

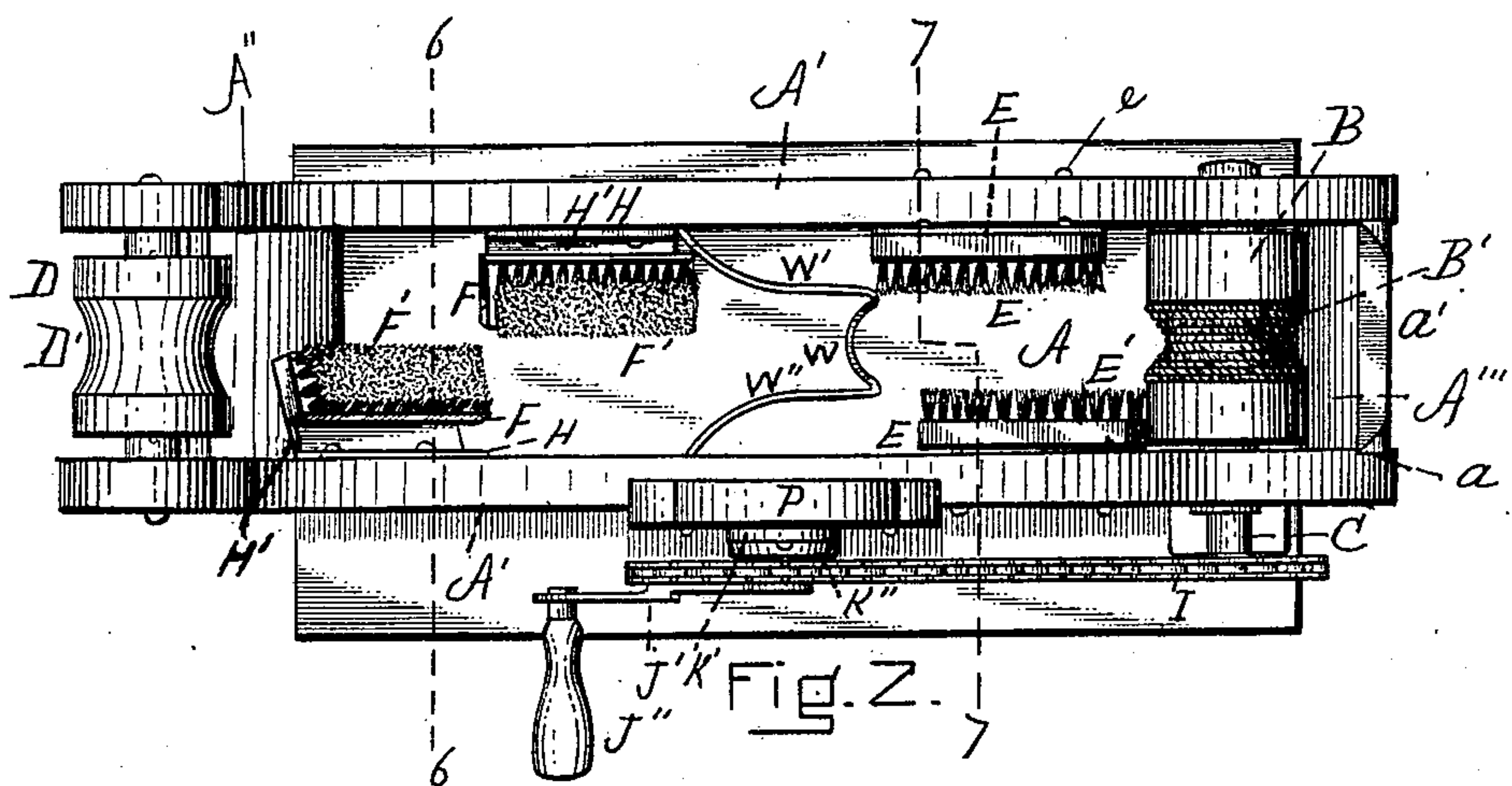
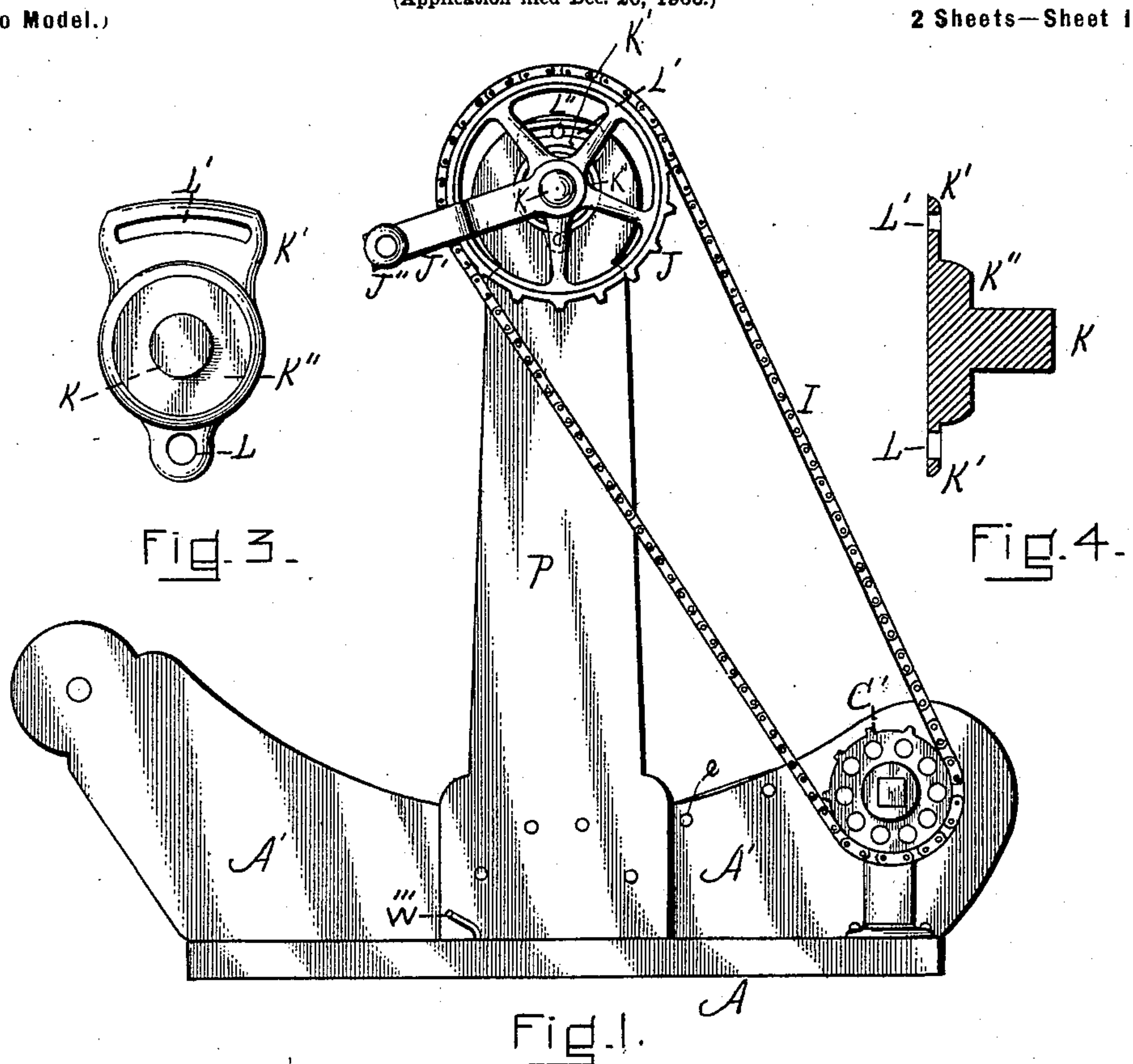
T. L. BARLOW.

MACHINE FOR CLEANING TIRES AND RIMS OF WHEELS.

(Application filed Dec. 20, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

A. N. Bonney.
E. P. Small.

INVENTOR=

Thomas L. Barlow,
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T. L. BARLOW.

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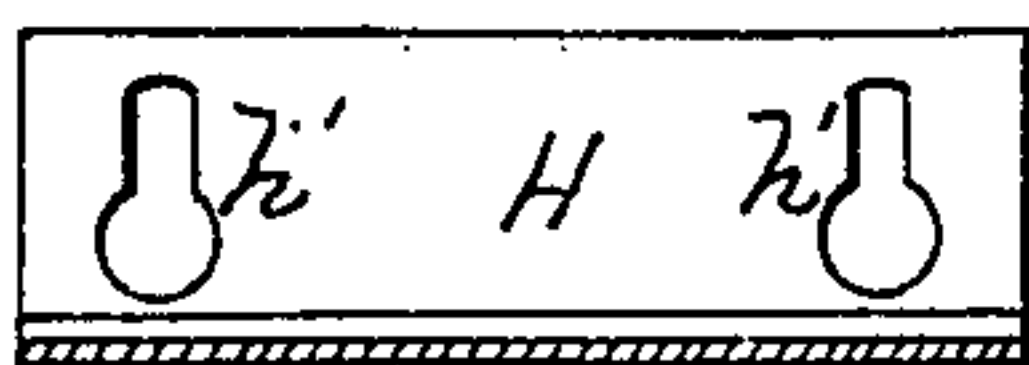


Fig. 8.

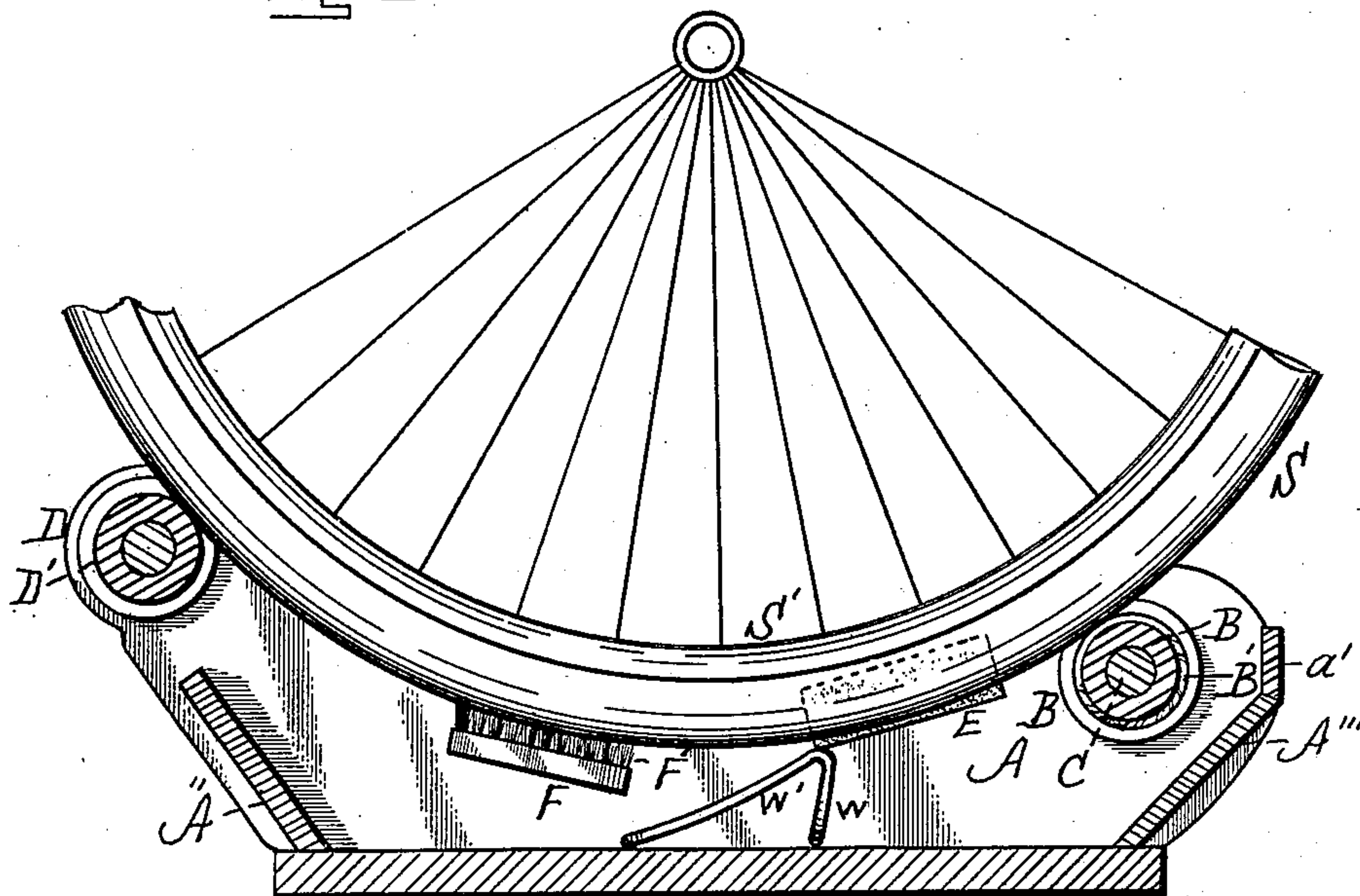


Fig. 5.

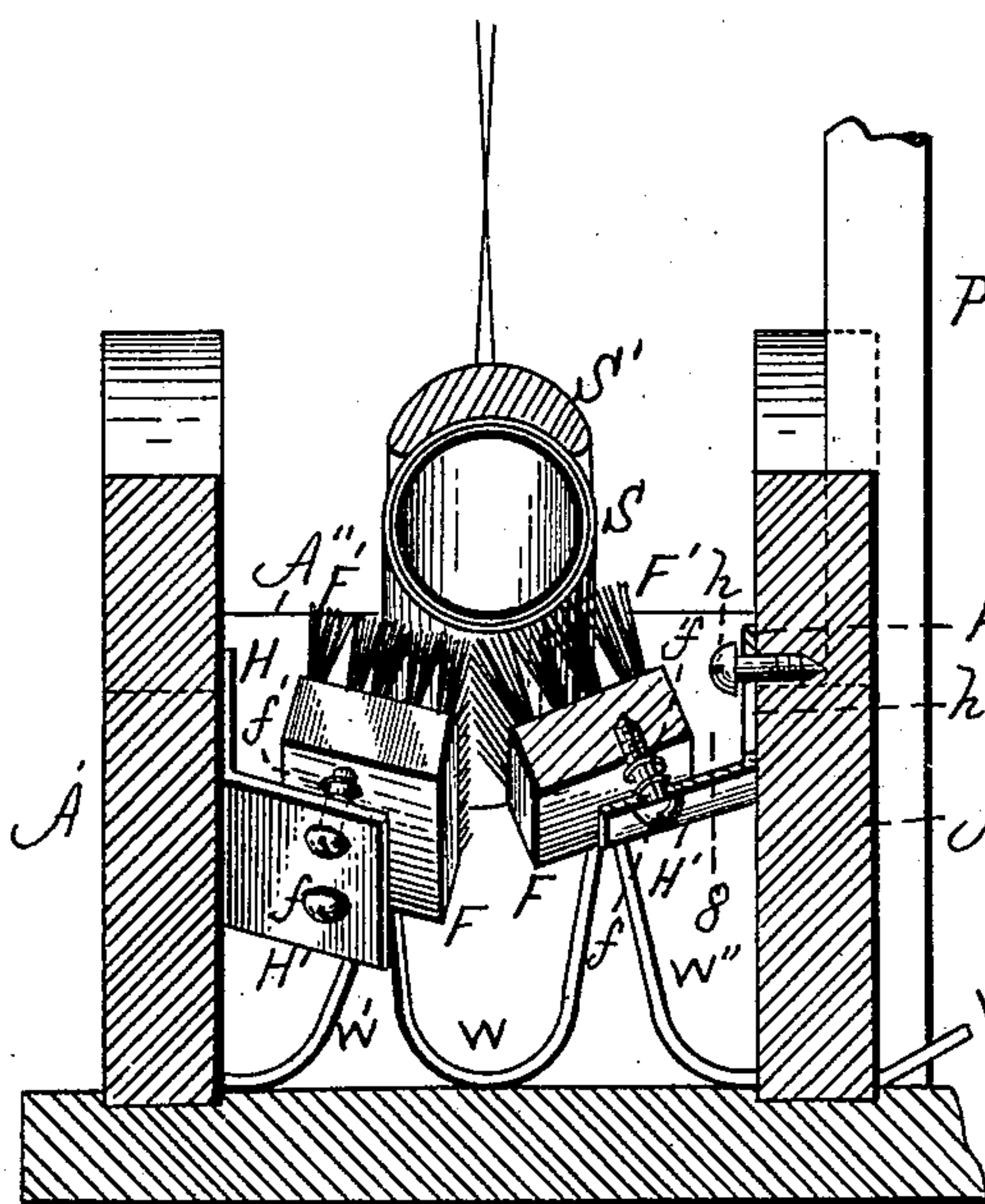


Fig. 6.

WITNESSES: A. N. Bonney.
E. P. Small.

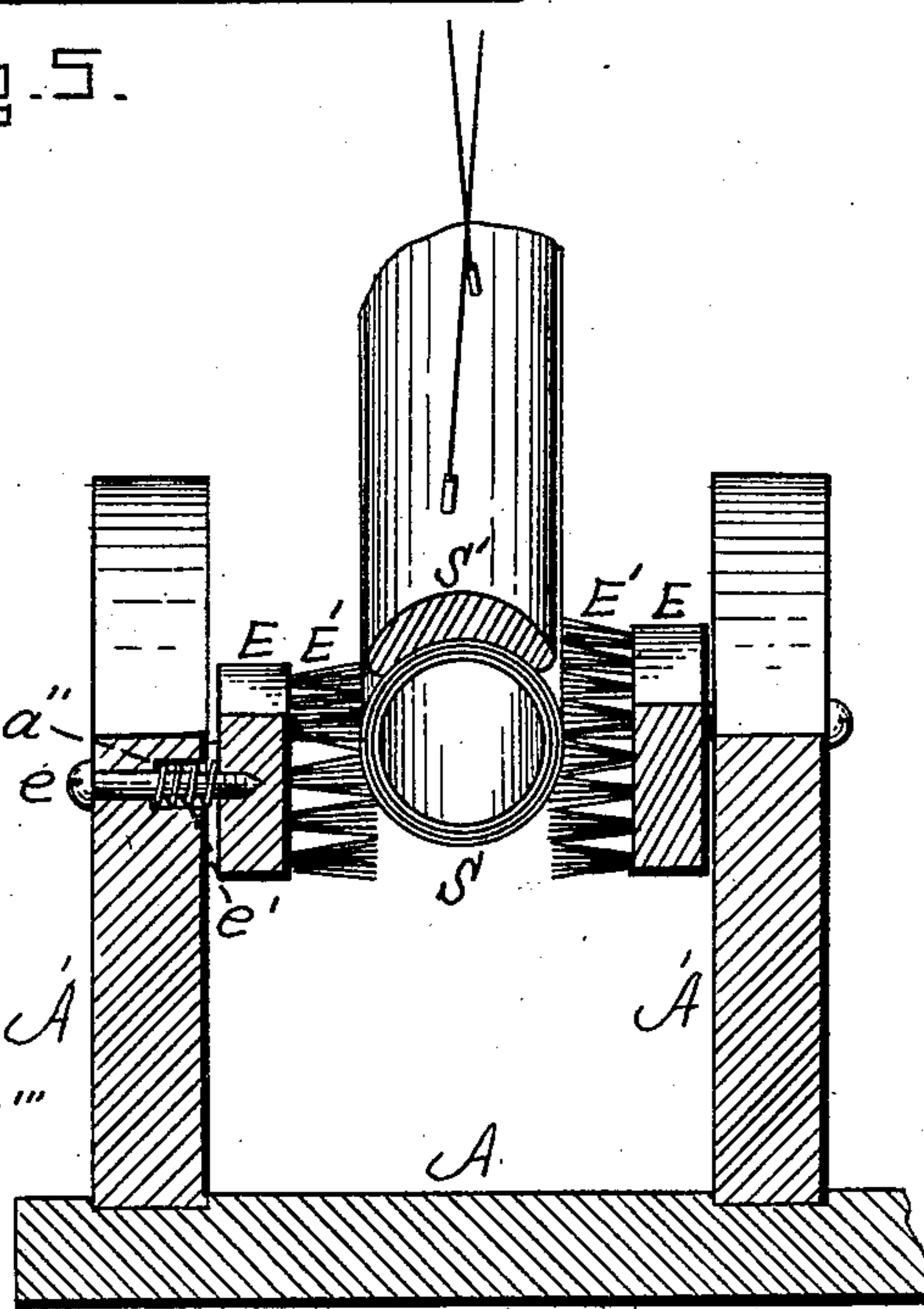


Fig. 7.

INVENTOR: Thomas L. Barlow.
By his Att'y Sherry, Williams

UNITED STATES PATENT OFFICE.

THOMAS L. BARLOW, OF BOSTON, MASSACHUSETTS.

MACHINE FOR CLEANING TIRES AND RIMS OF WHEELS.

SPECIFICATION forming part of Letters Patent No. 678,992, dated July 23, 1901.

Application filed December 20, 1900. Serial No. 40,576. (No model.)

To all whom it may concern:

Be it known that I, THOMAS L. BARLOW, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Machine for Cleaning Tires and Rims of Wheels, of which the following is a specification.

This device is especially adapted for removing the mud and dirt from the rubber tires and the rims of bicycle-wheels. In operating the device one of the wheels of the bicycle is dropped into or upon the machine, where it is supported in a substantially vertical position upon two rolls, one of which is a driven roll, and by turning the crank the wheel is rotated, with the tire upon and between stationary brushes, and the mud and dirt quickly removed from the bottom and sides thereof. The brushes are made adjustable in order that they may be applied to tires of different thicknesses, and a clearing-wire is arranged to be swung up by the foot against the tire in case the mud and dirt are so thick as to render its aid advisable.

The nature of the invention is fully described in detail below and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my machine. Fig. 2 is a plan view of the same. Fig. 3 is a side view of the plate which supports the upper sprocket-wheel detached. Fig. 4 is a cross vertical section of the same. Fig. 5 is a longitudinal vertical section of the trough or main portion of the apparatus, showing a portion of the wheel in position. Fig. 6 is a cross vertical section on line 6, Fig. 2. Fig. 7 is a cross vertical section taken on line 7, Fig. 2. Fig. 8 is an enlarged vertical section taken on line 8, Fig. 6.

Similar letters of reference indicate corresponding parts.

A represents the base, A' the side walls, and A'' and A''' the opposite end walls, of a trough. The end wall A''' is removable, being held at its ends in suitable grooves *a*, Fig. 2, out of which it can be drawn by grasping the upper end or handle portion *a'*.

B represents a roll provided centrally with an annular groove or recess which conforms approximately to the shape of a bicycle-tire, the grooved portion being wound with rope or

cord B' for the purpose of increasing the friction. This roll is rigid on the shaft C, which is provided with a sprocket-wheel C'. The roll B is placed horizontally near one end of the trough, and near the other end there is a roll D, provided with a groove D', somewhat similar in shape to but shallower than the groove in the roll B and unprovided with any particularly frictional surface.

The rolls are for receiving and supporting either one of the wheels of a bicycle in the manner indicated in Figs. 5, 6, and 7, in which the bicycle-tire is lettered S and the rim S'. Supported in the trough are two pairs of cleaning-brushes, one pair being adapted and set at suitable opposite angles to clean the outer periphery of the tire and the other being set vertically and opposite each other, and thereby adapted to clean the outer sides of the tire and the exposed edges of the rim. The brushes for cleaning the outer sides of the tire and the rim consist each of a back or base E, from which bristles E' project inward. These brushes are set vertically opposite each other at a suitable height to come in contact with the tire and preferably near the roll B. I prefer also, although it is not absolutely necessary, to set one somewhat in advance of the other. The brushes are sustained by screws *e*, Fig. 7, each brush having, preferably, two supporting-screws and each screw extending through the side wall A' into the back E of the brush and being provided with a spring *e'*, which lies in a recess *a''* in the wall and bears normally against the back of the brush. Thus these brushes are supported yieldingly as they bear against the tire and are adjustable horizontally in order to conform to tires of different thicknesses. The brushes for cleaning the periphery of the tire consist each of a back F, from which bristles F' project upward at an inward angle, as shown in Fig. 6. These brushes are supported from the opposite sides of the trough and are set at a suitable height to come in contact with the tire, preferably one in advance of the other and near the roll D and at such a distance from the side walls of the trough as to leave no portion of the periphery of the tire untouched. The back F of each brush is supported by the portion H' of an angle-plate, whose portion H is secured to

the side wall A' of the trough. The screws *f*, which extend through the portion H' of the plate into the back F of the brush, are provided with springs *f'*, by means of which a
 5 yielding pressure is applied to the tire, such pressure being adjustable by means of the screws. The portion H of each plate is secured to the wall A' by screws *h*, which extend through vertical slots *h'*, Figs. 6 and 8,
 10 whereby the plates, with the brushes secured thereto, are rendered vertically adjustable and removable. The angle of the plate H H' is such as to enable the bristles F' to reach all portions of the periphery of the tire, as shown in Fig. 6. A chain
 15 I connects the sprocket-wheel C' with a sprocket-wheel J, provided with a suitable arm J' and handle J'', said sprocket-wheel having its bearings on a stud K, Figs. 3 and
 20 4, integral with a plate K', having a thickened portion K''. This plate is provided with a hole L at its lower end, whereby it is secured to the upright or standard P, which is rigidly secured to one of the walls of the
 25 trough and extends up vertically therefrom at such a point as to be out of contact with the pedals when the bicycle-wheel is rotated. Near the upper end of the plate is a slot L', formed on an arc and through which a suitable
 30 pin extends into the upright P. By loosening the pin which extends through the slot L' the plate may be swung from the pivotal pin, which extends through the hole L, and the chain I tightened or loosened.

35 When the tire of a bicycle is to be cleaned, the wheel is dropped into the trough upon the rolls B D and in contact with the bristles E' F' of the two pairs of brushes. The frame leans against the standard P. The handle J'' is
 40 then turned, thus rotating the roll B, the bed of the groove of which by means of the wound rope B' imparts rotation to the wheel by means of the tire S, thus moving said tire between the brushes E and over the brushes
 45 F and in contact with all of them, so that the bristles scrape all portions of the tire and the outer edges of the rim S' and remove the mud and dirt which have accumulated thereupon.

In case there is an unusually thick or hard
 50 accumulation of mud or dirt on the tire its removal may be aided by means of a scraper or clearer consisting of a wire which is pivotally located in the trough between the two sets of brushes. This wire consists of the
 55 central portion W, curved to fit the periphery of a tire, and the outwardly-extending arms W' W'', both pivotally sustained in the walls A', the arm W'' extending through said wall and with its end formed up into the footpiece W''',
 60 which extends normally upward, as indicated in Figs. 1 and 6, the curved portion W resting on the base A, as shown in Fig. 5. When this clearer is to be used, the footpiece W''' is pressed down and the clearing portion W
 65 thus swung up against the tire, with the effect of removing the worst or most badly caked portion of the dirt, the brushes completing

the process. After the dirt has been removed from the tire or when the trough becomes nearly full the dirt can be emptied out by re- 70
 moving the sliding door A'''.

In practice, a few revolutions of the crank or handle operate to clean the tire to such an extent that it can be moved about freely without soiling a floor. In cities, where large 75
 numbers of the inhabitants live in apartment-houses and tenements and are obliged to keep their bicycles in halls or rooms, it has been found to be very difficult to prevent the bicycle-tire from soiling the floor unless the 80
 rider is willing to spend a great deal of time in thoroughly cleaning it. By means of this contrivance in two or three minutes both wheels of the bicycle can be thoroughly 85
 cleaned and the cleaning may be done without in the house or apartment without the floor becoming soiled. After the tire has been cleaned the contrivance may be used as a stand for the machine.

Having thus fully described my invention, 90
 what I claim, and desire to secure by Letters Patent, is—

1. In a machine of the character described, a trough; a pair of substantially horizontal rolls mounted therein and adapted to receive 95
 or support the wheel of a bicycle; a pair of stationary brushes secured in substantially vertical positions within the trough at a sufficient distance apart to allow a tire to be moved between them; and mechanism for op- 100
 erating one of said rolls and thereby rotating a wheel supported by said rolls between the brushes, substantially as and for the purpose set forth.

2. In a machine of the character described, 105
 a trough; a pair of substantially horizontal rolls mounted therein and adapted to receive or support the wheel of a bicycle; a pair of stationary brushes secured in said trough at such opposite angles with each other and at 110
 such a height as to act upon the periphery of a tire of the wheel supported by the rolls; and mechanism for actuating said rolls and thereby rotating the wheel supported there- 115
 upon over and in contact with the brushes, substantially as and for the purpose set forth.

3. In a machine of the character described, a trough; the friction-roll B mounted horizontally therein and provided with an annu- 120
 lar groove wound or lined with frictional material B'; mechanism for operating said roll; the horizontal roll D formed with the annular groove D' and mounted in the trough; said rolls being substantially at opposite ends 125
 of the trough and shaped to receive the tire of a bicycle-wheel; and brushes supported by the trough between said rolls in such positions and at such angles as to be in contact with and clean the tire of the wheel when the wheel is supported by the rolls, substantially 130
 as described.

4. In a machine of the character described, a trough; a pair of substantially horizontal rolls mounted therein and adapted to support

the wheel of a bicycle; mechanism for rotating one of said rolls; and the clearer consisting of the central portion W shaped to conform to the shape of the tire of the wheel, 5 supporting-arms W', W'' extending from said portion W and pivoted to the trough, and the footpiece W''' extending from one of said arms through the side of the trough at such an angle as to be in a raised position 10 when the central portion of the clearer rests on the bottom of the trough, substantially as set forth.

5. In a machine of the character described, the trough; the horizontal friction-roll B 15 mounted therein on the shaft C; a horizontal roll mounted in the trough near the opposite end thereof; said rolls being adapted to receive and support the wheel of a bicycle; brushes supported by the trough between the 20 rolls in the path of rotation of the bicycle-wheel; the standard or support P extending from the trough; the plate K' provided with the horizontal stud K and formed with the hole L whereby it is pivotally supported by 25 the standard, and at its upper end with the slot L' whereby it is adjustably connected with the standard by a suitable pin extending therefrom into the slot; sprocket-wheels on said shaft C and stud K; and a suitable 30 drive-chain connecting the wheels, substantially as described.

6. In a machine of the character described,

the trough A provided with the sides A' formed with the recesses a''; the vertically-set brushes E, E'; the screws e extending 35 horizontally through the sides of the trough into the backs of the brushes; springs e' disposed around the screws within the recesses; and rolls for sustaining a bicycle-wheel between the brushes; whereby the brushes are 40 adjustably pressed against opposite sides of the tire and rim of the wheel, substantially as set forth.

7. In a machine of the character described, the trough A provided with the sides A'; 45 the angle-shaped plates H, H' vertically slotted and thereby secured adjustably as to height to said sides; the brushes F, F' adjustably secured to the portions H' of the plates; rolls for supporting a bicycle-wheel 50 in the trough; and mechanism for operating said rolls, said brushes and the portions H' of said plates being arranged at such opposite angles and distances apart as to bring the bristles in contact with the periphery of 55 the tire, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS L. BARLOW.

Witnesses:

HENRY W. WILLIAMS,
A. N. BONNEY.