

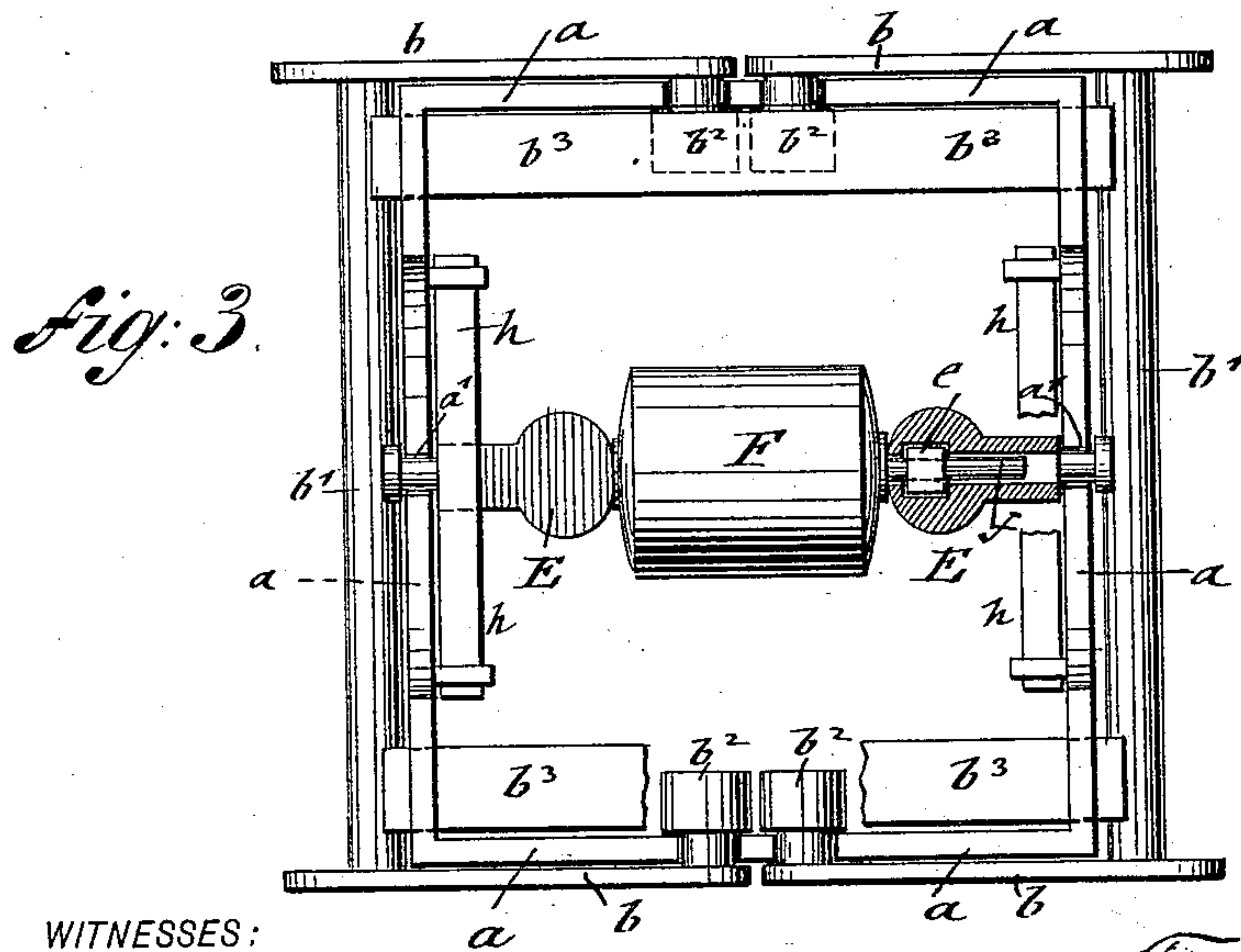
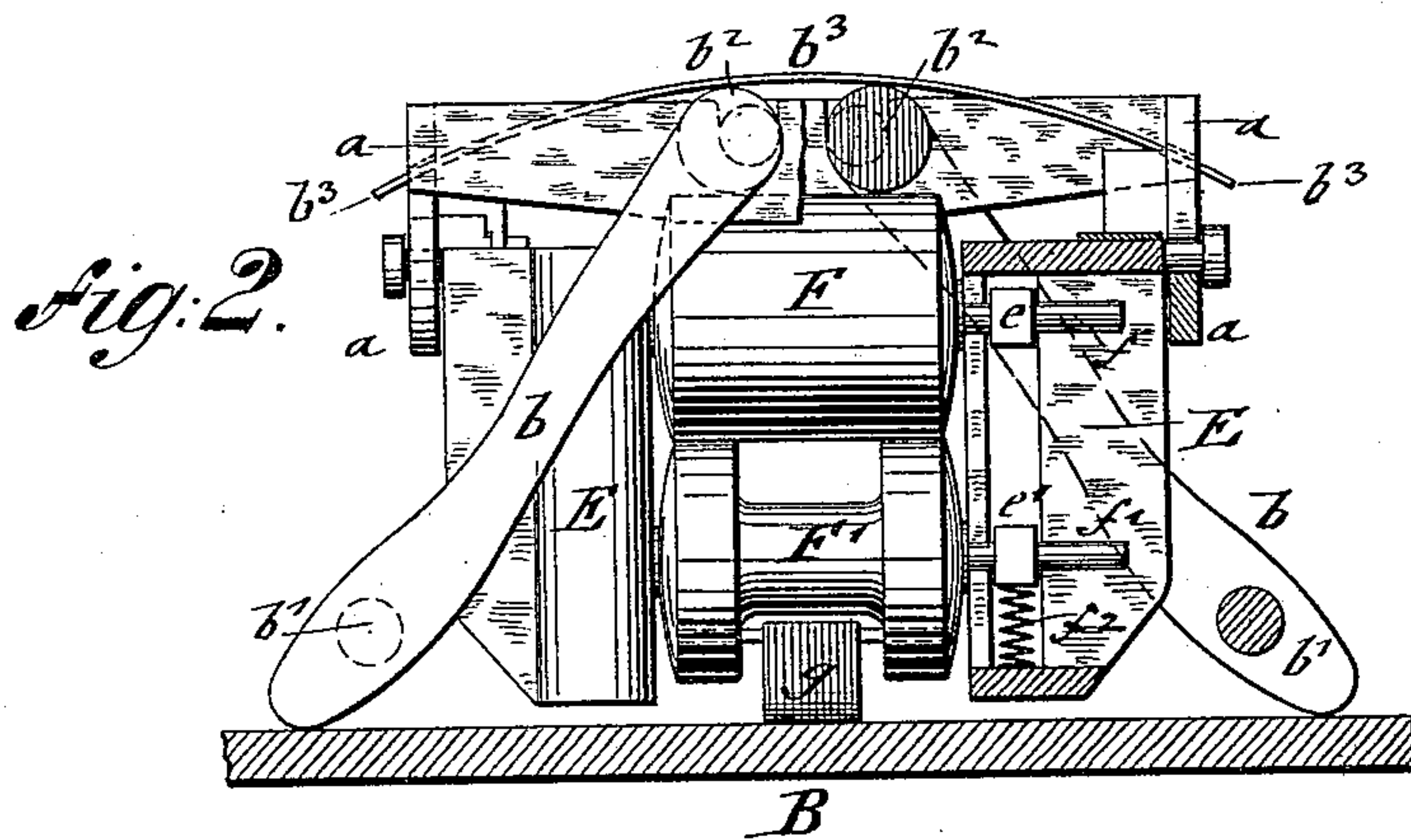
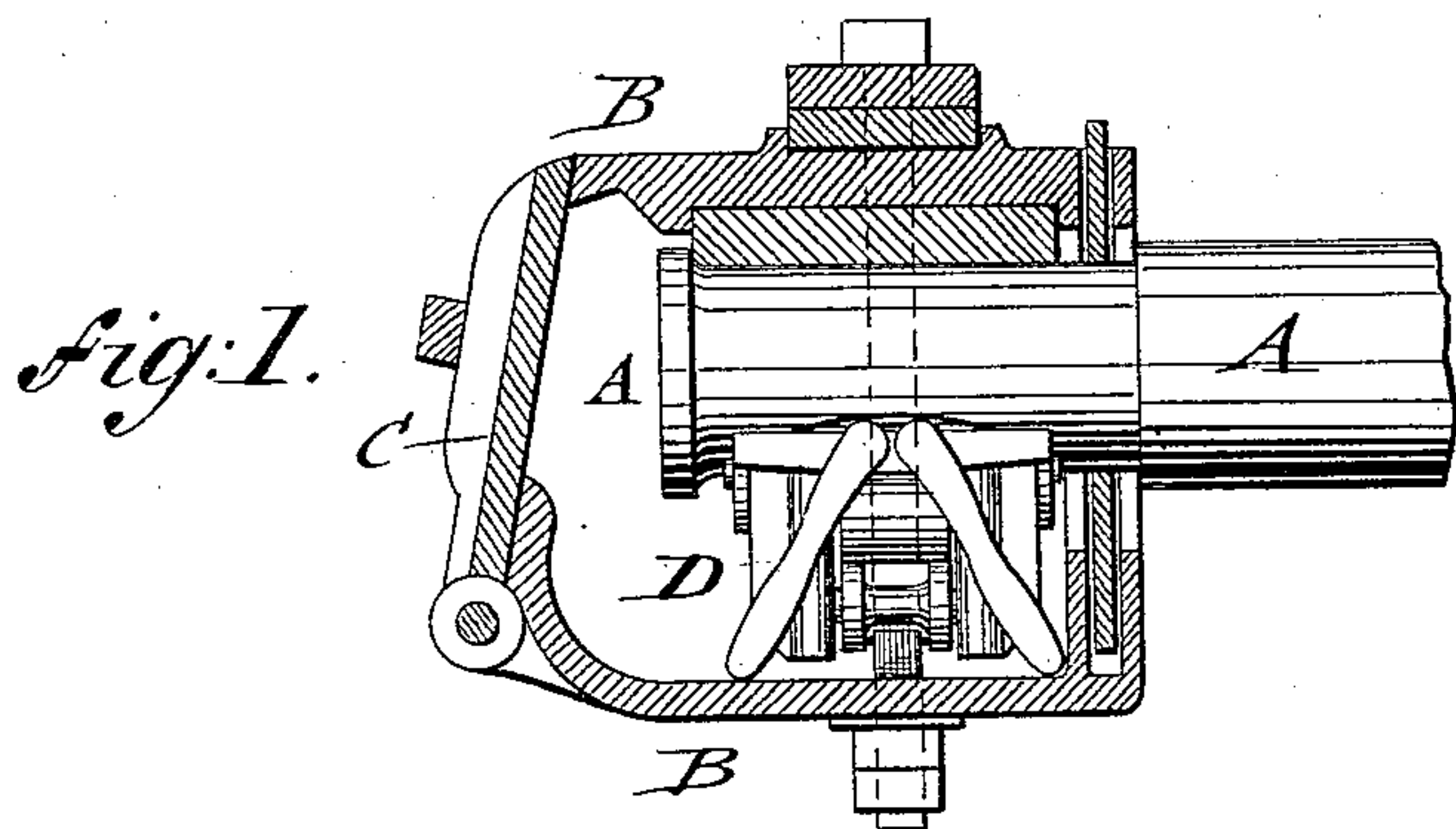
(No Model.)

2 Sheets—Sheet 1.

F. J. LEIBMANN.
CAR AXLE LUBRICATOR.

No. 461,265.

Patented Oct. 13, 1891.



WITNESSES:

A. Schehl.
Meimherr

INVENTOR:

Frank J. Leibmann
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Charles Regener.
ATTORNEYS.

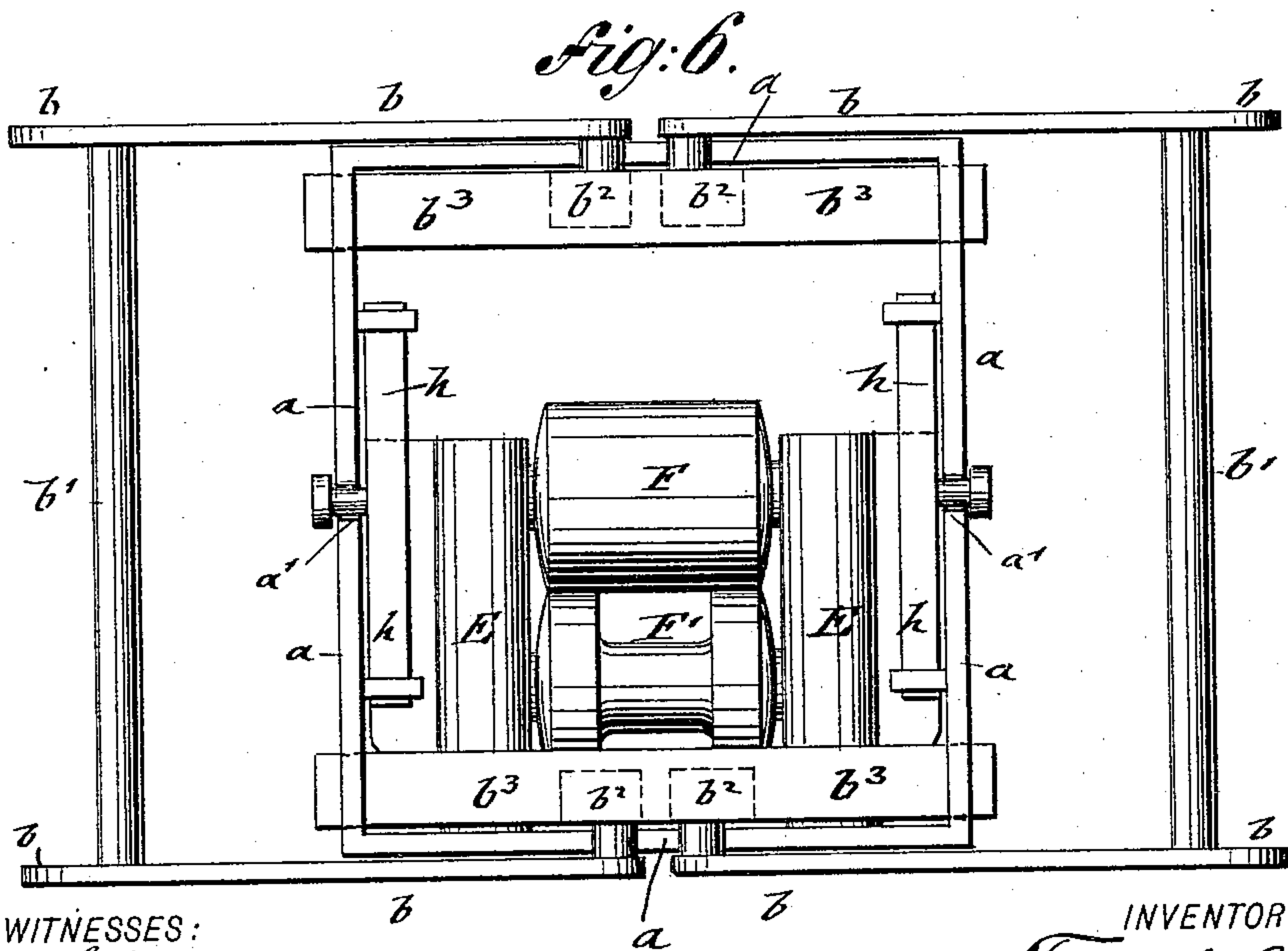
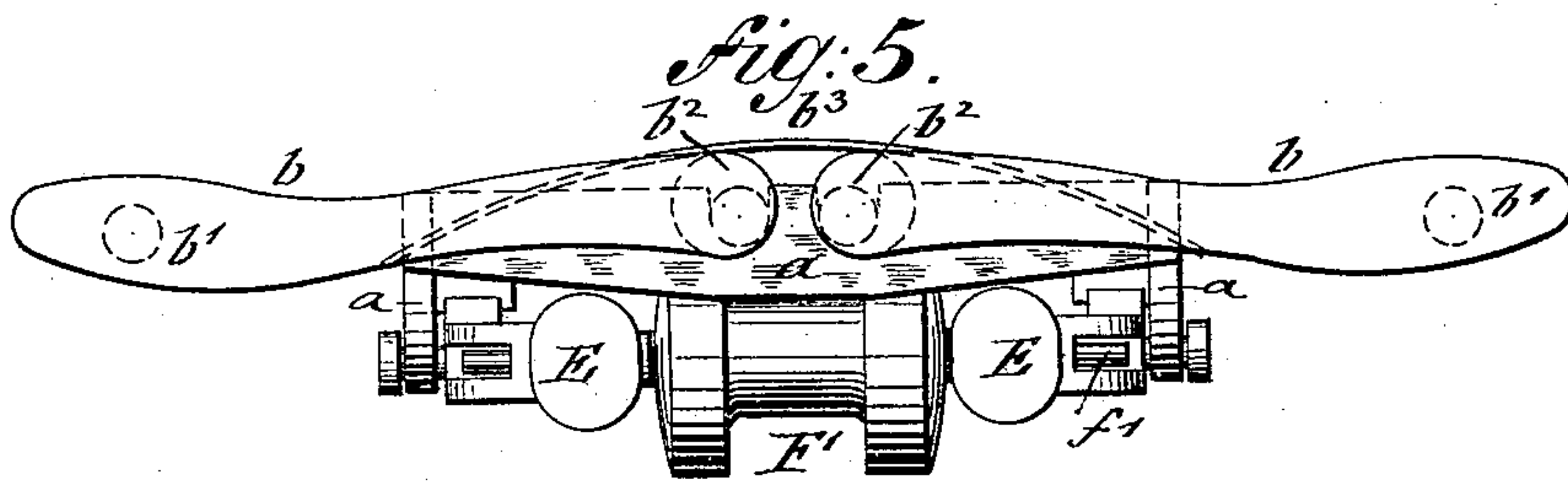
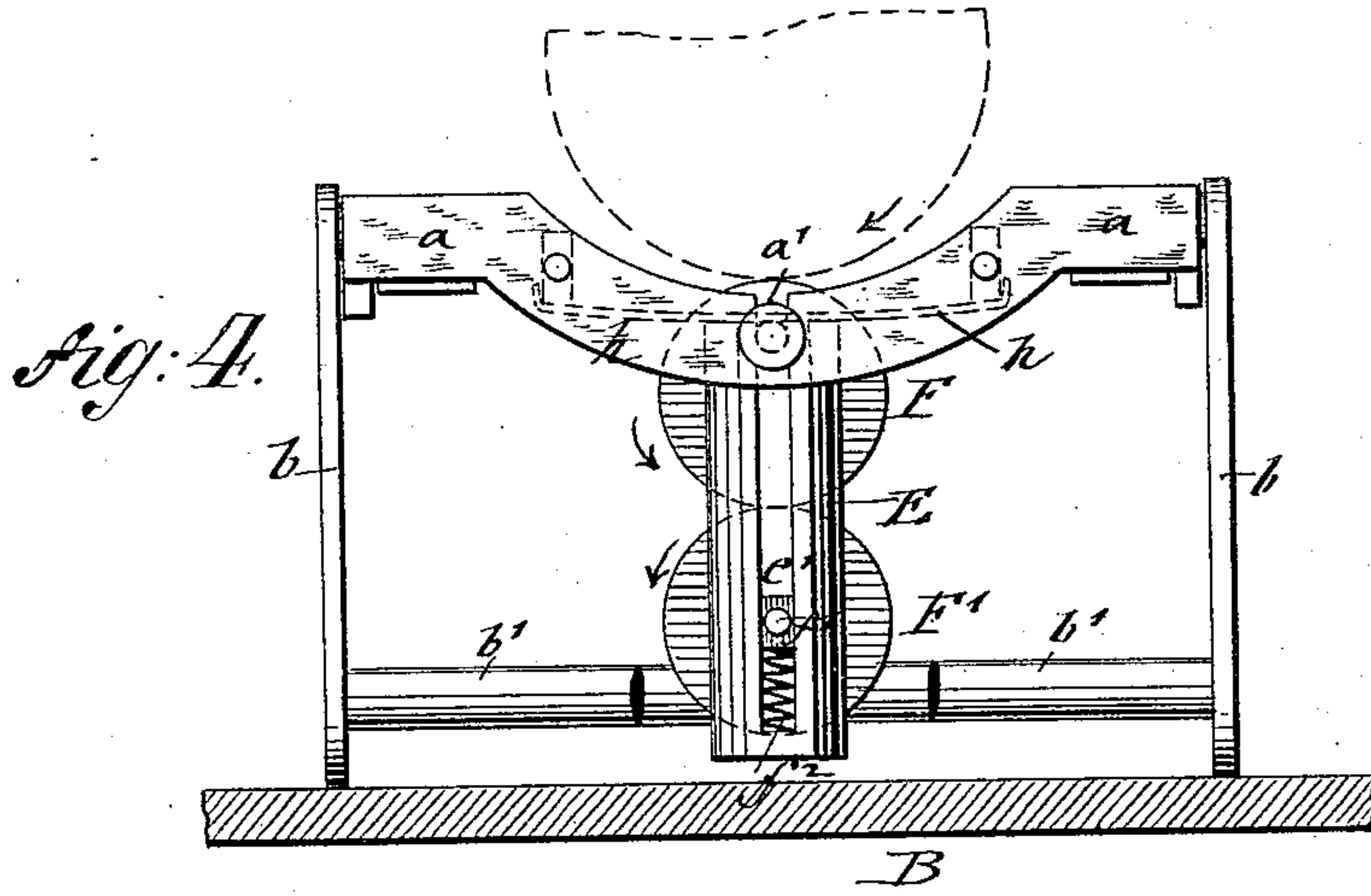
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2 Sheets—Sheet 2.

F. J. LEIBMANN.
CAR AXLE LUBRICATOR.

No. 461,265.

Patented Oct. 13, 1891.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

FRANK J. LEIBMANN, OF NEW YORK, N. Y.

CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 461,265, dated October 13, 1891.

Application filed December 1, 1890. Renewed July 24, 1891. Serial No. 400,583. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. LEIBMANN, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Car-Axle Lubricators, of which the following is a specification.

This invention relates to certain improvements in the car-axle lubricator for which Letters Patent No. 315,042 were granted to me under date of April 7, 1885, the improvements being designed with a view to simplify the application of the lubricator and permit the same to be easily inserted into and removed from the car-axle box and to make the construction stronger and more durable; and the invention consists of a lubricating attachment to car-axle boxes the parts of which can be so arranged that the height of the lubricator is reduced when the attachment is to be introduced through the open end of the axle-box and placed in position below the journal of the axle, in which position the lubricator assumes its normal position, so as to apply the lubricating-oil to the journal. The lubricator is composed of a rectangular main frame, which is supported on pivoted and spring-cushioned legs having eccentrics at their upper ends that are acted upon by flat springs inserted into the frame. A contact-roller is supported below the axle in bearings guided in longitudinally-slotted boxes and rotated by contact with the journal. A second roller is arranged in guide-boxes below the upper roller and provided with a wiper that takes up the oil and transmits it to the intermediate contact-roller and from the same to the journal. The guide-boxes containing the bearings of these rollers are pivoted to the main frame and adapted to be swung approximately up into the plane of the same, in which position they are held by means of springs that pass on the flat side portions of the guide-boxes, while when the lubricator is in use the guide-boxes and rollers are supported at right angles to the main frame by the springs pressing on the upper ends of the guide-boxes.

In the accompanying drawings, Figure 1 represents a vertical longitudinal section of a car-axle box, showing my improved lubricating attachment in position in side elevation

as applied to the car-axle. Fig. 2 is a side elevation of the lubricating attachment, partly in section, and drawn on a larger scale. Fig. 3 is a plan of the same, also partly in section. Fig. 4 is a front elevation of the lubricating attachment; and Figs. 5 and 6 are a side and top view of the same, arranged in flattened position ready to be introduced into or removed from the car-axle box.

Similar letters of reference indicate corresponding parts.

A in the drawings represents a car-axle, B a car-axle box, and C the lid of the same.

Below the journal of the car-axle A is located a spring-cushioned lubricator D, which consists of a metallic rectangular main frame *a*, which is supported on legs *b b* that are pivoted to recesses of the main frame *a* and connected in pairs by means of transverse rods *b'* near their lower ends. The pivots of the supporting-legs *b* are provided at their inner ends with eccentrics *b²*, which are acted upon by flat transverse steel springs *b³*, the ends of which are inserted into recesses of the main frame *a*, as shown clearly in Fig. 2. The flat springs *b³* serve to exert a spring-action on the supporting-legs *b b* and to press thereby the main frame *a*, which is provided at the front and rear sides with segmental recesses for the axle-journal in upward direction toward the journal, while the lower ends of the legs rest on the bottom of the car-axle box. To the central recesses *a'* of the front and rear sides of the main frame *a* are pivoted longitudinally-slotted guide-boxes E, which are closed at their upper and lower ends and provided with longitudinal grooves, in which the bearings *e e* and the spindles *f f'* of an upper contact-roller F and a lower friction-roller F', which is in contact with the upper roller F, are supported. The bearings *e'* of the lower roller F' are supported on spiral springs *f²*, which are located in the lower parts of the grooves of the guide-boxes and which serve to press the lower roller against the upper contact-roller F and to hold the latter in contact with the axle-journal. To the lower roller F' is applied a wiper *g* of leather or other suitable material, which is applied to the middle contracted portion of the lower roller F', said wiper dipping into the oil and bringing the same in contact with the roller F and

by the latter with the journal at every rotation of the car-axle. The cushioning-springs of the lower roller F' impart the required elasticity to the bearings of the upper contact-roller F, so that the same is held in contact with the axle-journal.

Flat springs *h* are attached to the main frame *a* below the segmentally-recessed ends of the same, which springs bear on the upper ends of the slotted guide-box E and hold the same and the rollers F F' below the axle in a position at right angles to the main frame *a*, as shown in Figs. 3 and 4. When it is desired, however, to remove the lubricator from the car-axle box, the rollers F F' are swung with their pivoted guide-boxes approximately into the plane of the main frame *a* at the interior of the same, as shown in Figs. 5 and 6, in which position the transverse springs *h* bear on the straight upper ends of the guide-boxes E and retain the same in position by preventing them from dropping again into vertical position at the center of the main frame *a*. When the contact-rollers F F' are in this position, the yoke-shaped legs can be readily moved against the tension of their springs *b*³ into line with the sides of the main frame *a*, as shown in Fig. 5, so that the height of the lubricator is greatly reduced, in which position it can be readily removed from below the axle-journal and taken out of the axle-box, in case it should be necessary to put in a new wiper or exchange other parts, and replaced in position below the car-axle.

When the lubricator is inserted below the axle-journal, the contact-rollers are turned in downward direction by pressure of the fingers until the resistance of the springs *h* is overcome. When they arrive in a vertical position below the car-axle, the springs *h* bear on the upper ends of the guide-boxes E and hold them in vertical position, so that the contact-roller F and wiper-roller F' can perform the work allotted to them.

As compared with my former lubricator, it will be seen that the main difference consists in the arrangement by which the entire device can be elongated or flattened out, whereby the insertion and removal of the lubricator into or from the car-axle box is facilitated and in a stronger and simpler construction of the

parts, so that the lubricator becomes more durable and effective in use.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A lubricator for car-axles, consisting of a spring-supported main frame, guide-boxes pivoted to said main frame, a contact-roller supported in bearings of said guide-boxes, a second roller below the contact-roller supported in spring-cushioned bearings of the guide-boxes, a wiper attached to the lower rollers, and means for retaining the guide-boxes and rollers in a position at right angles to the main frame or in a plane with the same, substantially as set forth.

2. The combination of a main frame, supporting-legs pivoted to the same and provided with eccentrics at their upper ends, transverse cushioning-springs bearing guide-boxes pivoted to the main frame on said eccentrics, a contact-roller supported in bearings guided in said boxes, a transmitting-roller supported below the contact-roller in spring-cushioned bearings in said guide-boxes, a wiper applied to the middle contracted part of the lower roller for transmitting the lubricating-oil to the contact-roller and axle, and locking-springs for the guide-boxes, substantially as set forth.

3. The combination of a main frame supported on spring-cushioned legs pivoted to the main frame, longitudinally grooved and slotted guide-boxes pivoted centrally to the main frame, a contact-roller supported in bearings guided in said boxes, a lower wiper-carrying roller supported on spring-cushioned bearings of the guide-boxes below the contact-roller and held in frictional contact therewith, retaining-springs attached to the main frame and adapted to hold the guide-boxes, and oil-transmitting rollers at right angles to the main frame or approximately in one plane therewith, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FRANK J. LEIBMANN.

Witnesses:

PAUL GOEPEL,
MARTIN PETRY.