Jan. 2, 1923.

1,440,393

J. E. KENNEDY.

TRAFFIC SIGNAL.

FILED AUG. 20, 1921.

3 SHEETS-SHEET 1

Fig. 1.

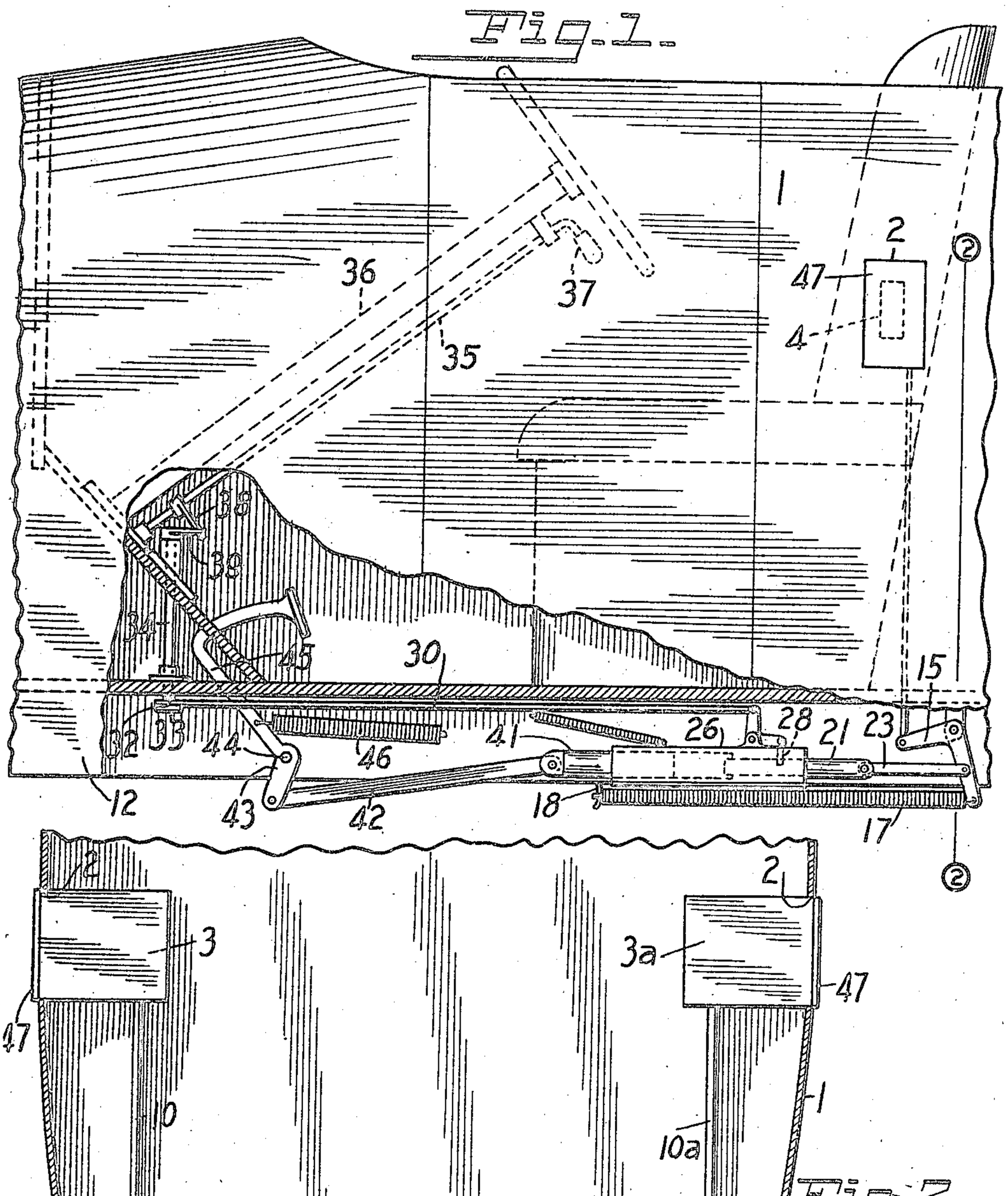

Fig. 2.

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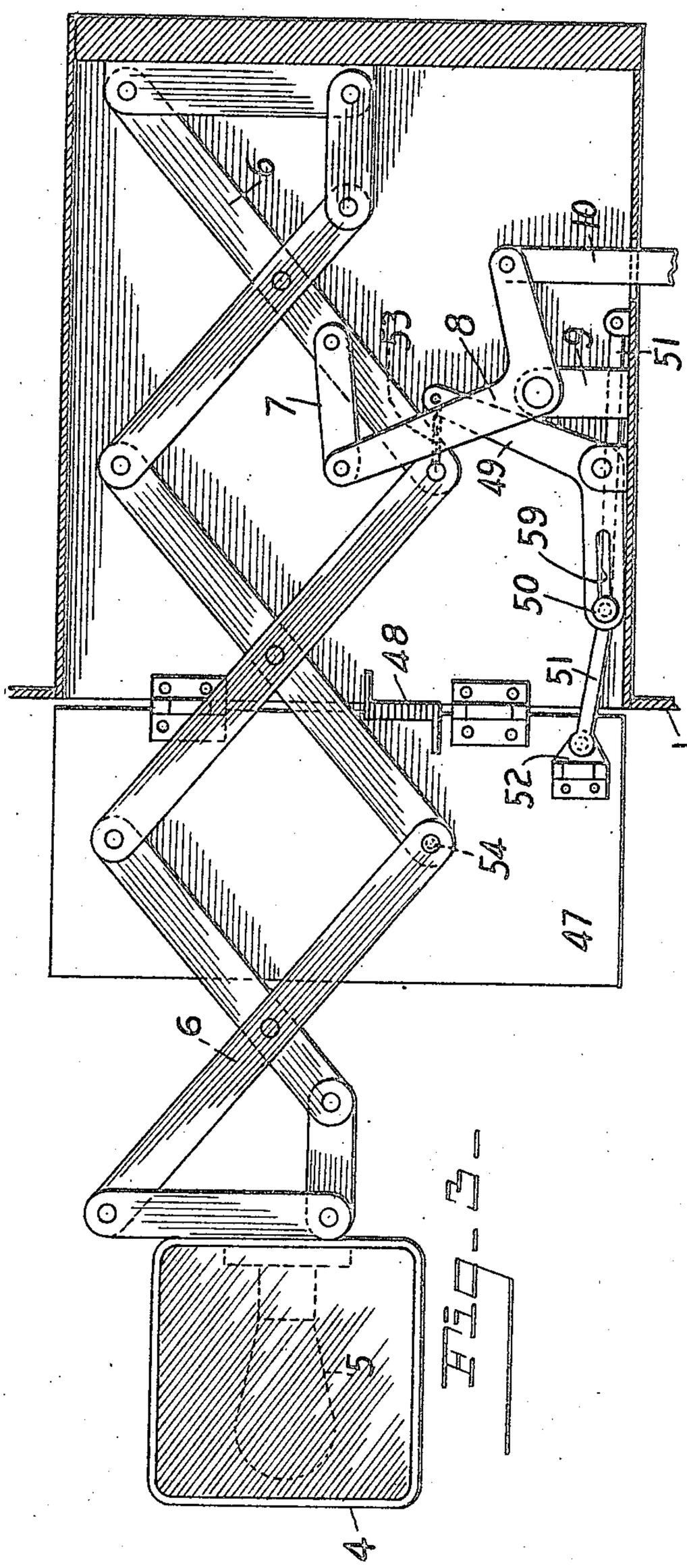
3 SHEETS-SHEET 2



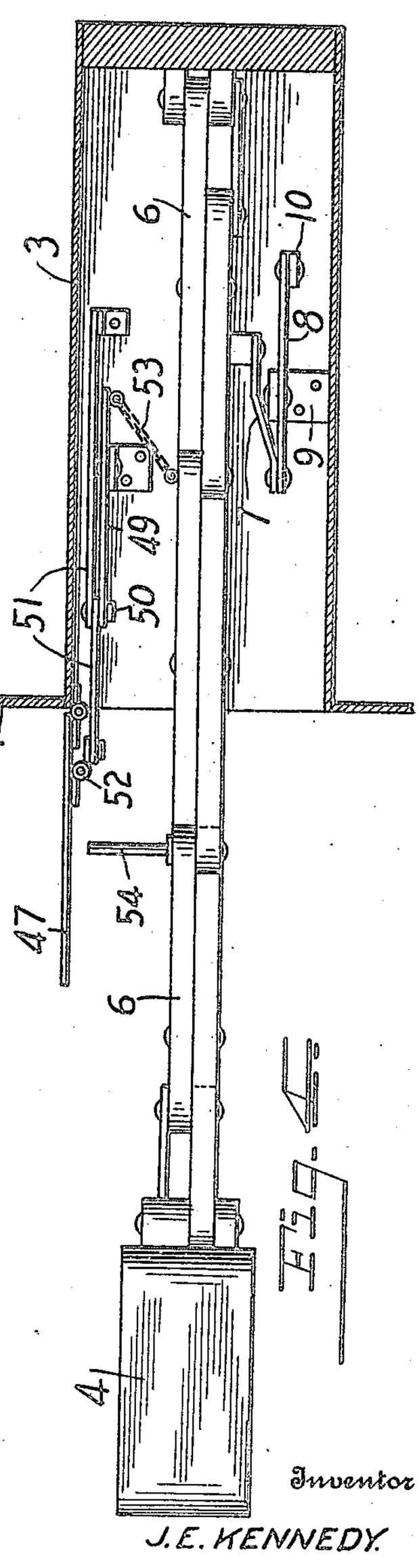


FIG. 3.

FIG. 4.

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3 SHEETS-SHEET 3

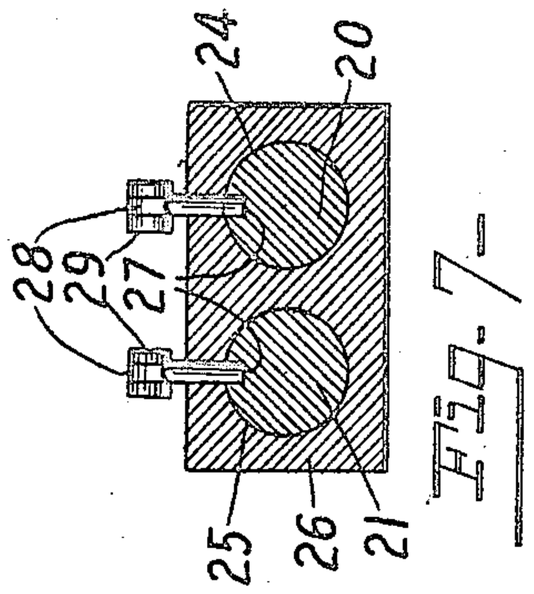

FIG. 7.

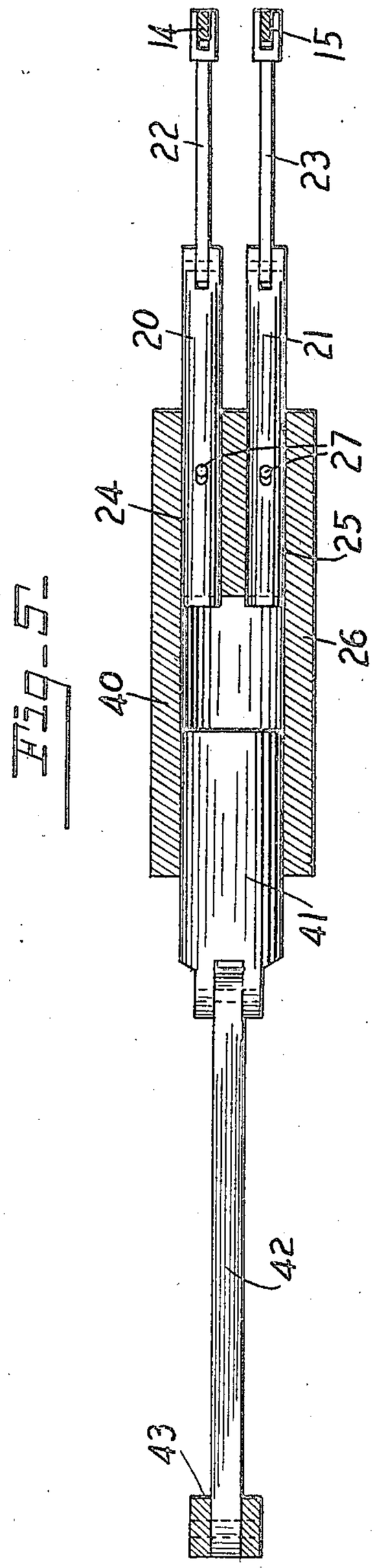

FIG. 5.

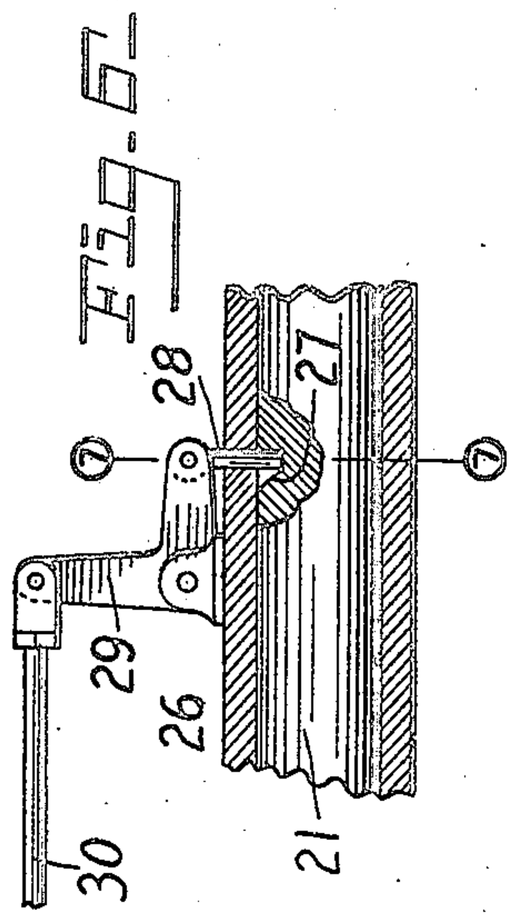

FIG. 6.

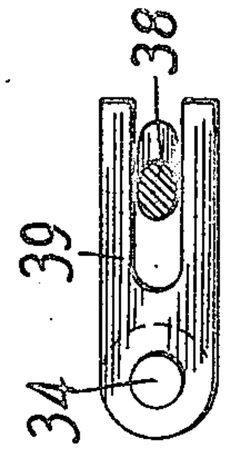

FIG. 9.

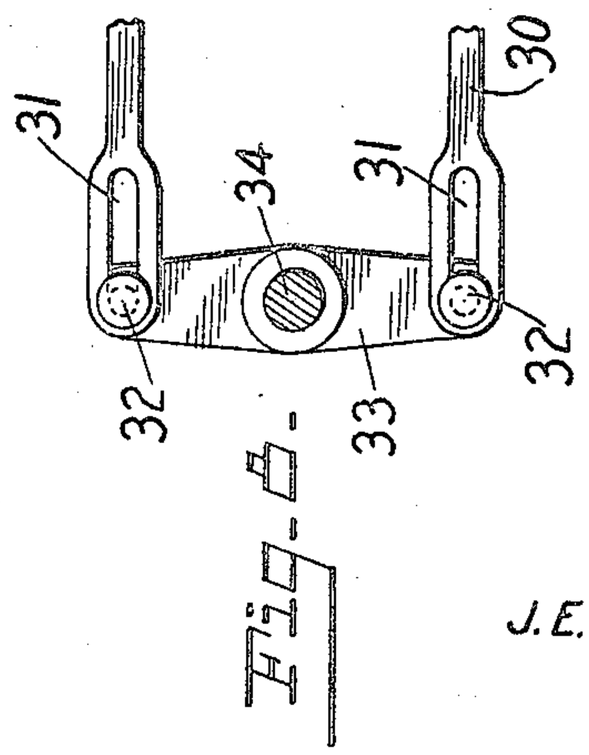

FIG. 8.

Inventor

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By

Attorney

Patented Jan. 2, 1923. 1,440,393

UNITED STATES PATENT OFFICE.

JOHN E. KENNEDY, OF DAYTON, OHIO.

TRAFFIC SIGNAL.

Application filed August 20, 1921. Serial No. 493,827.

To all whom it may concern:

Be it known that I, JOHN E. KENNEDY, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Traffic Signals, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to traffic signals for automobiles and the like.

One object of the invention is to provide a signal which will be concealed from view when not in use.

Another object of the invention is to provide a simple efficient operating mechanism by means of which either or both of two signals mounted on opposite sides of the automobile can be operated.

Other objects of the invention will appear as the mechanism is described in detail.

In the accompanying drawings, Fig. 1 is a side elevation of a portion of an automobile body partly broken away, showing the invention applied thereto; Fig. 2 is a transverse section taken on the line 2—2 of Fig. 1; Fig. 3 is a vertical section of the housing showing the indicating device in elevation; Fig. 4 is a horizontal section of the housing showing the indicating device in plan; Fig. 5 is a plan view partly in section of the controlling device; Fig. 6 is a sectional detail view of one of the locking pins; Fig. 7 is a transversal sectional view of the controlling device taken on the line 7—7 of Fig. 6; Fig. 8 is a detail view of the double rock arm for actuating the locking means; and Fig. 9 is a detail view of the connection between the shaft carrying the double rock arm and the manually actuating device on the steering column.

In these drawings I have illustrated one embodiment of my invention and have shown same as applied to the body of an automobile which is provided in one or both sides, in the present instance, in both sides, with recesses or pockets to receive the signal. As here shown each wall of the body has formed therein an opening 2 and has mounted therein, in alinement with the opening, a housing, 3 and 3^a, in each of which is mounted a signal and an extensible supporting device therefor. The signal itself may be of various kinds and the supporting device may be of any suitable character which will support the signal normally within the housing and will project the same beyond the side of the automobile such a distance that it will be clearly visible to persons in either the front or rear of the automobile. As here shown, the signal comprises a hollow structure 4, having its front and rear sides of translucent material and having mounted therein an electric lamp 5 which may be connected with any suitable source of electrical current, this connection not being here shown. The signal proper is mounted on the outer end of a lazy tongs 6, the inner end of which is rigidly secured to the back wall of the housing 3, and the arrangement of the lazy tongs is such that when in its folded position it will support the signal wholly within the housing and in its extended position will support the signal at a point considerably beyond the side of the automobile. Any suitable operating mechanism may be provided for actuating the lazy tongs. As here shown the lazy tongs, or extensible support, is connected by a link 7 with one arm of a bell crank lever 8, which is pivotally mounted on a bracket 9 carried by the bottom wall of the housing 3. The other arm of the bell crank lever is connected with an actuating rod 10 which extends through the bottom of the housing and is connected with the operating devices.

In the present construction, in which I employ two signals, the actuating rods 10 and 10^a are connected with a single controlling mechanism which comprises a shaft 11 extending transversely to the frame 12 of the automobile, having mounted thereon a forwardly extending crank arm 13 with which the lower end of the actuating rod 10^a is connected. Rigidly secured to the shaft 11 near one end thereof is a downwardly extending arm 14, the arrangement of arms 13 and 14 being such as to constitute in effect a bell crank lever. Loosely mounted on the shaft 11 adjacent to the arm 14 is a bell crank lever 15 having its forwardly extending arm connected with the actuating arm 10 of the signalling device in the housing 3, and having its other arm arranged substantially parallel with the arm 14. The arms 14 and 15 of the two bell crank levers are acted upon by springs 16 and 17 which tend to move the same in a direction to force the actuating rods up-

wardly and extend the lazy tongs. As here shown these springs are coil springs and are connected at one end with the respective arms 16 and 17 and at the other end with fixed pins or brackets 18 carried by the frame 12.

Suitable controlling mechanism is provided to retain the signals in their retracted positions and the springs 16 and 17 under tension, and to release either or both signals to permit them to be projected by the springs. To this end I have in the present construction provided two plungers 20 and 21 which are connected by links 22 and 23 with the arms 14 and 15 of the respective bell crank levers. These plungers are slidably mounted in guide ways 24 and 25 formed in a housing or guide block 26 which is mounted in the frame 12. Each plunger, 20 and 21, is provided with a recess or shoulder 27, to engage a stop or locking pin 28 which is held normally in a position to engage the recess or shoulder when the signal with which that plunger is connected is on its retracted position, thus holding the spring under tension. In the present instance the locking pins are carried by bell crank levers 29 pivotally mounted on the guide block 26, each having one end connected with a locking pin and its other end connected with an actuating rod 30 extending forwardly therefrom. The two actuating rods 30 are so connected with a single operating number that either of them may be operated independently of the other, and, as here shown, each rod is provided at its forward end with a longitudinal slot 31 to receive a pin or stud 32 projecting from one end of a double crank arm 33. The crank arm 33 is mounted on a vertical shaft 34 and the two end portions thereof project on the opposite sides of that shaft, so that the rotation of the shaft in one direction will impart forward movement to one end of the crank arm thus actuating one of the rods 30 while the pin at the other end of the crank arm will move rearwardly in the slot 31 of the other rod 30 without effecting the position of that rod. The rotation of the shaft 30 is preferably effected by an operating member mounted adjacent to the steering wheel and as here shown shaft 35 is arranged parallel with the steering column 36 and is provided at its upper end adjacent to the steering wheel with a handle 37 by means of which it may be moved in either direction. The shaft 35 may be connected with the shaft 34 in any suitable manner, but as here shown the shaft 35 has a finger 38 rigidly secured thereto and extending between the arms of a bifurcated plate 39 rigidly secured to the shaft 34. It will be apparent therefore that when both signals are in their retracted positions the movement of the operating handle 37 in one direction will retract one of the pins 28 thereby releasing the corresponding plunger and permitting that signal to be projected by its spring and that the movement of the operating handle in the opposite direction will release the other plunger thereby permitting the other signal to be projected. In this manner either signal may be projected independently of the other by moving the handle first in one direction and then the other, or both signals may be projected. In order that the plungers 20 and 21 may be returned to their normal positions thus retracting the signals and again placing the springs under tension. I have, in the present construction, provided the guide block or housing 26 in that end opposite the guide ways 24 and 25 with a guide way 40 which overlaps both the guide ways 24 and 25 and has slidably mounted therein a plunger 41 arranged to engage either or both of the plungers 20 and 21 and force the same to their normal positions. The plunger 41 is connected by connecting rod 42 with a crank arm 43 mounted on a shaft 44 on the frame 12 and having connected therewith a foot lever 45, a spring 46 tending to hold the foot lever normally in its retracted position.

The outer ends of the housings 3 and 3ª are preferably arranged substantially flush with the outer walls of the automobile body and each housing is provided with a door 47 to close the same when the signal is in its retracted position. This door is preferably hinged on a vertical axis at one side of the opening and is acted upon by a spring 48 which tends to move it into its open position. The movement of the door is controlled by a bell crank lever 49 pivotally mounted on the bottom wall of the housing and having an outwardly extending arm provided with a longitudinal slot 59 to receive a laterally extending projection or pin 50 carried by a toggle 51, one end of which is pivotally mounted within the housing and the opposite end of which is pivotally connected to the door at 52. The other, or upwardly extending, arm of the bell crank lever 48 is connected with the lazy tongs and in order that the lazy tongs and bell crank lever may have relative movement I have formed this connection by means of a short length of chain 53. It is apparent therefore, that when the signal is released the door will be free to open upon the first forward movement of the signal, the opening of the door being accomplished by the spring 48. When the signal is retracted the bell crank lever will not be operated until the signal has been moved into the housing far enough to clear the door. As here shown, the upwardly extending arm of the bell crank lies in the path of a pin 54 carried by the lazy tongs and so arranged that

it will not engage the bell crank until the signal has passed the door. When the pin engages the bell crank the further contraction of the lazy tongs will actuate the bell crank and close the door.

While I have shown and described one embodiment of my invention I wish it to be understood that I do not desire to be limited to the details thereof as various modifications may occur to a person skilled in the arts.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a device of the character described, a movable indicator adapted to be mounted on the side of an automobile, a spring adapted to move said indicator in one direction, a plunger adapted to move the same in the oher direction, locking and releasing means adapted to hold said spring under tension and means for actuating said plunger.

2. In a device of the character described, a movable indicator adapted to be mounted on each side of an automobile, individual springs adapted to move said indicators in one direction, individual plungers adapted to move the same in the other direction, locking and releasing means adapted to hold said springs under tension, and means for actuating said plungers.

3. In a device of the character described, a movable indicator adapted to be mounted on each side of an automobile, indivdual springs adapted to move said indicators in one direction, individual plungers adapted to move the same in the other direction, locking and releasing means adapted to hold said springs under tension and to release said springs individually, and means for actuating said plungers.

4. In a device of the character described, a movable indicator adapted to be mounted on each side of an automobile, individual springs adapted to move said indicators in one direction, individual plungers adapted to move the same in the other direction, locking and releasing means adapted to hold said springs under tension and to release said springs individually, means for actuating said plungers, and common actuating means for said locking and releasing means.

5. In a device of the character described, a movable indicator adapted to be mounted on each side of an automobile, springs adapted to move said indicators in one direction, individual plungers adapted to move the same in the opposite direction against the tension of said springs, a common plunger adapted to actuate either of said individual plungers, and releasing means for said plungers.

6. In a device of the character described, a movable indicator adapted to be mounted on each side of an automobile, springs adapted to move said indicators in one direction, and individual plungers adapted to move the same in the opposite direction against the tension of said springs, a common plunger adapted to actuate either of said individual plungers, releasing means for said plungers, and a common guide for all of said plungers also acting as a support for said releasing means.

7. In a device of the character described, a housing to be mounted on a vehicle body, a signal, an extensible support to support said signal normally within said housing, an actuating rod connected with said extensible support and extending through the wall of said housing, a spring acting on said rod to move the same in a direction to project said signal, a locking device to hold said rod against movement by said spring, and means for actuating said locking device to release said rod.

8. In a device of the character described, a housing to be mounted on a vehicle body, a signal, an extensible support to support said signal normally within said housing, an operating rod connected with said extensible support, a spring acting on said rod to project said signal, a structure having a guide way, a plunger slidably mounted in said guide way and connected with said operating rod, a locking member carried by said structure and adapted to engage said plunger to hold said operating rod against movement by said spring, and means to actuate said locking member to release said plunger.

9. In a device of the character described, a housing to be mounted on a vehicle body, a signal, an extensible support to support said signal normally within said housing, an operating rod connected with said extensible support, a spring acting on said rod to project said signal, a structure having a guide way, a plunger slidably mounted in said guide way and connected with said operating rod, a locking member carried by said structure and adapted to engage said plunger to hold said operating rod against movement by said spring, means to actuate said locking member, a second plunger slidably mounted in said structure and arranged to engage the first mentioned plunger when the latter has been moved from its normal position, and means for actuating said second plunger.

10. In a device of the character described, housings adapted to be mounted on the opposite sides of a vehicle body, a signal mounted in each of said housings, an extensible support mounted in each of said housings and adapted to support said signals normally in the respective housings, an operating rod connected with the extensible support of each signal, bell crank lever connected with the respective operating rods, springs acting on the respective bell crank levers to cause the signals to be projected, independently controlled means for hold-

ing the respective operating rods against movement by said springs, and means for actuating said rods to retract said signals.

11. In a device of the character described, housings adapted to be mounted on the opposite sides of a vehicle body, a signal mounted in each of said housings, an extensible support mounted in each of said housings and adapted to support said signals normally in the respective housings, an operating rod connected with the extensible support of each signal, a bell crank lever connected with the respective operating rods, springs acting on the respective bell crank levers to cause the signals to be projected, a guide block having guide ways therein, a plunger mounted in each guide way and operatively connected with one of said bell crank levers, locking device carried by said guide block and arranged to engage the respective plungers in their normal position and hold said bell crank levers against movement by said springs, means for independently actuating said locking devices, and means for restoring said plungers to their normal positions.

12. In a device of the character described, housings adapted to be mounted on the opposite sides of a vehicle body, a signal mounted in each of said housings, an extensible support mounted in each of said housings and adapted to support said signals normally in the respective housings, an operating rod connected with the extensible support of each signal, bell crank lever connected with the respective operating rods, springs acting on the respective bell crank levers to cause the signals to be projected, a guide block having parallel guide ways at one end thereof, and a single guide way at the other end thereof, plungers slidably mounted in said parallel guideways and operatively connected with the respective bell crank levers, each of said plungers having a shoulder, locking members movably mounted on said guide block and adapted to engage the shoulders of the respective plungers, a single operating device for independently controlling said locking members, a plunger slidably mounted in the last mentioned guide way in said guide block and arranged to engage either or both of the first mentioned plungers, and means for actuating said last mentioned plunger.

13. In a device of the character described, a movable signal, a spring to project said signal, a retracting device connected with said signal to move the same against the action of said spring, a detent acting on said retracting device to hold said spring under tension, means to actuate said detent to release said retracting device, and means for actuating said retracting device to again place said spring under tension and retract said signal.

14. In a device of the character described, a plurality of signals, springs to project said signals, individual devices to retract said signals against the action of the respective springs, and a single device to actuate either or both of said individual devices.

15. In a device of the character described, a plurality of signals, springs to project said signals, means to individually control the action of said springs on said signals, retracting devices for the respective signals, and a common actuating device for said retracting devices.

16. In a device of the character described, a plurality of signals, springs to project said signals, individual devices to retract said signals against the action of the respective springs, detents cooperating with said retracting devices to retain the signals in their retracted positions, means to actuate said detents to release said devices, and a common actuating device for said retracting devices.

In testimony whereof, I affix my signature hereto.

JOHN E. KENNEDY.