

Aug. 6, 1929.

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1,723,744

MECHANICAL AUTOMOBILE INSTRUCTOR

Filed Nov. 18, 1927

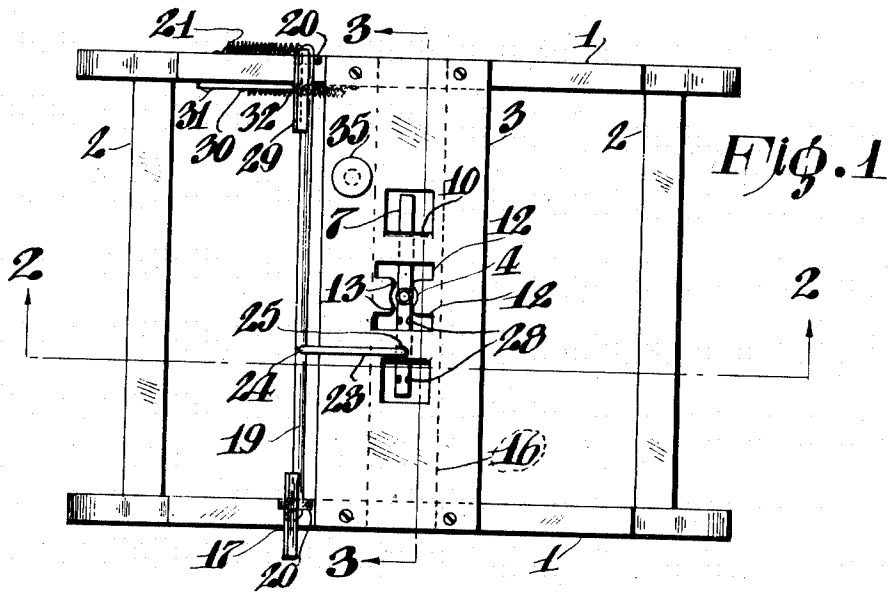


Fig. 2

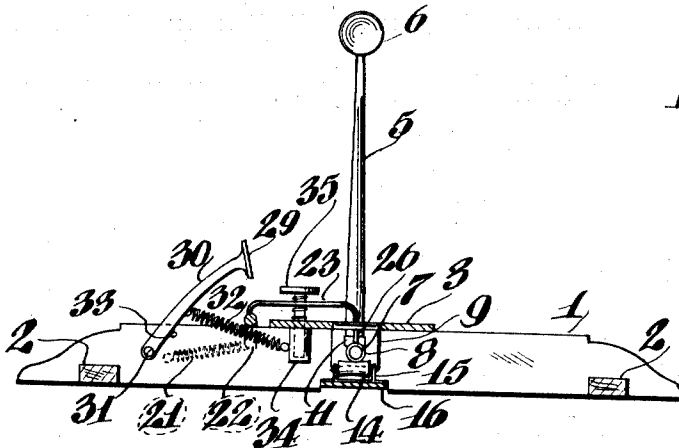
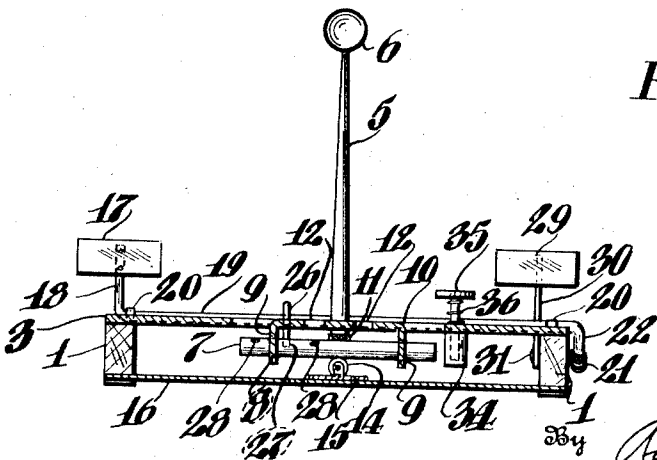


Fig. 3



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Patented Aug. 6, 1929.

1,723,744

UNITED STATES PATENT OFFICE.

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MECHANICAL AUTOMOBILE INSTRUCTOR.

Application filed November 18, 1927. Serial No. 234,176.

My invention relates to mechanical automobile instructors, or mechanical means for facilitating the learning of the art of driving an automobile, and the invention has as its prime object to furnish a means whereby a person may learn at home the rudiments of the art of driving an automobile.

Another object is to provide an apparatus whereon all the operations of driving an automobile, except steering may be performed and learned by the novice without the danger of actual practice in an automobile on the streets.

With the foregoing and other objects in view, my invention resides in the novel construction and arrangement of parts as hereinafter described and claimed.

In the drawings—

Figure 1 is a plan view of my invention;

Figure 2 is a longitudinal section along the line 2—2 in Figure 1;

Figure 3 is a transverse section along the line 3—3 in Figure 1.

In carrying out the preferred embodiment of my invention, I provide a frame consisting of the longitudinal side rails 1 placed in parallel spaced relation, and the transverse braces 2 secured thereto. A transverse top plate 3 is also secured to the side rails 1. An H-shaped gear lever cut-out is pierced in the said top plate 3, the same including a central opening 4, the lateral stems 12 and the connecting slots 13. Through this cut-out the vertical gear shift lever 5 with the handle knob 6, projects. The horizontal gear shift rod 7 is slidably mounted in apertures 8 in the flanges 9 which are cut from the plate 3 at each side of the central cut-out, and bent downward at 10. A socket 11 is secured to the gear shift rod 7 and is internally threaded to engage the threaded end of the gear shift lever 5. As here shown the said gear shift lever is in the neutral position when in the central portion 4 of the cut-out, and in order to accomplish the usual shifts made in actual practice, I provide the said lateral slots 12 connected to the cut-out 4 by the slots 13. By sliding the lever 5 to either side through the slots 13 and then placing the lever in either of the opposite ends of the said slots 12, the actual action of shifting gears in an automobile is performed. To facilitate the movement transversely of the gear shift rod 7, a roller 14

is pivoted in the bracket 15 secured on the transverse bottom plate 16. The apertures 8 in the flanges 9 are slightly oblong in a vertical direction so that the said gear rod 7 bears only upon the side of the apertures 8, and the roller 14 reducing friction to a minimum. A clutch pedal 17 is secured to the upstanding arm 18 of the horizontal clutch rod 19 which extends transversely across the frame and is rotatably mounted in the bearings 20. A retractile coil spring 21 is stretched between the end arm 22 of the clutch rod 19 and the side rail 1, and is adapted to hold the clutch pedal in an upright position.

In actual practice, the gears must not be shifted until the clutch is disengaged and to accomplish this action, I provide a gear release rod 23 secured to the clutch rod 19 at 24. A hole 25 is pierced in the plate 3 through which the hooked portion 26 of the rod projects downward. Suitable apertures 27 and 28 are provided in the gear rod 7 so that in any of the positions assumed by the gear shift mechanism, the hooked portion 26 of the gear release rod 23 will engage one of the said apertures, preventing further shifting. As the clutch pedal 17 is pushed forward, the rotation of the clutch rod 19 causes the gear release rod 23 to rise, thus releasing the gear rod 7. As illustrated, the hook 26 is in engagement with the aperture 27 for the neutral position, and the apertures for the various other shifts are indicated generally at 28. A brake pedal 29 is secured to the arm 30 pivoted at 31 on the side rails 1. A retractile coil spring 32 holds the brake forward against the stop 33. Seated in the socket 34 secured to the plate 3 is the foot accelerator 35. A coil spring 36 holds the said accelerator 35 extended upwardly when not in use.

By pressing forwardly with the foot upon the clutch pedal 17, the gear release rod 23 is raised and disengaged from the gear rod 7 so that the gear shift lever 5 may be moved into either reverse, low, intermediate or high speed position, as desired. Upon the release of the clutch pedal, the spring forces it forward, so that the gear release rod engages the gear rod, and the gear shift lever cannot be moved until the clutch is again operated conformably with actual practice. By providing a brake pedal and accelerator in combination with the gear and clutch

mechanism, the various operations performed in handling a car may be easily mastered.

While I have herein described a preferred embodiment of my invention, it is understood that I may vary from the same in minor details, not departing from the spirit of my invention and within the scope of the appended claims.

I claim:

1. In a device of the kind described, a horizontally arranged frame having an H-shaped gear lever cut-out therein, a gear shift rod rotatably and slidably mounted below the said gear lever cut-out, and a gear shift lever extended through the said gear lever cut-out and having its lower end rigidly joined to the said gear shift rod, all of the said elements being provided and arranged in simulation of the corresponding elements of an automobile.

2. In a device of the kind described, a

horizontally arranged frame having an H-shaped gear lever cut-out therein, a gear shift rod rotatably and slidably mounted below said cut-out, the said rod having a plurality of radial gear release rod apertures formed therein, a gear shift lever extended through the said cut-out and having its lower end rigidly joined to the said gear shift rod, a clutch rod journaled across the frame, a clutch pedal and arm extended upwardly from the rod, means for holding the clutch pedal normally in its upright position, a gear release rod having one end rigidly secured to the said clutch rod and having its opposite end bent and adapted to engage the said aperture in the gear shift rod, all of the said elements being provided and arranged in simulation of the corresponding elements of an automobile.

In testimony whereof I affix my signature.

MICHAEL J. McKENNA.