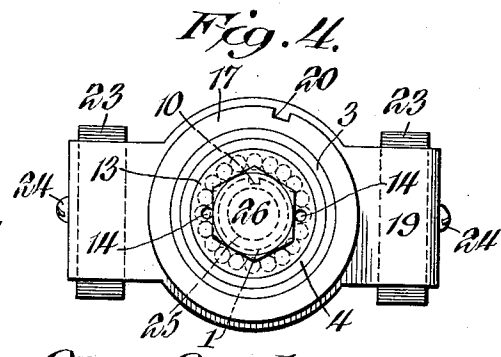
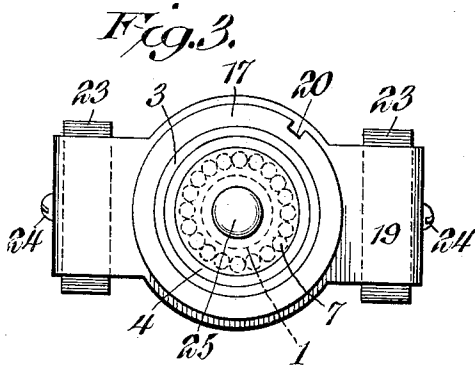
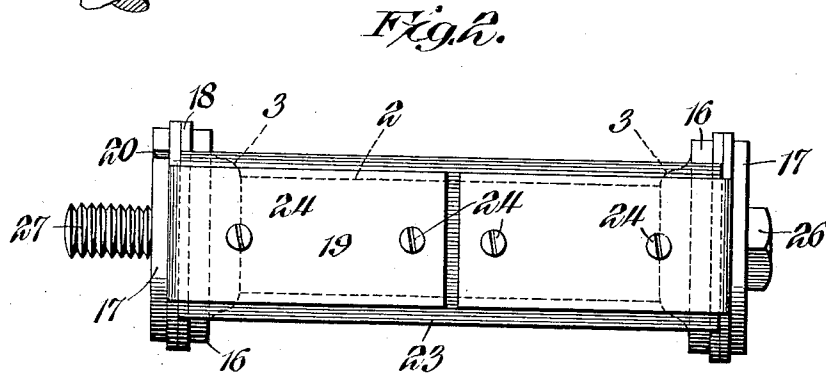
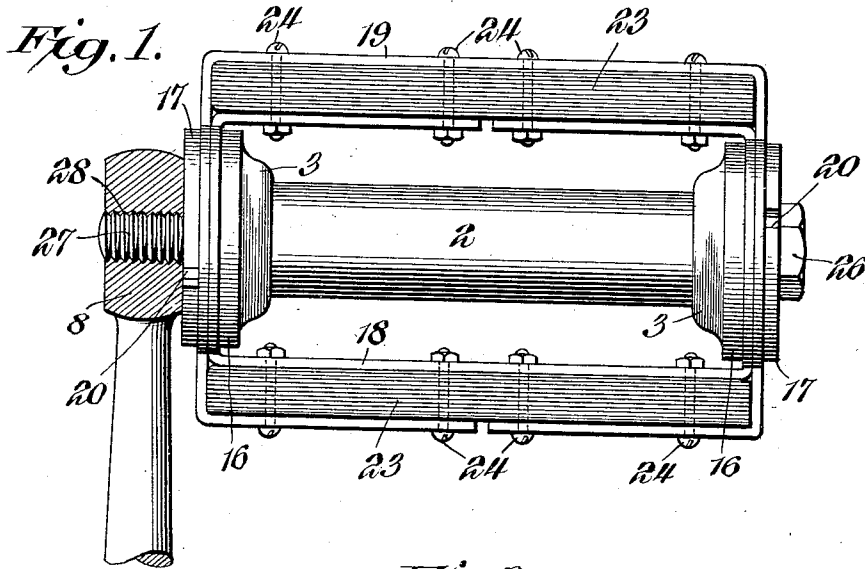


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 PEDAL FOR BICYCLES, &c.
 APPLICATION FILED APR. 10, 1912.

1,050,383.

Patented Jan. 14, 1913.
 2 SHEETS—SHEET 1.



WITNESSES

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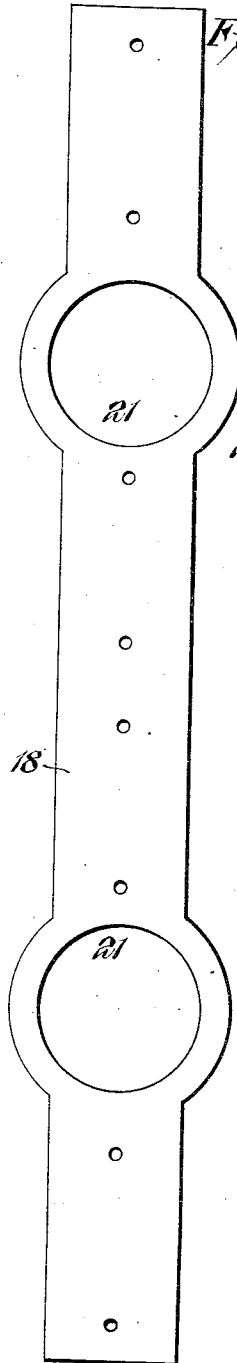


Fig. 7.

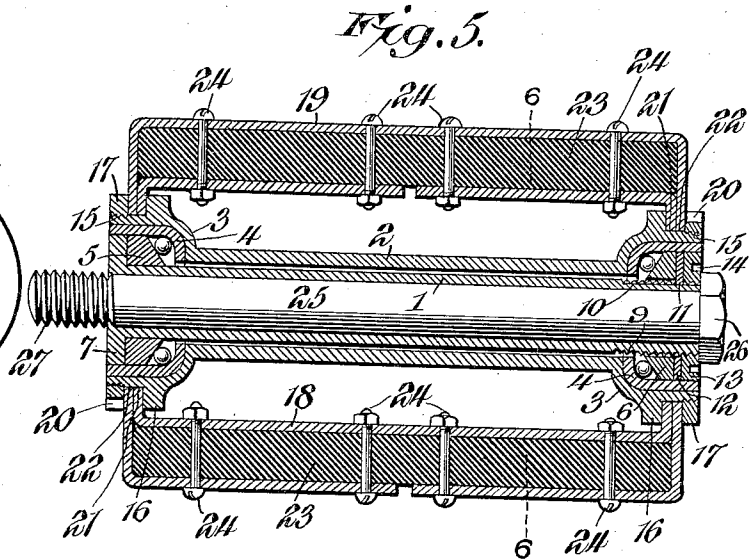


Fig. 5.

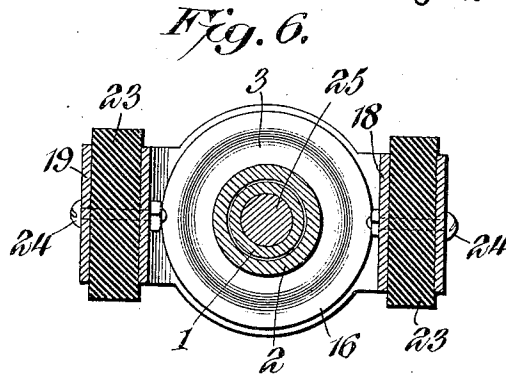
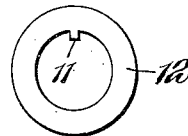


Fig. 6.

Fig. 8.



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UNITED STATES PATENT OFFICE.

ORON OVERTON, OF MOBILE, ALABAMA.

PEDAL FOR BICYCLES, &c.

1,050,383.

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed April 10, 1912. Serial No. 689,842.

To all whom it may concern:

Be it known that I, ORON OVERTON, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented a new and useful Pedal for Bicycles, &c., of which the following is a specification.

The invention relates to improvements in pedals for bicycles, motor cycles, etc.

10 The object of the present invention is to improve the construction of pedals, and to provide a simple, efficient and comparatively inexpensive pedal, adapted to be applied to the crank of a bicycle, motor cycle, or other
15 similar machine by means of an ordinary pin or bolt, and capable of being constructed of sufficient strength so that in event of a severe fall sufficient to break the pedal pin, only the latter will be broken, whereby the
20 same may be easily and cheaply replaced from a tool bag, or other source of supply without affecting the pedal bearings or other parts of the pedal.

25 With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that
30 various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.
35 tion.

In the drawings:—Figure 1 is a plan view of a pedal, constructed in accordance with this invention and shown applied to a portion of a crank, the latter being in section.
40 Fig. 2 is a side view of the pedal. Figs. 3 and 4 are end views. Fig. 5 is a central horizontal sectional view of the pedal. Fig. 6 is a transverse sectional view on the line 6—6 of Fig. 5. Fig. 7 is a plan view of one
45 of the side plates, showing the same after cutting and before bending. Fig. 8 is a detail view of the washer.

50 Like numerals of reference designate corresponding parts in all the figures of the drawings.

In the accompanying drawings in which is illustrated the preferred embodiment of the invention, the bearings of the pedal comprise in their construction an inner cone
55 supporting sleeve 1, an outer sleeve or barrel 2 receiving the inner sleeve within it and

spaced from the same, and provided at its ends with integral cup-shaped shells or portions 3 in which are arranged ball cups 4. The ball cups 4 each receives a series of anti-
60 friction balls and the latter operate between the ball cups and ball cones 5 and 6, which are mounted on the inner sleeve at the inner and outer ends thereof. The inner sleeve is
65 provided at its inner end with an angular flange 7 presenting a flat exterior face and adapted to fit against a crank 8 of a bicycle, motor cycle, or other machine utilizing
pedals. The inner ball cone 5 is smooth and fits against the inner face of the angular
70 flange 7. The outer cone 6 is interiorly threaded and engages exterior threads 9 of the inner sleeve 1, which is provided with a groove 10, extending longitudinally of the
outer threaded portion of the sleeve 1 and
75 receiving an inwardly extending lug or projection 11 of a washer 12, which is interposed between the outer cone 6 and a nut 13. The nut 13 is screwed on the outer end of the
80 sleeve and it fits within the ball cup, recesses 14 being provided in the face of the nut to enable it to be turned by a spanner or similar tool. The ball cups fit within and conform to the configuration of the cup-shaped
85 shells 3, which entirely receive the inner and outer bearings of the pedal and the collars 7 and nut 13.

The inner and outer cup-shaped shells have outer exteriorly threaded portions 15 and are provided with integral annular
90 bosses or flanges 16, located at the inner ends of the threaded portions 15 and forming shoulders, which cooperate with clamping nuts 17 for rigidly securing inner and outer
95 pedal frames 18 and 19 to the outer sleeve or casing. The nuts 17 are provided with peripheral recesses 20, adapted to receive a suitable tool for enabling them to be turned on the threaded portions of the outer sleeve
100 or barrel.

The inner and outer pedal frames are each constructed of a single piece of plate steel, or other suitable material. Each of the
105 frames is formed by two operations, the material being first cut to form the frame and the latter being then stamped or otherwise bent into rectangular form. The inner and outer rectangular pedal frames are fitted together at their ends, and are provided thereat
110 with registering openings 21 and 22, through which the threaded portions of the shells of the outer casing extend. The inner and

outer frames are preferably provided at the openings with enlargements, which are located at spaced points intermediate of the ends of the strip of material forming each frame, the intermediate and end portions of the strip being narrower than the enlargements, which are circular. The sides of the inner and outer frames are spaced apart throughout the length of the pedal to provide spaces in which pedal rubbers 23 are secured by bolts 24, piercing the spaced sides of the inner and outer frames and the pedal rubbers at a plurality of points and securely fastening the said parts together. The rectangular inner and outer pedal frames are reversely arranged, the terminals of the inner frame being arranged at one side of the pedal while the terminals of the outer frame are located at the opposite side of the pedal, so that the joint or space between the terminals of each frame is spanned by the intermediate solid portion of the other frame. By this arrangement, the terminals of the inner and outer frames may be spaced, as shown, without impairing the strength of the pedal, as the continuous intermediate portion of each frame forms a brace for the terminals of the other frame. The pedal rubbers, which are firmly held between the spaced side portions of the pedal frame, project above and below the upper and lower edges of the sides of the said frames, so as to receive the foot.

The inner sleeve is provided with a smooth round bore or opening for the reception of a pedal pin 25, provided at its outer end with a head 26 and having a threaded inner end 27, which screws into a threaded opening 28 in the crank 8 in the usual manner. The pedal pin is smooth and cylindrical between the head 26 and the threaded end 27 to fit the cylindrical inner sleeve. The pedal possesses sufficient strength to withstand a blow of sufficient force to break the pedal pin, and should the latter become broken, it may be removed without affecting the bearings of the pedal, and it may be replaced from a tool bag, or a common bolt of the proper size may be utilized in making such a repair.

What is claimed is:—

1. In a device of the class described, the combination with a crank having a threaded opening, and a pedal pin having a threaded inner end to engage the opening of the crank and provided at the outer end with a head, said pedal pin being smooth and cylindrical between the head and the threaded end, of an inner sleeve arranged on the pin, an outer sleeve receiving and spaced from the inner sleeve, anti-friction devices interposed between the sleeves, means carried by the sleeves for retaining the anti-friction devices in place, and a pedal frame carried by the outer sleeve.

2. A device of the class described includ-

ing an inner sleeve having a smooth bore and adapted to be connected with a crank by a plain pedal pin or bolt, ball cones mounted on the inner sleeve, an outer sleeve provided at its ends with cup-shaped shells, anti-friction balls arranged within the shells and cooperating with the cones, and a pedal frame secured to the shells of the outer sleeve.

3. A device of the class described including an inner sleeve, an outer sleeve having approximately cup-shaped shells exteriorly threaded and provided at the inner ends of the threaded portions with shoulders, anti-friction devices arranged within the shells, clamping nuts mounted on the threaded portions of the shells, and a pedal frame arranged on the said shells and clamped against the shoulders by the said nuts.

4. A device of the class described including an inner sleeve, an outer sleeve having approximately cup-shaped shells exteriorly threaded and provided at the inner ends of the threaded portions with shoulders, anti-friction devices arranged within the shells, clamping nuts mounted on the threaded portions of the shells, and inner and outer pedal frames having spaced side portions and abutting end portions, the latter being provided with registering openings and arranged on the inner shells and clamped against the shoulders thereof by the said nuts.

5. A pedal including inner and outer approximately rectangular frames, each constructed of a single piece of metal and reversely arranged, the terminal of each frame being located at and spanned by the intermediate portion of the other frame, and means for connecting the terminal portions of the frames with the adjacent intermediate portions of the same.

6. A pedal including inner and outer frames, each constructed of a single piece of metal bent into rectangular form, the ends of the frames abutting and having registering openings and the sides of the frames being spaced apart with the terminals of the metal of each frame located opposite the continuous intermediate portion of the other frame, pedal rubbers arranged between the side portions of the frames, and fastening devices piercing the sides of the frames and the pedal rubbers and securing such parts together.

7. A pedal comprising bearings including an outer sleeve provided at its ends with cup-shaped shells having threaded portions, and shoulders in rear of the threaded portions, inner and outer pedal frames having abutting end portions provided with registering openings and arranged on the threaded portions of the shells and bearing against the shoulders, the side portions of the pedal frames being spaced apart to receive pedal rubbers, and nuts arranged on

the threaded portions of the shells and clamping the abutting end portions of the pedal frames to the latter.

5 8. A pedal comprising an outer sleeve provided at its ends with inner and outer cup-shaped shells opening outwardly, inner and outer ball cups arranged within the said shells, an inner sleeve extending through the outer sleeve and having its outer end
10 exteriorly threaded and provided at its inner end with an annular flange fitting within and entirely closing the outer end of the inner ball cup, ball cones mounted on the inner and outer portions of the inner sleeve
15 and arranged within the ball cups, anti-friction balls interposed between the cups and

the cones, a circular nut arranged on the threaded outer end of the inner sleeve and fitting within and entirely filling the outer end of the outer ball cup, and a pedal pin 20 extending through the inner sleeve and having a threaded inner end and provided at its outer end with a head extending beyond and overlapping the said nut.

In testimony, that I claim the foregoing 25 as my own, I have hereto affixed my signature in the presence of two witnesses.

ORON OVERTON.

Witnesses:

JOHN W. McALPINE,
JULIUS C. WICKE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."