S. F. WILSON & L. D. CULLEY.

SELF ADJUSTING CHRONOMETRIC BABY TENDER.

APPLICATION FILED MAY 15, 1909.

928,415. Patented July 20, 1909.

Fig. 1.

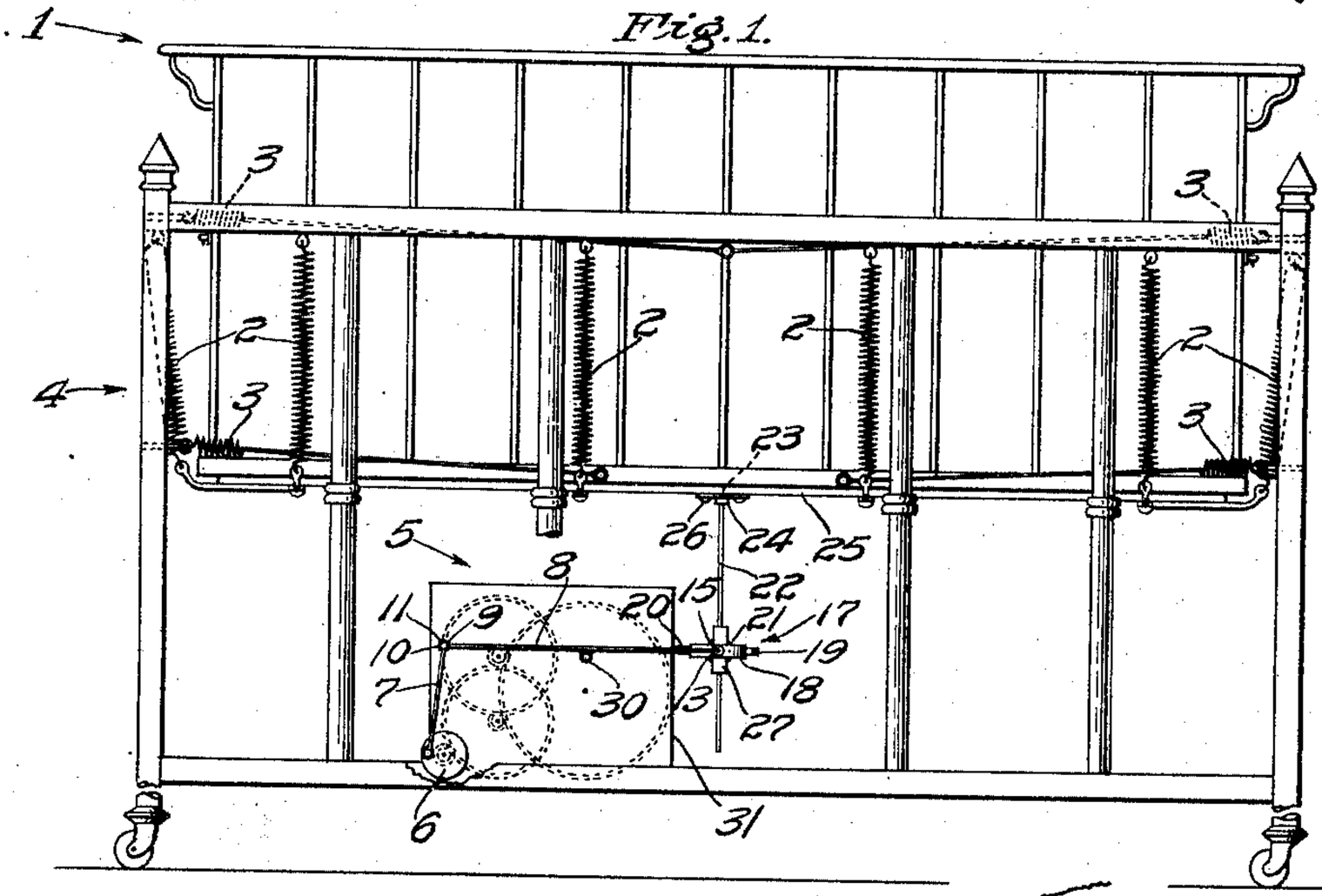

Fig. 2.

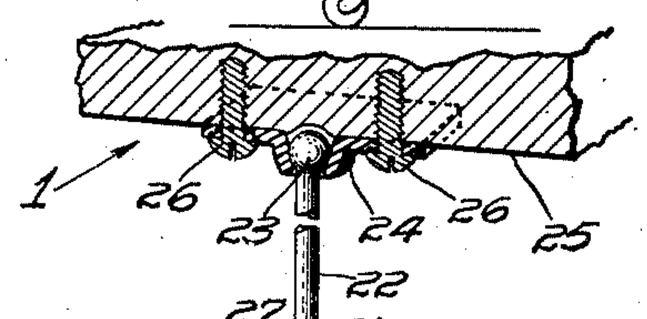

Fig. 3.

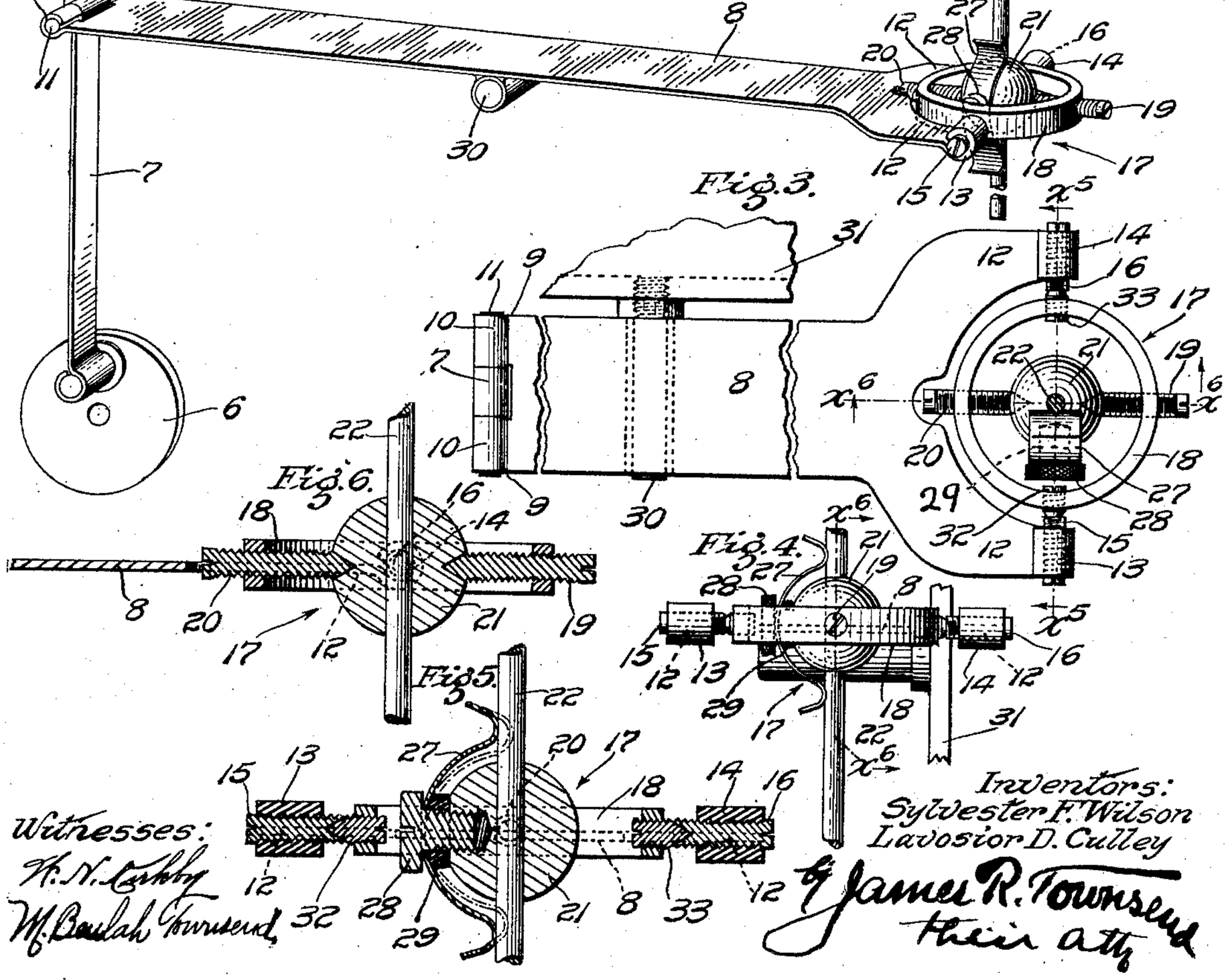

Fig. 6.

Fig. 5.

Fig. 4.

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UNITED STATES PATENT OFFICE.

SYLVESTER F. WILSON AND LAVOSIOR DAVID CULLEY, OF LOS ANGELES, CALIFORNIA.

SELF-ADJUSTING CHRONOMETRIC BABY-TENDER.

No. 928,415. Specification of Letters Patent. Patented July 20, 1909.

Application filed May 15, 1909. Serial No. 496,323.

To all whom it may concern:

Be it known that we, SYLVESTER F. WILSON and LAVOSIOR DAVID CULLEY, both citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Self-Adjusting Chronometric Baby-Tender, of which the following is a specification.

This invention relates to improvements in that class of baby-tenders in which a resiliently-supported carriage arranged to move up and down is connected with a motor by which the carriage is moved up and down.

The object of this invention is to provide such a connection between the motor and the carriage that the motor will operate the carriage regardless of the weight which is placed in the carriage, provided that such weight is not so great as to fully depress the springs. That is to say, a difficulty heretofore existing with chronometric baby-tenders has been the necessity of manual adjustment of the connection between the carriage and the motor, as it was found that when the carriage was depressed beyond a point for which the connection was adjusted, the apparatus would come to a stand-still, so that whenever additional weight was added to the carriage the parts had to be manually adjusted, and likewise when weight was taken from the carriage the apparatus had to be again adjusted. By the present invention all such difficulty is avoided.

The invention may be carried out in various ways, and we do not limit the invention to any specific form.

The accompanying drawings illustrate the invention in the best mode in which we contemplate embodying the same.

Figure 1 is a side elevation of a self-adjusting chronometric baby-tender constructed in accordance with this invention. The legs are broken to contract the view. Fig. 2 is an enlarged perspective view of the connection between the motor-crank and the carriage. A fragment of the carriage bottom is shown and parts are shown in section. Fig. 3 is a broken plan detail of the walking-beam and the connection between the same and the connecting-rod which is shown in section. Fig. 4 is an elevation from the right of Fig. 3. Fig. 5 is an enlarged sectional elevation on line x^5, Fig. 3. The tension of the friction-spring is indicated by dotted lines. Fig. 6 is an enlarged fragmental sectional elevation on line x^6, Figs. 1 and 3.

The carriage 1, supporting-springs 2, guy-springs 3, frame 4, and motor 5 may be of any usual construction, the carriage 1 being in the nature of a basket that is swung in the frame by the springs. Said motor 5 is provided with a crank 6 which is connected by a pitman 7 with a walking-beam 8 that is preferably made of a flat piece of spring sheet-metal provided at one end with forks 9 bent over to form eyes 10 to hold a wrist-pin 11 for the pitman 7, while the other end of the walking-beam is provided with forks 12 bent over to form bearings 13, 14 for the outside pivots 15, 16 of a universal-joint 17 that is composed of said pivots 15, 16, a ring 18, inside pivots 19, 20, and a frictional bearing-block 21 carried by said inside pivots and perforated to receive the connecting-rod 22 that is connected by a ball-and-socket joint 23, 24 with the bottom 25 of the carriage; the socket being in the form of a plate secured to said bottom 25 by screws 26, and the ball being formed on the upper end of the connecting-rod.

The frictional sliding bearing may be provided with any suitable means for yieldingly holding the connecting-rod in the universal-joint with sufficient resistance against slippage to transmit sufficient power to the rod to effect up-and-down operation of the carriage. Such friction may be adjustably applied to the rod by means of a sheet-metal bow-spring 27 that is fastened to the bearing-block by a screw 28 that passes through the spring at the middle thereof and screws into the bearing-block so that the tension of the spring may be increased or diminished by turning the screw; said spring having two arms which engage the rod above and below the bearing-block and force the rod toward the farther side of the bearing in such block. A resilient support, as the rubber block 29, is interposed between the bearing-block and the middle of the spring so as to fill the space and hold the parts in true position. The friction applied to the rod to tighten the screw 28 is not sufficient to hold the walking-beam so tightly that the motor will greatly bend the beam before the friction is overcome and the bearing-block is caused to slide along the connecting-rod. The supporting-springs of the carriage will slide the rod upward through its friction bearing in case the load in the

carriage is lightened, and the carriage will force the connecting-rod to slide down through the bearing when the load in the basket is increased.

The walking-beam is supported on a shaft or pivot 30 approximately at the middle of the walking-beam so that when power is applied at one end of the walking-beam from the motor said walking-beam will in turn apply the power to the carriage through the sliding-member and the connecting-rod; the universal-joint and the ball-and-socket joint avoiding any cramping that might stop the operation. The pivot 30 may be carried by the motor-frame 31 which is fixed on the main frame 4. The universal-joint may be of any suitable construction. In the drawings the ring is provided with center-pins 32, 33, screwed through the ring to enter seats in the outside pivots 15, 16. It is thus seen that the power-transmitting mechanism between the motor and the resiliently-supported carriage is telescopic and the telescoping action is frictionally controlled, being thereby automatically adjustable for various mean depressions of the carriage caused by the various loads that may be put in the carriage; and that the friction may be adjusted by turning the thumb-nut 28 so that the rod will transmit the power requisite to operate the carriage but will automatically become adjusted to the lengths to accommodate the different working positions of the carriage under different loads.

In practical use, if a load, as for instance, a baby of a certain weight, is placed in the carriage the carriage will be depressed, the power-transmitting connection between the carriage and the motor telescoping by means of the rod and bearing-block, the connecting-rod 22 sliding down through the frictional bearing-block until the load is sustained by the resiliency of the springs, and there the carriage will remain at rest unless it is started to move up and down and is then left free to be acted upon by the force of the springs and of the motor. Thereupon, the motor operating through the crank, the pitman, the walking-beam, and the universal-joint which acts by friction upon the connecting-rod, will maintain the up-and-down movement of the carriage so long as the carriage is free and resiliently supported by the springs and the motor continues to run. When the load is reduced, as by taking off some of the bedding or covering, the mean level of the basket will be raised by the springs and the connecting-rod will slide up through the sliding-bearing, thus allowing the walking-beam to maintain the mean horizontal position in which it is originally set. When the load of the carriage is increased, the supporting-springs yield and the rod slides down through the frictional bearing-block without forcing the walking-beam out of its mean horizontal position.

Any acceptable form of motor may be employed. Ordinarily, a spring and a train of wheels are employed to drive the crank, said spring being wound by a key in a well-known manner that requires no illustration. In Fig. 1 the motor-mechanism is indicated by dotted lines inside the motor-frame. The resilient walking-beam 8 serves as an escapement for the motor, and by the automatic telescopic adjustment between the beam and the carriage the apparatus will operate without attention for adjustment.

We claim:—

1. The combination with a resiliently-supported carriage, of a motor, a walking beam, a connecting-rod connected with the carriage, and a frictional bearing pivotally mounted on the walking-beam and slidable on the connecting-rod.

2. In a chronometric baby-tender provided with a resiliently-supported carriage and a motor; frictionally-controlled telescopic power-transmitting mechanism between the carriage and the motor.

3. In a chronometric baby-tender, the combination with a resiliently-supported carriage, of a motor and automatic adjustable power-transmitting mechanism between the motor and the carriage.

4. The combination with a resiliently-supported carriage, of a motor having a crank, a walking-beam operable by the crank, a connecting-rod jointed to the carriage, a bearing-block slidable on the connecting-rod and pivoted to the walking-beam, and means carried by the block to frictionally engage the rod.

5. The combination with a resiliently-supported carriage, of a motor provided with a crank, a resilient walking-beam connected with the crank, a bearing-block mounted by a universal-joint on the end of the walking-beam, a spring carried by the bearing-block, and a connecting-rod extending from the carriage through the block and slidingly connected with the block and engaged by the spring.

6. The combination with a resiliently-supported carriage, of a motor, a walking-beam operably connected with the motor, a connecting-rod connected with the carriage and slidably connected with the walking-beam, and a spring to control the sliding movement of the rod.

7. The combination of a resiliently-supported carriage, of a motor, a resilient walking-beam operably connected with the motor, a bearing-block pivotally mounted on the walking-beam, a connecting-rod pivotally connected with the carriage and slidably connected with the bearing-block, a spring to frictionally engage the connecting-rod,

and means to adjust the tension of the spring.

8. The combination with a resiliently-supported carriage, of a motor, a walking-beam operably connected with the motor, a connecting-rod connected with the carriage and slidably connected with the walking-beam, and frictional means to control the sliding movement of the rod relative to the walking-beam.

9. The combination with the connecting-rod, of a sliding bearing-block thereon, a spring engaging the rod, a resilient block between the spring and the bearing-block, and a screw extending through the spring and the resilient block and screwed into the bearing-block.

In testimony whereof, we have hereunto set out hands at Los Angeles, California, this 10th day of May, 1909.

SYLVESTER F. WILSON.
LAVOSIOR DAVID CULLEY.

In presence of—
JAMES R. TOWNSEND,
JULIA TOWNSEND.