

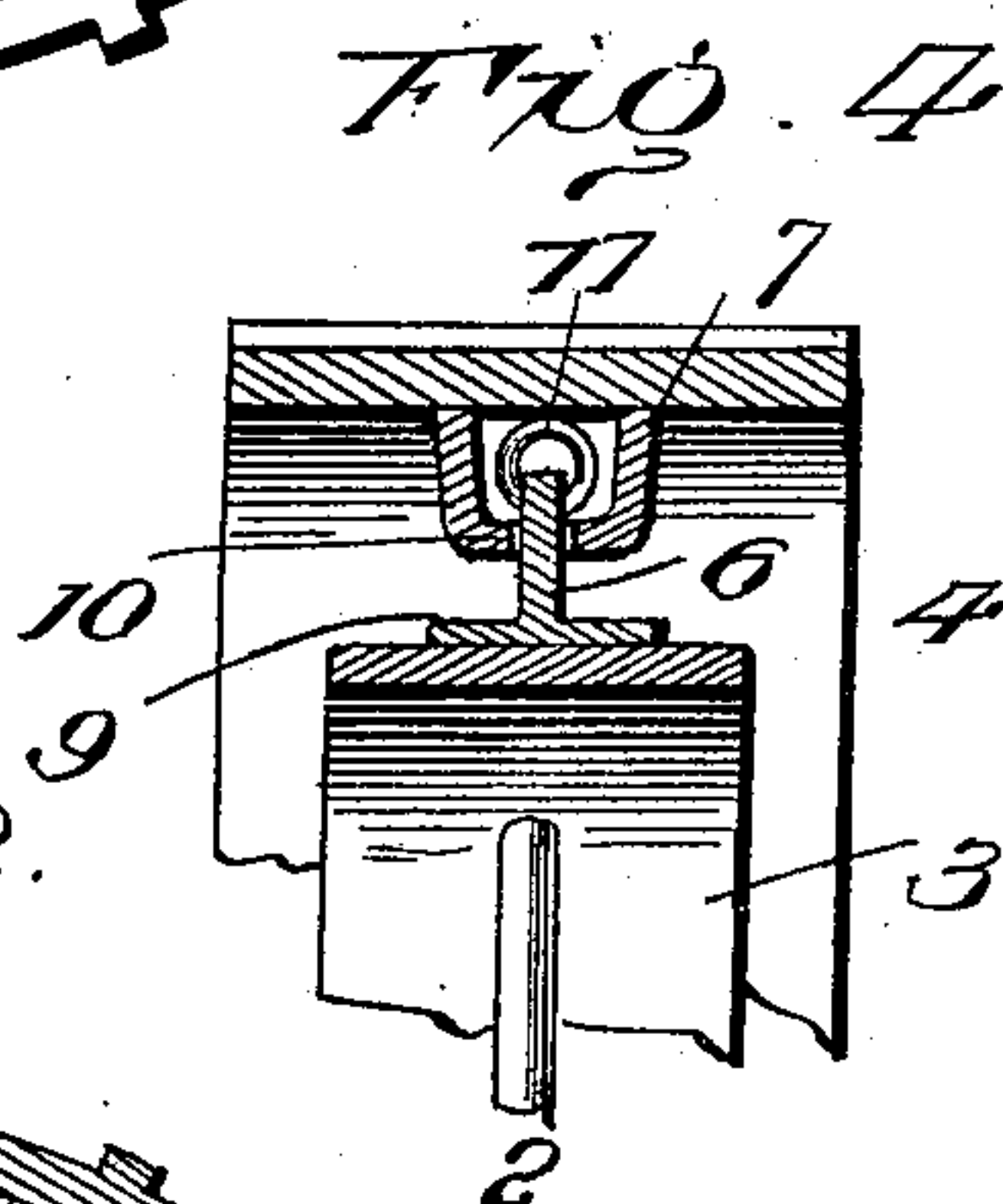
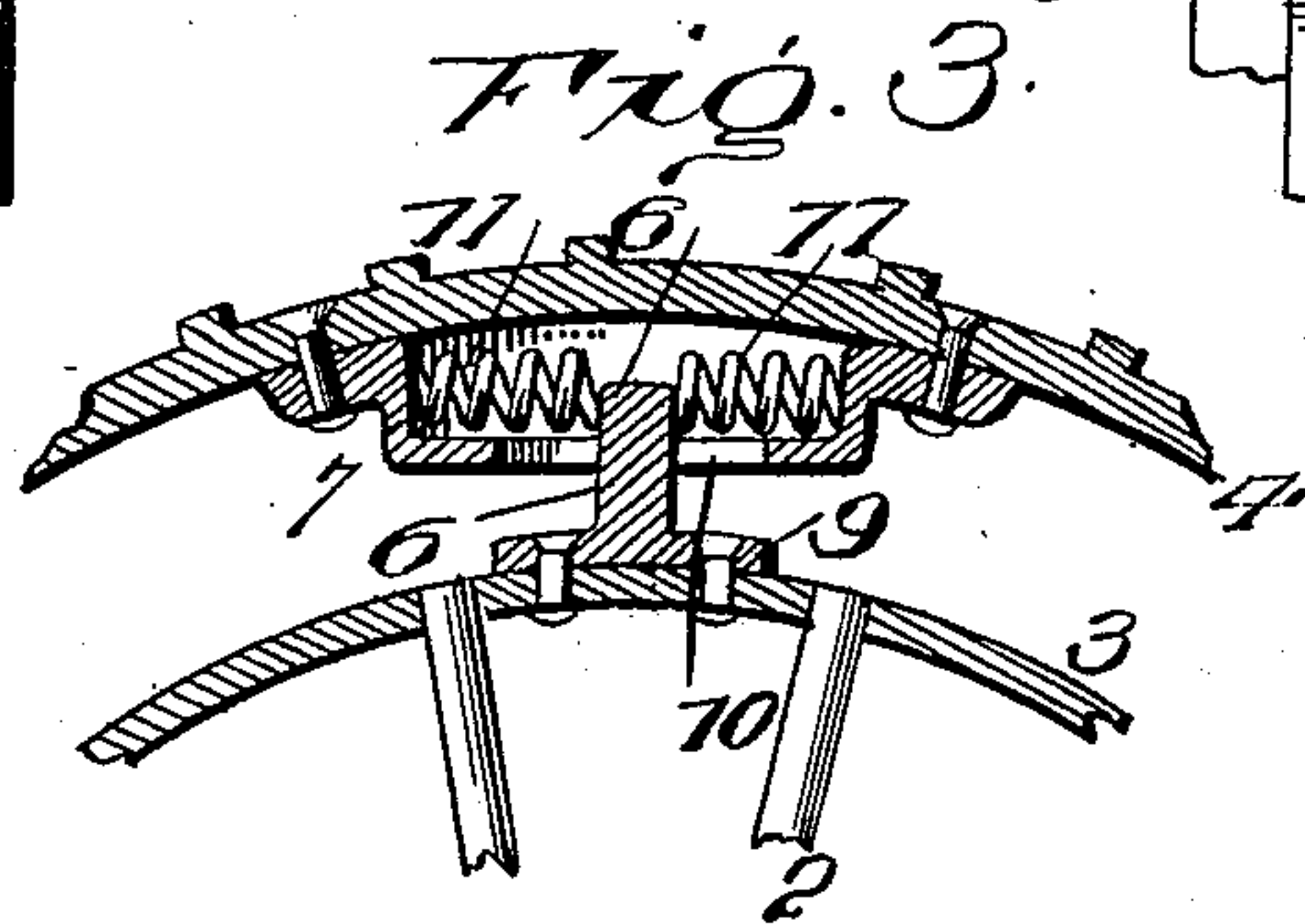
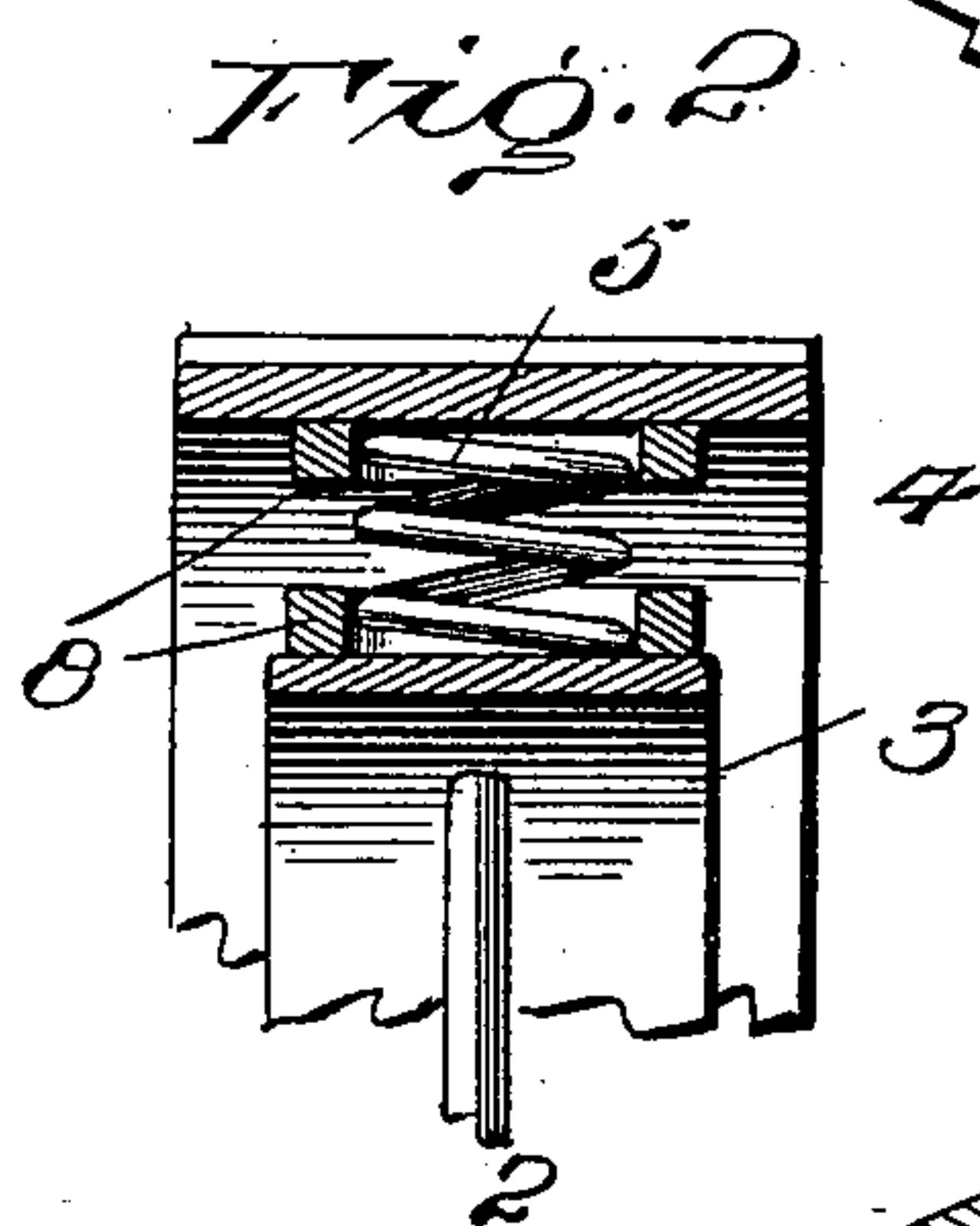
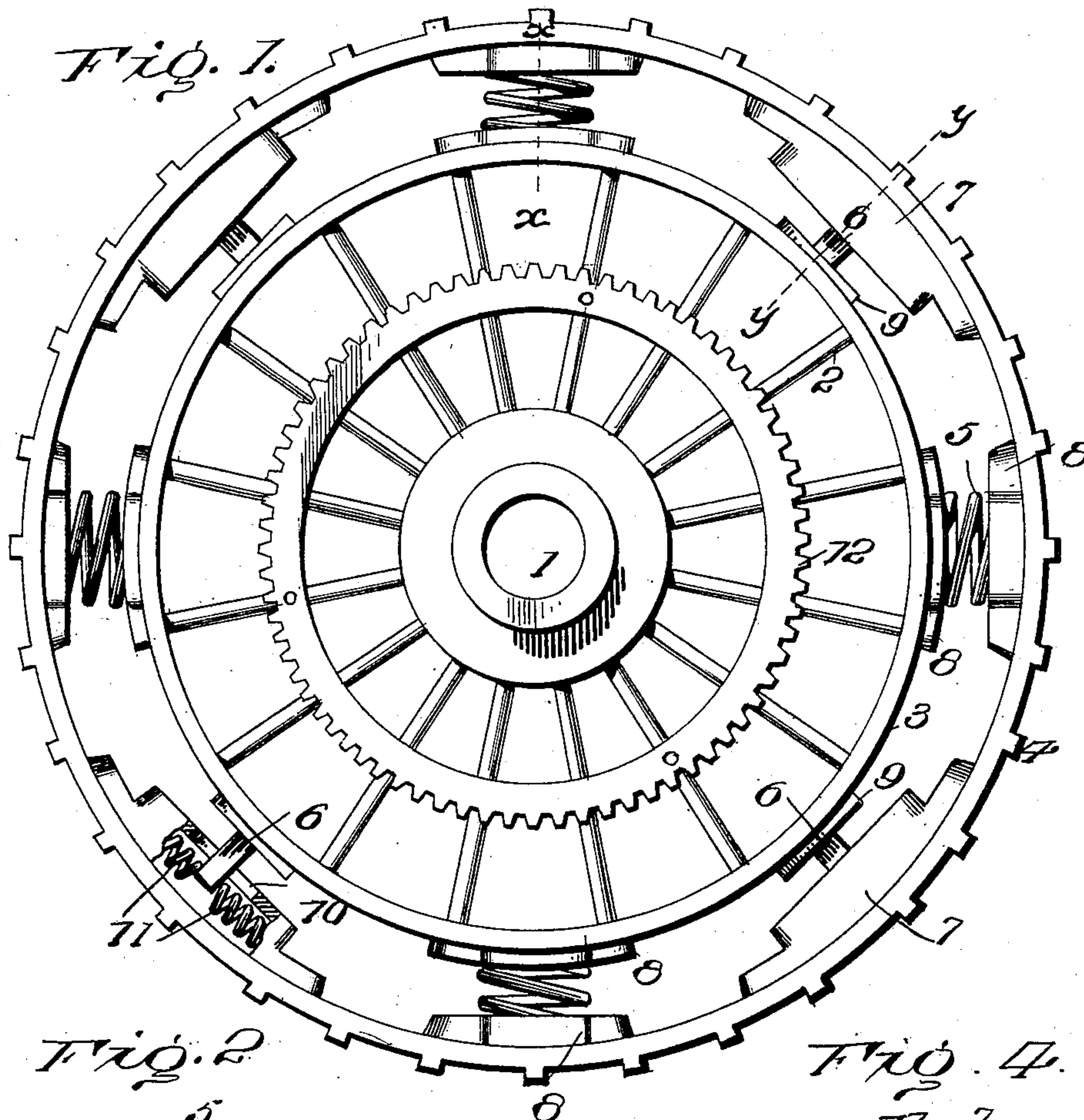
No. 641,579.

Patented Jan. 16, 1900.

J. D. CULLEN.
TRACTION WHEEL.

(Application filed Nov. 18, 1899.)

(No Model.)



Witnesses

John Miller
Charles B. Thompson

Inventor
Joseph D. Cullen

by *Robert R. Roney* his attorneys

UNITED STATES PATENT OFFICE.

JOSEPH D. CULLEN, OF SITKA, INDIANA.

TRACTION-WHEEL.

SPECIFICATION forming part of Letters Patent No. 641,579, dated January 16, 1900.

Application filed November 16, 1899. Serial No. 737,228. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH D. CULLEN, a citizen of the United States, residing at Sitka, in the county of White and State of Indiana, have invented certain new and useful Improvements in Traction-Wheels; and I 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.

This invention relates to wheels, and chiefly to the class designed as drivers, either for propelling the machine or for operating mechanism mounted upon the truck when the latter is drawn over the field.

The wheel consists of a central portion, mounted upon an axle or spindle journaled in fixed bearings, and an outer yieldable portion to compensate for jar, jolt, and sudden vertical thrusts. The power is taken from or applied to the central portion of the wheel, the latter being supplied with the cooperating gear, preferably toothed, but may be of any desired formation. The wheel is adapted to compensate for jolt by the relative movement between its inner and outer portions, whereas the gearing between the central part and the driven or driving mechanism maintains a fixed relation.

For a full description of the invention and the merits thereof, and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and the drawings hereto attached.

While the essential and characteristic features of the invention are necessarily susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a traction-wheel constructed in accordance with the invention. Fig. 2 is a transverse section on the line X X of Fig. 1. Fig. 3 is a detail longitudinal section. Fig. 4 is a cross-section on the line Y Y of Fig. 3.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference-characters.

The central portion of the wheel comprises the hub 1, spokes 2, and rim 3 of desired make

and construction. The outer portion is a rim 4, concentric with the rim 3 and connected therewith by stout springs 5, lugs 6, and box-castings 7. The springs 5 may have any form, so long as they serve to yieldingly connect the rims 3 and 4, and their ends are held from lateral displacement by washers or rings 8, secured to the opposing sides of the rims. The lugs 6 have base-flanges 9 fastened to the inner rim 3, and their outer ends enter longitudinal slots 10, formed in the inner wall of the box-castings 7, secured to the rim 4. A space is left between the terminals of the lugs 6 and the inner surface of the rim 4 to admit of the latter having play when taking up shock and jolt. Springs 11 are located in the boxes 7 upon opposite sides of the lugs 6 and serve to centralize the latter within the boxes and admit of the inner and the outer parts of the wheel having a relative limited circular movement to prevent straining when the engine is suddenly thrown into or out of gear. The slots 10 correspond in width to the thickness of the lugs 6, so as to prevent relative lateral play of the parts of the wheel.

Within the scope of the invention it is immaterial to which of the rims the lugs 6 are applied so long as they cooperate with the boxes 7 applied to the other rim. The construction shown is preferred, as it makes ample provision for the convenient location of the boxes 7 without crowding, which would be the case if differently placed. The gear element 12 provided for cooperation with the companion gear is secured to the central portion of the wheel, and, as shown, consists of a toothed rim.

Having thus described the invention, what is claimed as new is—

1. A traction-wheel comprising spaced concentric rims having relatively independent radial and circular movement, supports interposed between the rims and yieldable radially and in the plane of motion of the wheel, and positive interlocking devices between the respective rims and movable radially and in the plane of the wheel and constructed to prevent lateral displacement of said rims, substantially as described.

2. A traction-wheel comprising spaced concentric rims having relatively independent radial and circular movement, supports inter-

posed between the rims and yieldable radially and in the plane of motion of the wheel, positive interlocking devices having their elements rigidly attached to the respective rims 5 and movable radially and in the plane of the wheel and constructed to prevent lateral displacement of said rims, and springs interposed between the said rims to compensate for sudden movements of either rim in a circular direction, substantially as specified. 10

3. A wheel comprising inner and outer rims, yielding supports interposed between the rims, interlocking devices telescopically related and having a limited circumferential 15 movement and attached to the respective rims, and springs interposed between the interlocking devices to compensate for sudden movement of either rim in a circular direction, substantially as set forth.

20 4. A wheel comprising inner and outer rims, yielding supports interposed between the rims, a box-casting secured to one of the rims and having a longitudinal slot, a lug attached to the other rim and entering the slot of the 25 box-casting, and springs located in the front and in the rear of the lug and between it and the ends of the box and housed by the latter, substantially as specified.

5. A wheel comprising inner and outer rims, yielding supports interposed between the 30 rims, box-castings attached to one of the rims and having longitudinal slots, lugs attached to the other rim and having a radial and a circumferential movement in the slots of the box-castings, said boxes and lugs alternating 35 with the yielding supports, and springs housed by the box-castings and located in the front and in the rear of the lugs, substantially as described.

6. A traction-wheel comprising a central 40 portion having a gear element for transmitting power, a rim encircling the central portion, yielding supports between the rims of the parts, longitudinally-slotted box-castings and lugs attached to the respective rims, and 45 springs housed by the castings and arranged between the ends thereof and the end portions of the lugs, substantially as and for the purpose specified.

In testimony whereof I affix my signature 50 in presence of two witnesses.

JOSEPH D. CULLEN. [L. S.]

Witnesses:

WILLIAM GUTHRIE,
W. S. BUSHNELL.