

(No Model.)

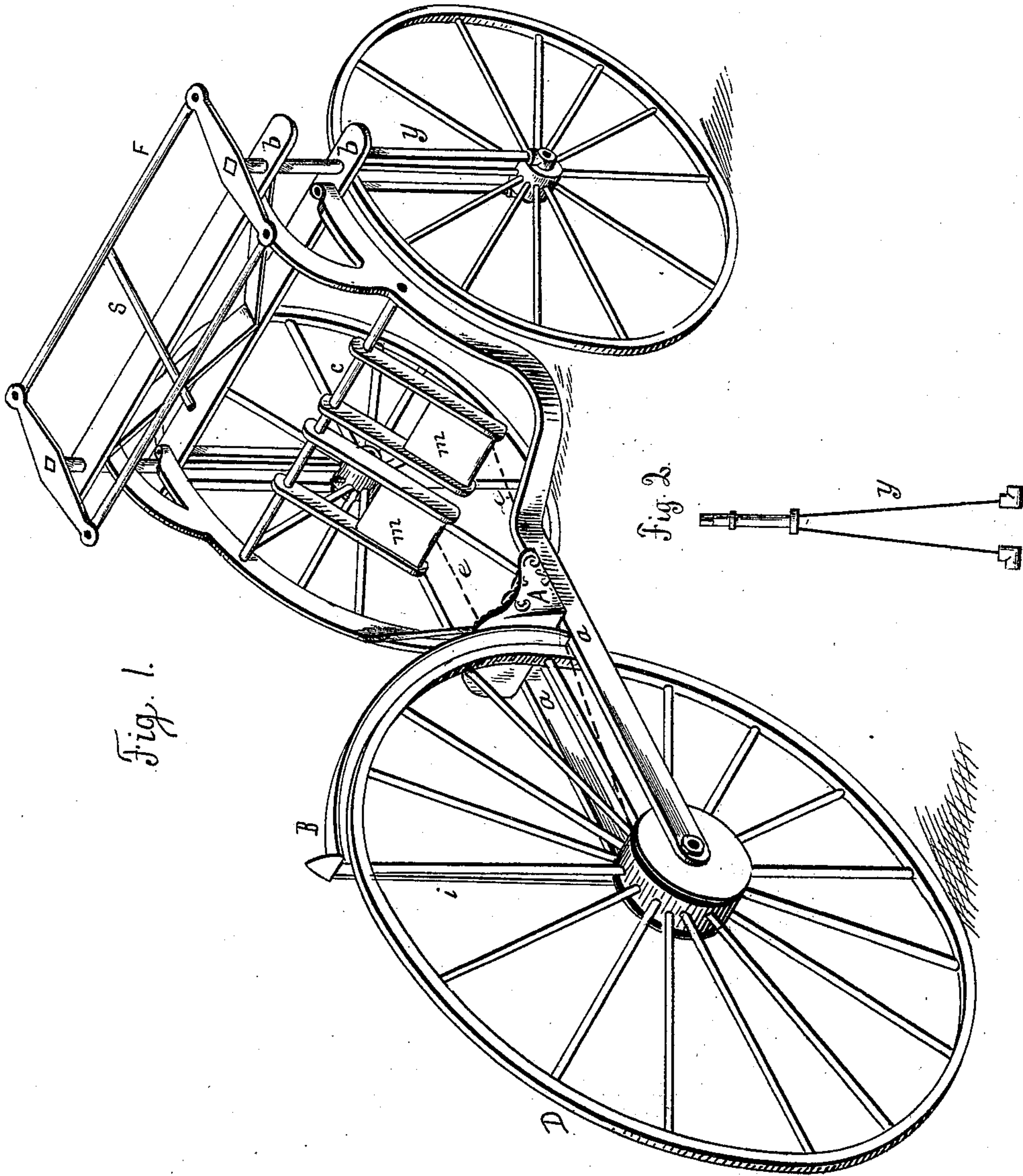
2 Sheets—Sheet 1.

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Velocipede.

No. 230.176.

Patented July 20, 1880.



Witnesses
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George P. Salisbury

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Fig. 3.

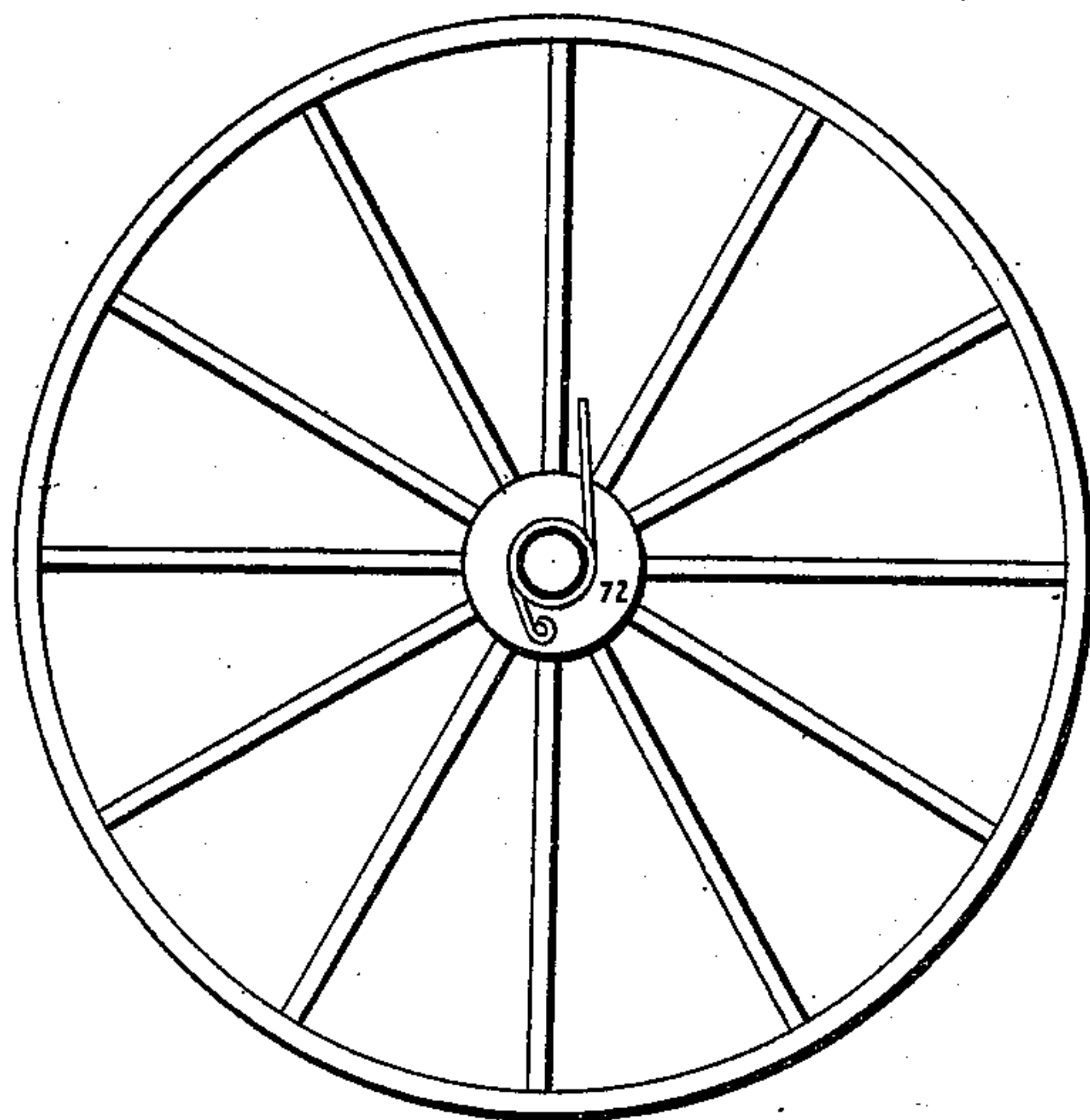


Fig. 4

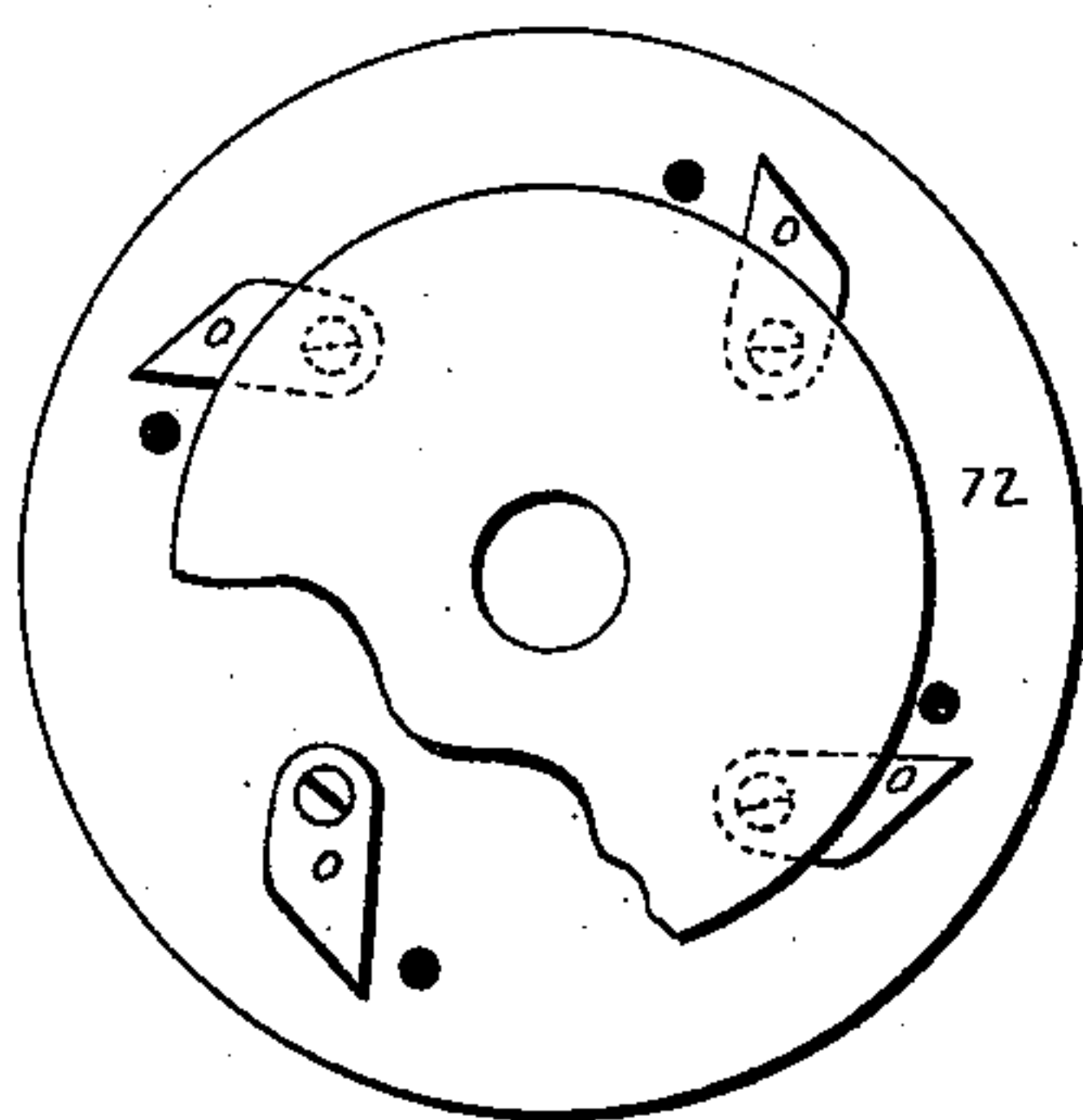


Fig. 5

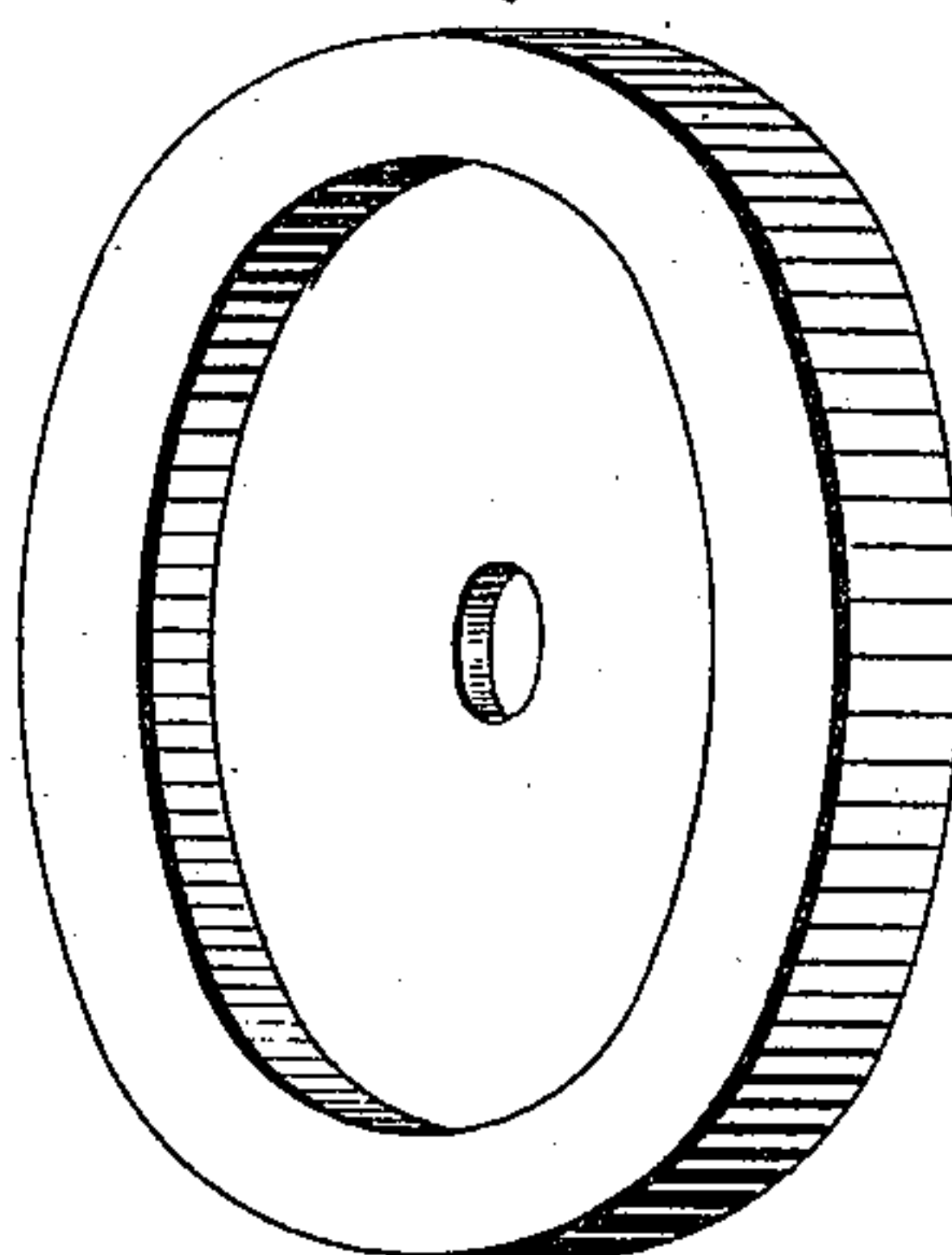
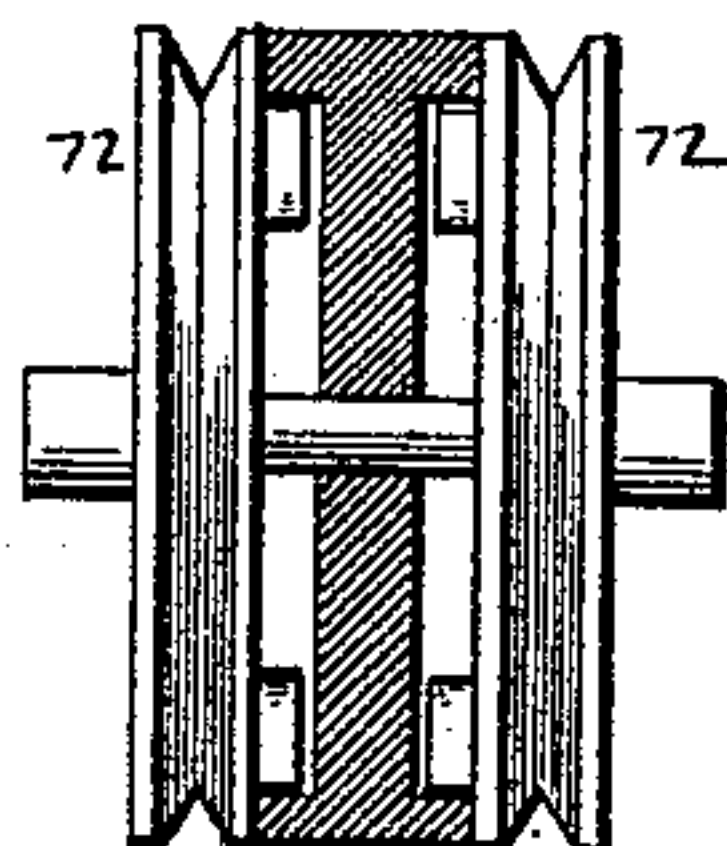


Fig. 6



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UNITED STATES PATENT OFFICE.

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VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 230,176, dated July 20, 1880.

Application filed May 6, 1880. (No model.)

To all whom it may concern:

Be it known that we, DANIEL H. COLLINS, JOHN W. T. TUTTLE, and HENRY C. COLLINS, of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Tricycles, of which the following is a specification.

Our invention relates to tricycles of the kind intended to be propelled by the feet.

10 The object of our improvements is to furnish improved means for steering the vehicle, and to so construct it that the bearing-points on the ground of the front steering-wheels shall maintain the same position relative to the bearing-point of the rear driving-wheel.

15 The invention consists in the novel construction and combination of the steering parts, and in the novel combination of the several parts of the vehicle, as the same are herein after more fully set forth and claimed.

20 In the drawings, which I hereby make a part of the specification, Figure 1 is a view of the tricycle. Fig. 2 is a view of the yoke over the front steering-wheels. Fig. 3 is a view of the rear driving-wheel, showing a spiral spring which forms a part of a clutch. Figs. 4 and 5 are enlarged views of the parts forming the clutch, and Fig. 6 shows a vertical section of the hub of the driving-wheel and parts operating in connection with it.

30 To enable others to make and use our improved tricycle, we will describe its several parts and their mode of operation.

35 The two parts or reaches *a a* connect the driving-wheel *D* with the front frame, *b b*, to which the front ends of the reaches are rigidly attached. The rear ends of the reaches furnish bearings in which the axle of the driving-wheel turns. The front ends are forked, as shown 40 in the drawings, to more firmly hold in a vertical position the frame *b b*. These reaches are preferably made of thin flat bars of steel, and may be curved, as shown in the drawings, or otherwise formed. To these reaches the seat *A* is attached, and through them the rod *c* passes, on which the pedals turn. The guard *B* is to intercept the dirt from the wheel, is made in the usual form, and has its front end attached to the seat, its rear end being supported by rods, one of which only, *i*, is shown.

The two pieces *b b*, rigidly attached to the forked ends of the reaches, constitute the front frame, are braced in the manner shown, and rest on shoulders on the journals on the yokes, Fig. 2, and support the front ends of the reaches. The pedals *m m*, made in the ordinary style, are pivoted at their upper ends to the rod *c*. To their lower ends the belts *e* (represented by broken lines) are attached; or, when more power is required on the driving-wheel, the belts may be attached midway of the ends of the pedals.

The steering-frame *F* consists of four pieces, their ends forming joints, and the two end pieces being rigidly attached to the upper ends of the yokes, as shown in Fig. 1. A steering-handle, *S*, is attached to this frame, and extends backward toward the seat, and is represented as broken off in the drawings.

The yokes *Y* are made in the form shown 70 in Figs. 1 and 2, their lower ends being provided with boxes, and their upper ends being journals with shoulders, on which the front frame rests.

In Fig. 3 a spiral spring is shown, one end 75 of which is attached to the circular disk *n*, and the other is attached to one of the reaches, to turn back the disk as the pressure on the pedal is removed.

Figs. 5 and 6 are enlarged views of the clutch 80 that is used. Fig. 5 is an enlarged view of one end of the hub forming a part of a clutch, and both ends of the hub are shown in section in Fig. 6.

In Fig. 4 the circular disk *n*, with the pawls 85 *o*, are shown, the outer edge of the disk being grooved to receive the belt. This form of clutch is not new and needs no particular description.

We do not confine ourselves to this particular kind of clutch; but any form of clutch may be used which is adapted to the purpose, and be attached to each end of the hub, thus forming a double clutch, by which a constant force may be applied to rotate the driving-wheel. 95 Constructed and arranged as above described, a constant force can be applied to the driving-wheel, and the bearing-points of the wheels on the ground are in the same position relative to each other at all times.

Having described our improvements, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the seat A, driving-wheel D, provided with clutches operating on the ends of its hub, guard B, belts *e*, pedals *m*, pivoted at their upper ends, reaches *a a*, rod *c*, front frame, *b b*, handle S, steering-frame F, yokes Y, and front steering-wheels, all the said parts constructed and combined as shown and set forth.

2. The combination, in a tricycle, of the han-

dle S, steering-frame F, yokes Y, free to turn in the front frame, *b b*, and provided with shoulders to support the same, and the front steering-wheels, substantially as shown and set forth. 15

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