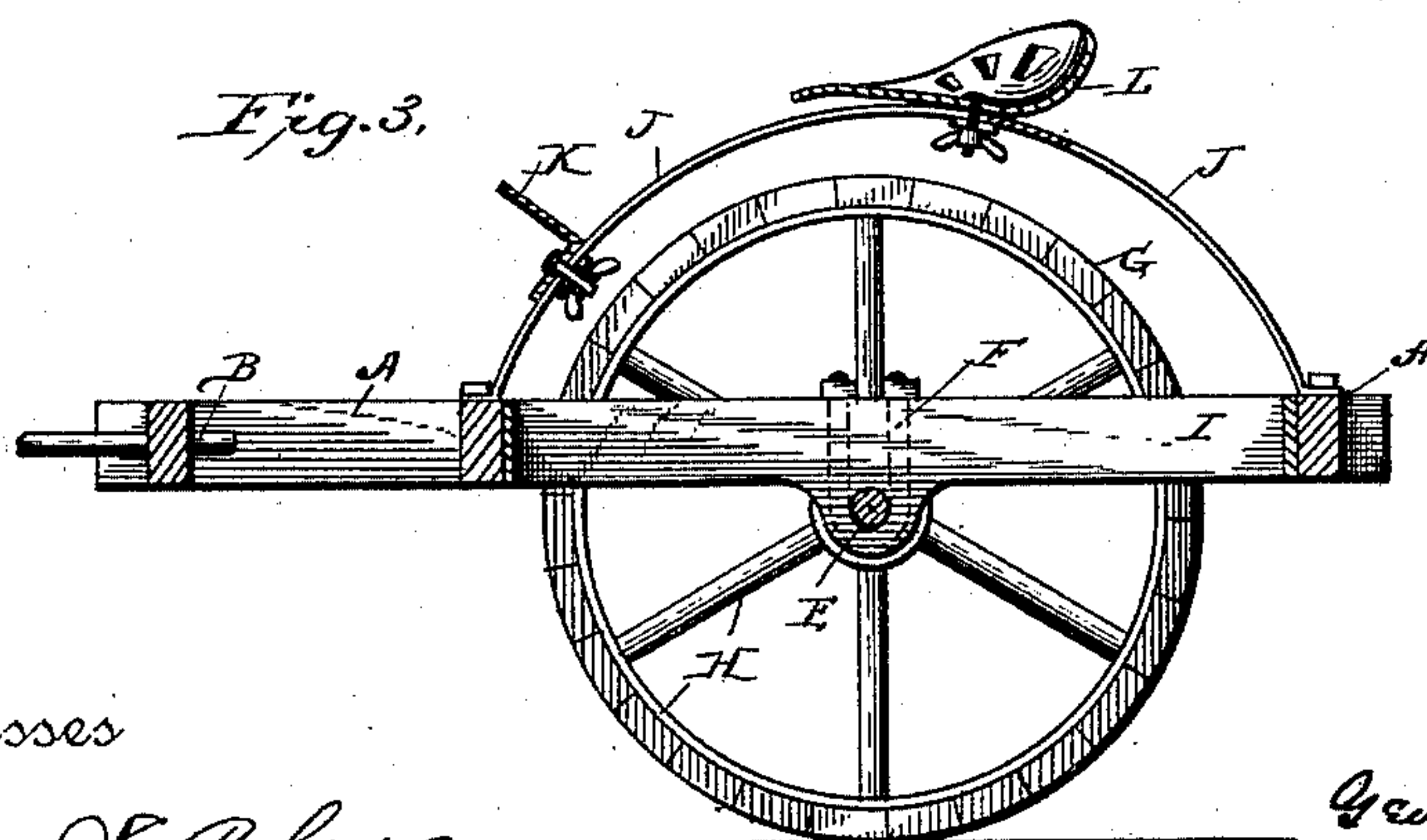
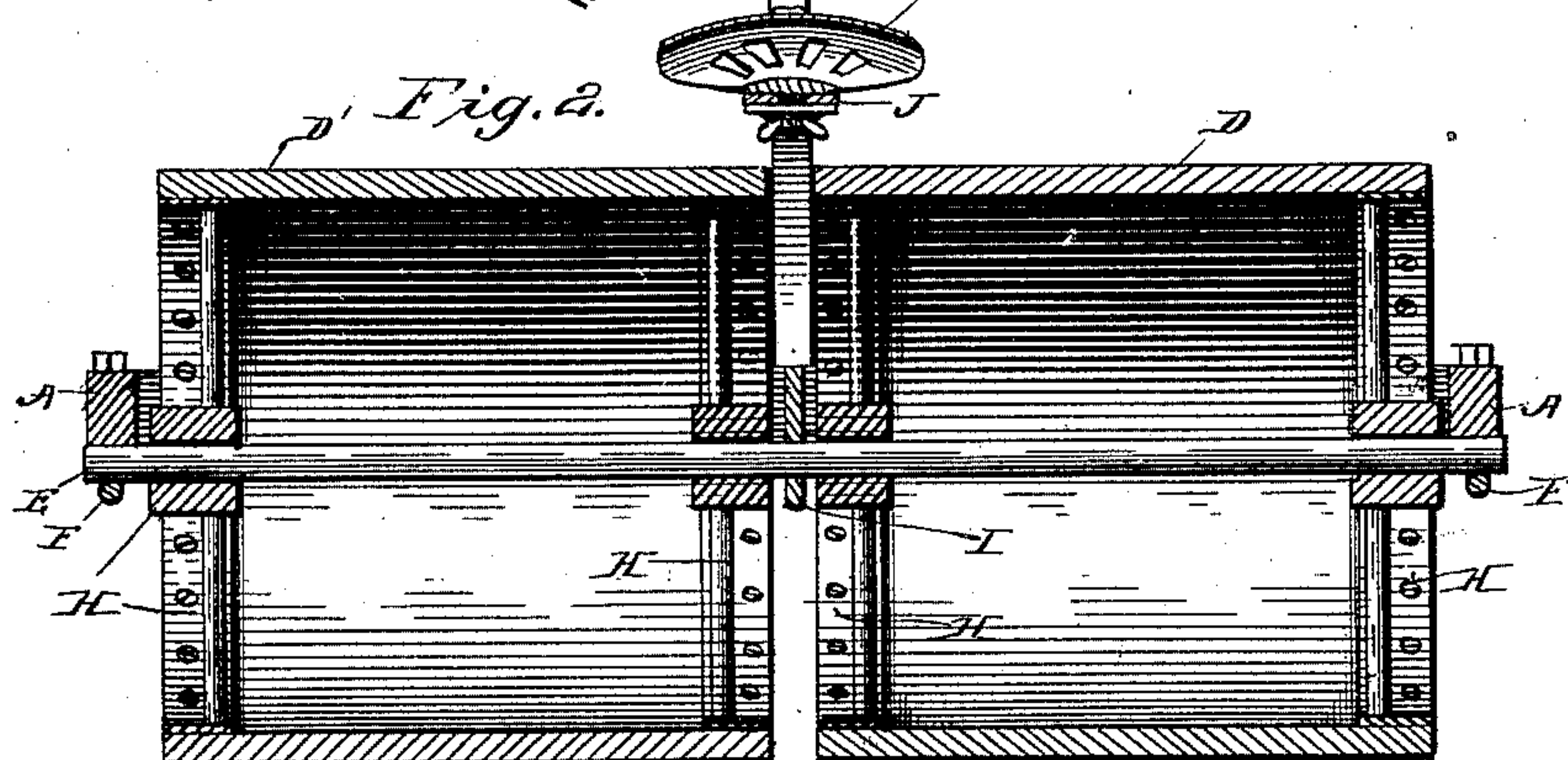
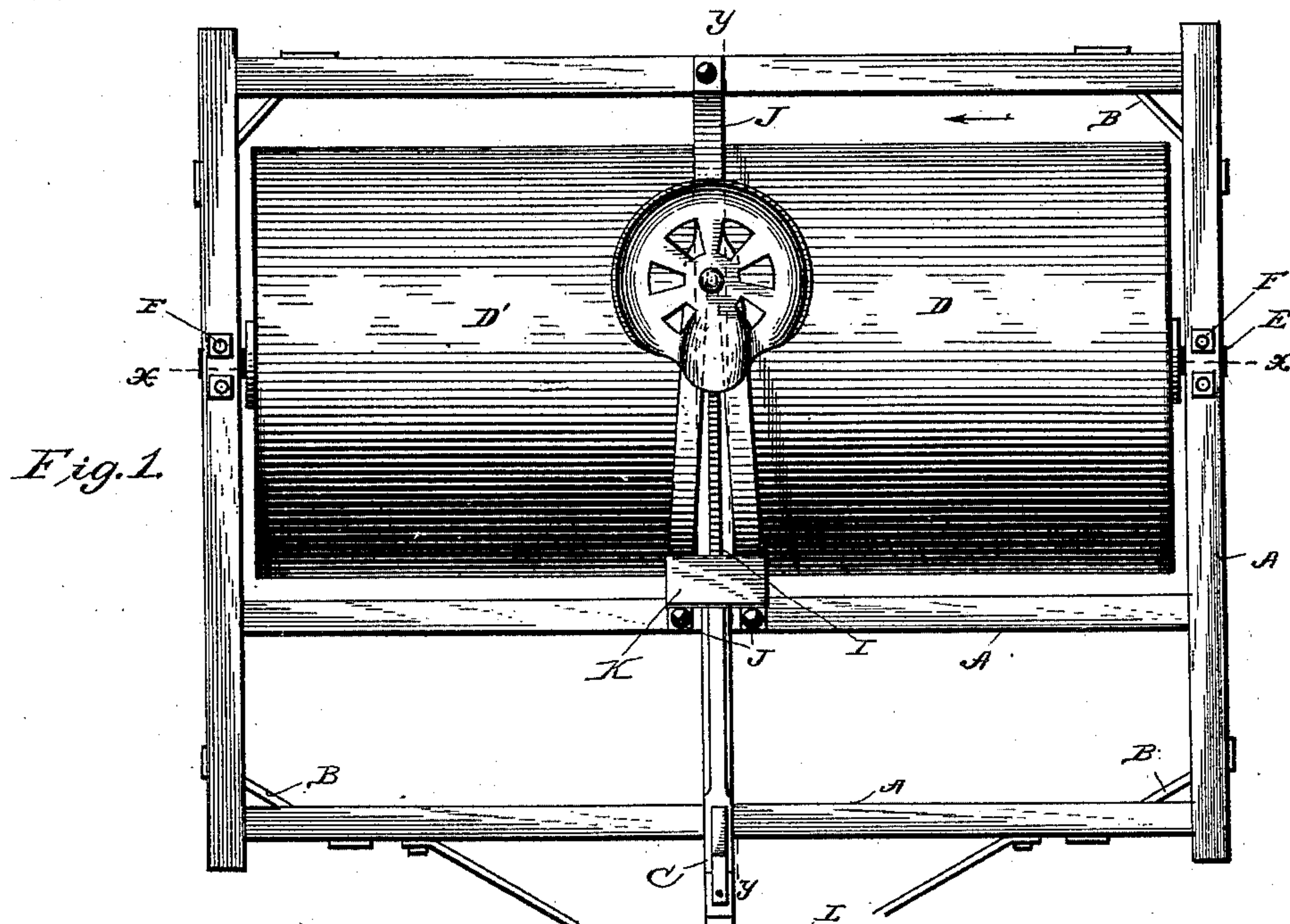


(No Model.)

G. S. BURR & J. M. CUMMINGS.
GROUND ROLLER.

No. 426,431.

Patented Apr. 29, 1890.



Witnesses

Harry S. Rohrer.
Wm. E. Norton

Inventors:

George S. Burr
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UNITED STATES PATENT OFFICE.

GEORGE S. BURR AND JOHN M. CUMMINGS, OF SCHOCHOH, KENTUCKY.

GROUND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 426,431, dated April 29, 1890.

Application filed July 22, 1889. Serial No. 318,224. (No model.)

To all whom it may concern:

Be it known that we, GEORGE S. BURR and JOHN M. CUMMINGS, citizens of the United States, residing at Schochoh, in the county of Logan and State of Kentucky, have invented certain new and useful Improvements in Ground-Rollers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention is fully shown in the accompanying drawings, in which—

Figure 1 is a plan of the roller. Fig. 2 is a section on the line $x x$, Fig. 1. Fig. 3 is a section on the line $y y$, Fig. 1.

In the drawings, A A is a rectangular frame of wooden beams stiffened at the corners by oblique bolts B and provided with the usual rigidly attached and braced tongue C. The roller proper consists of two independently-rotating cylinders D D' and mounted upon a steel axle E, rigidly secured to the frame A by U-shaped clips F at each end. Each cylinder is made up of heavy slats G, secured at their ends, respectively, to two light metal wheels H. The inner ends of the two cylinders are slightly separated, and between them a vertically-broad metal bar I crosses the frame transversely and is rigidly secured thereto for the purpose of transmitting to the middle of the axle, instead of to its ends, any weight that may rest upon the middle of the roller, and to insure this result the axle is passed directly through the bar. Immediately above the bar and in its plane a seat-supporting spring J forms an arch over the roller, its ends being fastened to the members of the frame A. Its forward half is bifur-

cated, and to its branches a foot-rest K is fastened in such manner that it may be adjusted in height or distance from seat L, also adjustably fixed to the spring. The seat is usually placed a little in the rear of the vertical plane of the axle, in order that the weight of the rider may counterbalance the weight that would otherwise fall upon the necks of the horses.

Through the adjustability mentioned the apparatus may be readily arranged for a rider of any weight or height. On uneven ground the application of the weight to the middle of the axle is especially important, as it obviates in a great degree the usual inconstant side drafts.

Should any of the slats be by any accident broken, they may be very readily replaced, as they are secured to the rims of the wheels by screws; and as another advantage of our construction each roller has as its bearing at each end an ordinary metal wheel-hub, while the lightness of construction permits great diameter for a roller of a given weight, and hence lessens the draft.

What we claim is—

The combination, with the frame and the roller mounted therein, of the bifurcated arched spring J, and the seat L and foot-rest K, both adjustably clamped to said spring, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE S. BURR.
JOHN M. CUMMINGS.

Witnesses:

JOS. B. PAISLEY,
T. M. HARDIN.