Jan. 8, 1929. 1,698,424

E. A. BANSCHBACH

SAFETY GATE

Filed Oct. 24, 1921 2 Sheets-Sheet 1

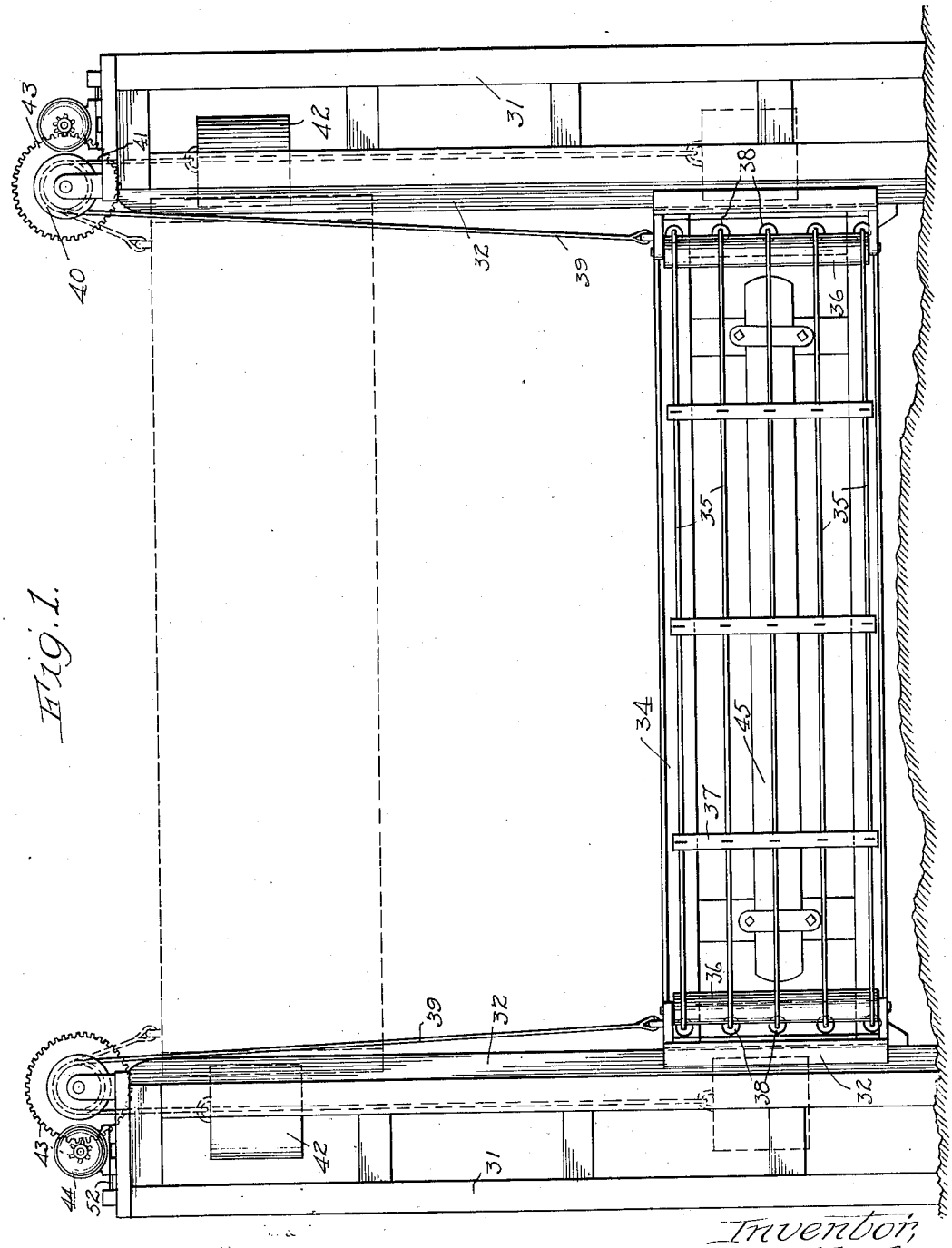


Fig. 1.

Inventor,
Edward A. Banschbach,
By Kent W. Nonnell
Atty.

Jan. 8, 1929. 1,698,424

E. A. BANSCHBACH

SAFETY GATE

Filed Oct. 24, 1921 2 Sheets-Sheet 2

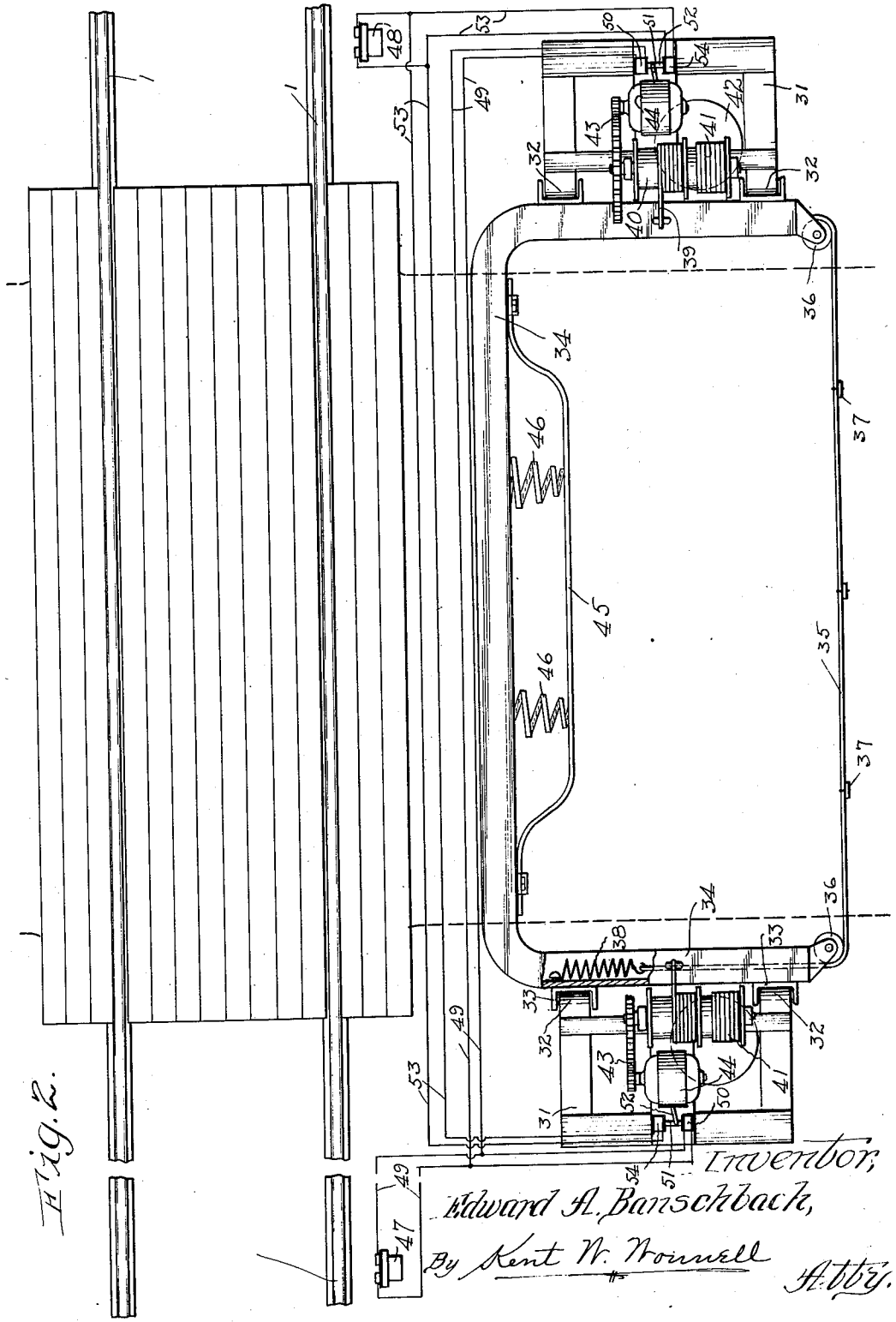


Fig. 2.

Inventor,
Edward A. Banschbach,
By Kent N. Worrell
Atty.

Patented Jan. 8, 1929. 1,698,424

UNITED STATES PATENT OFFICE.

EDWARD A. RANSCHBACH, OF CHICAGO, ILLINOIS.

SAFETY GATE.

Application filed October 24, 1921, Serial No. 509,940. Renewed October 8, 1926.

This invention relates to a safety gate for highways, railway crossings and the like, and is particularly designed and adapted for use in connection with motor vehicle highways where the ordinary crossing gate does not afford sufficient resistance or obstruction to the passage of a vehicle to protect the vehicle and its occupants or to prevent them from passing the gate when it is down or closed. The invention consists in the novel construction, combination and arrangement of the several parts.

In the accompanying drawing, Fig. 1 is an elevation of a safety gate constructed in accordance with this invention; and Fig. 2 is a plan view partly in section of the gate.

In carrying out this invention, supports or standards 31 are solidly erected or disposed at the sides of a roadway for crossing a railway, or at any other place where it is desired to erect a barrier or gate, and these standards extend considerably above the height of a vehicle. At the inner sides of the standards are spaced vertical supports 32 which constitute guides for channels 33 attached to a rigid gate 34. This gate is preferably in the form of a U-shaped structure opening away from a railway track 1 and with the slides 33 secured to the outside of the extremities of the gate.

Extending between the extremities of the U-shaped structure are a plurality of cables 35 of flexible material preferably connected by cross pieces 37 and forming a flexible barrier. The extremities of the cables extend over rollers 36 carried by the extremities of the gate member 34 and the extremities of the cables are connected by extensible coil springs 38 to the opposite side of the gate structure.

On the inner side of the gate 34 is a projecting bumper or buffer 45 normally pressed outwardly by springs 46. It is obvious that when the gate is lowered the first impact of a vehicle with the cables 35, which form a yielding barrier extends the springs 38, and if the vehicle is not stopped thereby, it will next engage the bumper 45 compressing the convolute springs 46. This further cushions the impact of a vehicle with the cross member 34 which can not be passed without wrecking the gate or the side supporting structure.

At each end of the gate is attached a raising cable 39 which extends over a winding drum 40, and on another portion of the winding drum is wound a cable 41 attached to a counterweight 42. This winding drum is operated through a train of gears 43 by an electric motor 44.

In order to control the raising and lowering of the gate, the motors 44 at the opposite ends are wired in parallel to work in unison, and switch closing devices 47 and 48 may be provided on opposite sides of the roadway and connected by conductors 49 and 53 for controlling the magnets 50 and 54 to operate solenoids 51 to which switch arms 52 are connected for controlling the supply of current to the motors, the source of which may be within the switch devices 47 and 48.

It is obvious that when this gate is lowered into position it will constitute both a gradual stop and a final barrier to prevent the passage of a vehicle, and to prevent its entering upon the tracks of a railway beyond it. While the invention is particularly designed and intended for railway safety gate, it is obvious that it may have a more general use wherever applicable.

I claim:

1. A railway crossing gate comprising a rigid cross member with side extensions at the front, and a yielding buffer comprising flexible members yieldingly mounted at the outer ends of the extensions.

2. In a gate of the class described, a U-shaped gate member and a plurality of cables yieldingly mounted across the extremities of the gate member.

3. In a gate of the class described, a U-shaped raisable structure, a plurality of cables resiliently mounted across the U-shaped extremities of the structure, and resilient means within the structure for further opposing a yielding impact with the cables.

4. In a safety gate, a rigid cross member with projecting sides, a flexible barrier mounted in the projecting sides in advance of the cross member, and means for mounting the barrier to yield under impact before engagement is made with the rigid cross member by a vehicle.

5. In a safety gate, a rigid cross member with forward extremities at the ends, a flexible barrier supported by the extensions in advance of the cross member, and resilient means to hold the barrier taut but yielding to allow the barrier to yield upon impact before the cross member is engaged.

6. In a safety gate, a pair of side standards, a U-shaped member vertically movable

therein, a plurality of flexible members mounted across the ends of the U-shaped member, springs attached to the extremities of the members, and a spring pressed buffer at the inner side of the U-shaped member to resist the final impact after the resilient members have been engaged.

7. In a safety gate, a pair of side standards, a rigid gate structure mounted for vertical movement in the standards, resilient means in connection with the gate and carried in advance of the rigid portion for opposing impact therewith, counterweighted supporting means for the gate, and a motor at each end simultaneously operated for raising and lowering the gate.

8. In a safety gate, a rigid cross member with forward side extensions, a flexible barrier carried by the extensions in advance of the cross member, and a resilient bumper carried by the cross member to cushion an impact therewith.

9. In a safety gate, a pair of rigid side supports, a rigid cross member vertically slidable on the supports and having a forward projection at each end, a flexible barrier mounted on the projections in advance of the cross member, resilient means for holding the barrier taut, and a resilient bumper carried by the cross member for engagement when the barrier is stretched a predetermined amount.

10. In a safety gate, side supports with spaced vertical guides, a rigid cross member with forward side extensions and channels engaging the guides, means for raising and lowering the cross member, a flexible barrier carried by the extensions in advance of the cross member, spring means at the ends of the cross member for holding the barrier taut, and a resilient bumper carried by the cross member for engagement after the barrier is engaged and stretched to a predetermined extent.

11. A safety gate embodying in its construction a barrier mounted to move in the diection of impact of a vehicle driven against the same, and retarding means for said barrier mounted to yield in a direction opposite from that of the movement of the barrier.

12. A safety gate embodying in its construction a barrier mounted to move in the direction of impact of a vehicle driven against the same, and resilient retarding means on opposite sides of said barrier mounted to yield in a direction opposite from that of the movement of the barrier.

13. A safety gate embodying in its construction a barrier mounted to move in the direction of impact of a vehicle driven against the same, and coiled springs connected to the barrier on opposite sides thereof and yieldable in a direction opposite from that of the movement of the barrier to retard said barrier.

EDWARD A. BANSCHBACH.