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PATENTED JULY 9, 1907.

K. HESS.

STARTING AND STOPPING DEVICE IN TOY VEHICLES.

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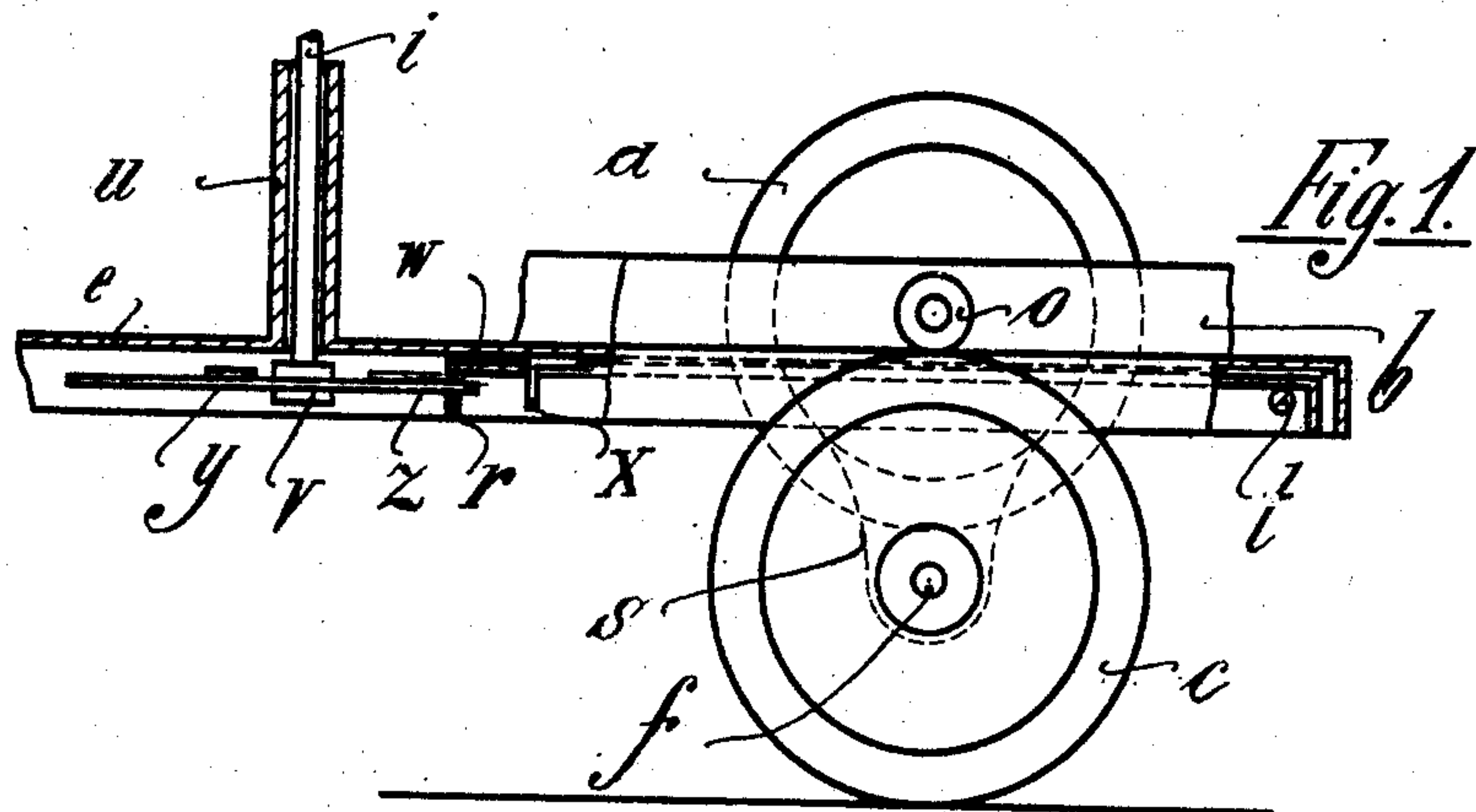
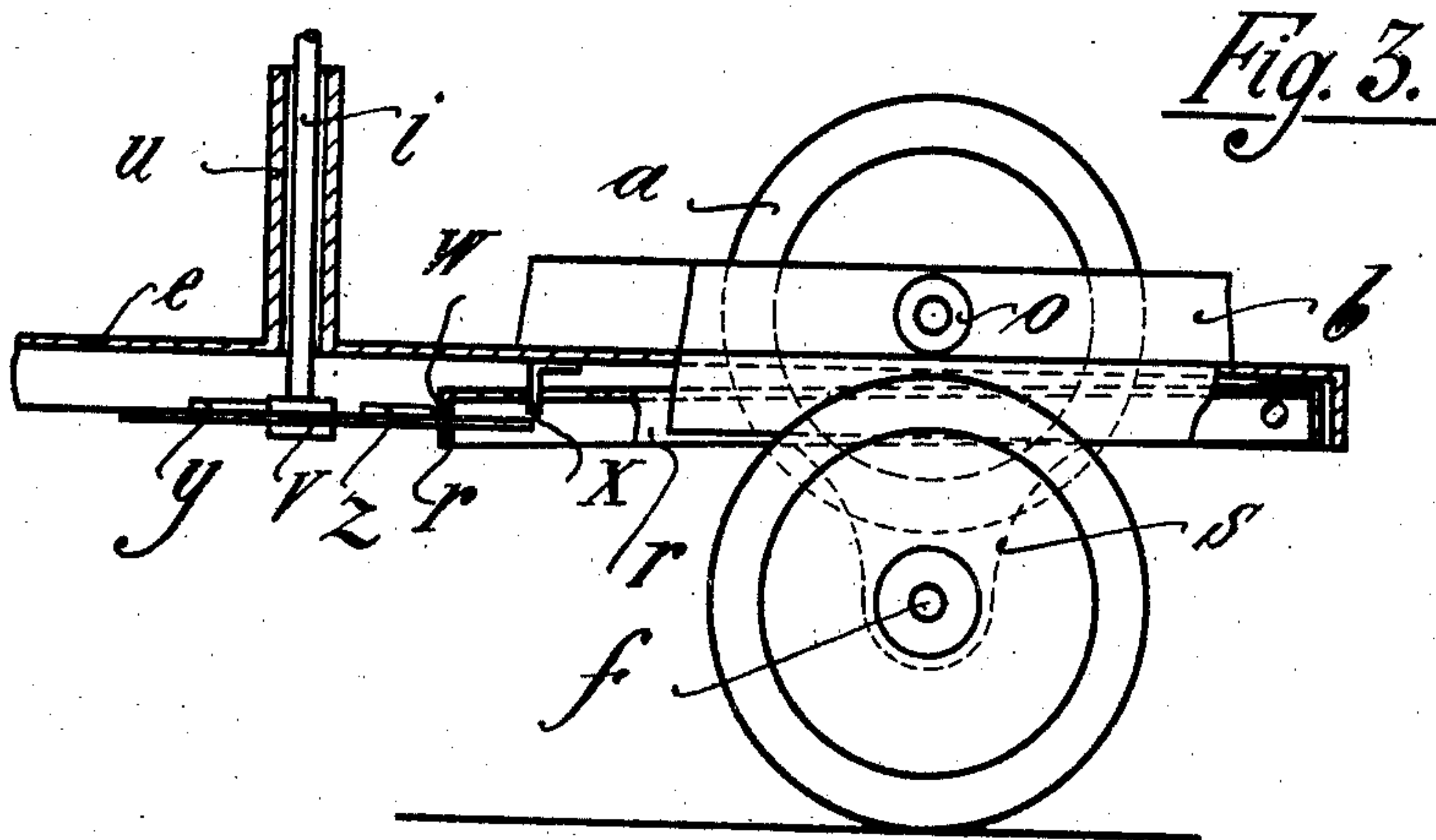
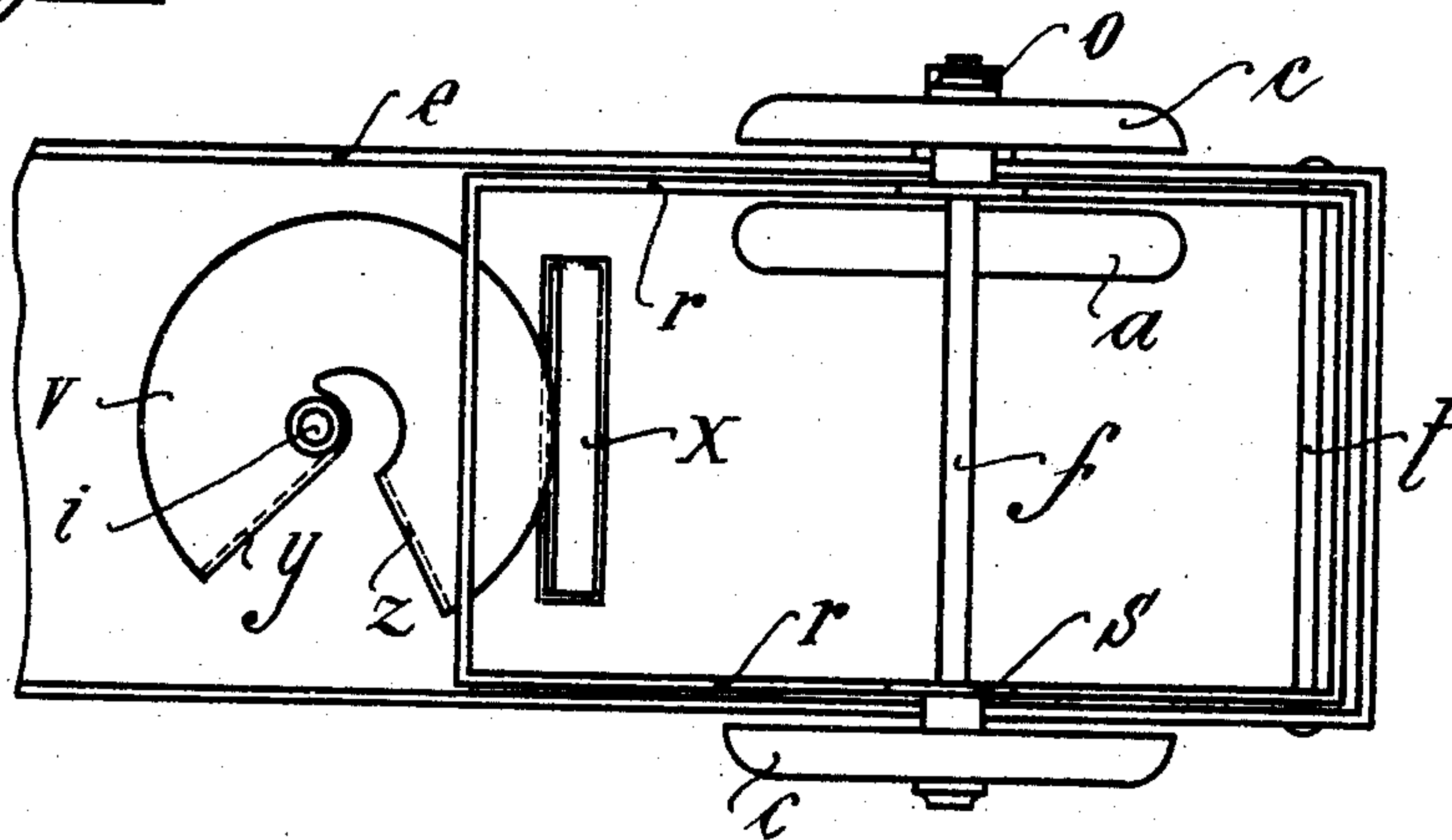


Fig. 2.



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UNITED STATES PATENT OFFICE.

KARL HESS, OF NUREMBERG, GERMANY.

STARTING AND STOPPING DEVICE IN TOY VEHICLES.

No. 859,768.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed March 12, 1906. Serial No. 305,632.

To all whom it may concern:

Be it known that I, KARL HESS, a citizen of the Empire of Germany, residing at Nuremberg, in the Empire of Germany, have invented a new and useful
5 Starting and Stopping Device in Toy Vehicles, of which the following is a specification.

There are known toy vehicles, each comprising say a fly wheel, a hand gear for putting this fly wheel into a quick rotation, a friction gear between the fly
10 wheel and the wheels of the vehicle and a device for throwing in and out of gear said friction gear. In some toy vehicles the friction gear merely consists in the shaft of the fly wheel or a friction wheel fastened on this shaft and in one of the four vehicle wheels,
15 which can be brought at will in and out of contact with the said shaft or said friction wheel respectively, their axle being movable in slots of the box or frame, and the engaging and disengaging device consists of a pair of two-armed levers which are controlled from a
20 steering shaft. My invention relates to improvements in similar engaging and disengaging devices, whereby they are simplified.

The objects of my improvement are, first, to replace the two-armed levers by an eccentric fastened on a
25 vertical shaft; second, to provide a separate frame, which is turnable on the frame of the toy vehicle; and, third, to mount the axle of the two wheels in this turnable frame to turn. I attain these objects by the mechanisms illustrated in the accompanying drawing, in
30 which—

Figure 1 is partly an elevation and partly a longitudinal section of say the front portion of a toy vehicle, the one of the two wheels being in contact with a small friction wheel on the shaft of the fly wheel, Fig. 2 is a
35 bottom view—Fig. 3 shows the device in that position, in which the small friction wheel is out of contact with the respective wheel.

Similar letters of reference refer to similar parts throughout the several views.

40 Two wheels *c c* of the toy vehicle are fastened on a shaft *f*, which is mounted to turn in two projections *s s* of a frame *r*. The latter is a rectangular metal plate, the edges of which are downwardly bent to form a border. Through this border near the front edge
45 passes a rod *t*, which is fastened in the frame proper *e* of the toy vehicle. It will be seen, that the frame *r* with the two wheels *c c* can turn around the rod *t*. The shaft *d* of the fly wheel *a* is mounted to turn in a box *b* or the like on the frame *e* and has fastened on it a
50 small friction wheel *o*, which can come in contact with the one wheel *c*. There is a little clearance or space left between the two frames *r* and *e* in their relative position shown at Fig. 1, and it will be understood, that in this case the own weight of the frame *e* and of
55 all the parts disposed thereon will press the small friction wheel *o* on the wheel *c* for producing the necessary

friction. An angle piece *x* is secured on the lower side of the frame *e* and a suitable slot *g* is provided in the lower frame *r*, in which the angle piece *x* can engage. A vertical tube *u* is fastened on the upper
60 frame *e* and in this tube *u* a shaft *i* is mounted to turn and to longitudinally move. This vertical shaft *i* is arranged to be turned by hand with the aid of any known means, say a hand-wheel or the like. At the lower end of the shaft *i* an eccentric *v* is fastened,
65 which is placed at right angles to the shaft *i*. This eccentric *v* engages in a slot *w* provided in the rear border of the frame *r*. This eccentric *v* is made from sheet-metal and its two edges *y* and *z* are preferably bent, so as to form two stops, which can strike the
70 frame *r*. Thereby the rotation of the shaft *i* with the eccentric *v* is limited and moreover the eccentric *v* is prevented from getting out of the slot *w*. The eccentric *v* is so disposed with reference to the angle piece *x*, that in its one extreme position shown at Fig. 2 it
75 can engage beneath the angle piece *x*, as is shown at Fig. 1, and that in any other position it remains out of contact with the angle piece *x*. I have not shown other parts of the toy vehicle as they are immaterial.

This device is operated as follows: When the vertical shaft *i* is depressed, that is to say when it is moved
80 downwards, the eccentric *v* will take along with it the lower frame *r*. Now that the two wheels *c c* rest on the floor and are prevented from moving downwards, the consequence of the said depression will be, that the
85 lower frame *r* will turn around the axle *f* of the two wheels *c c* and will lift the rod *t* with the upper frame *e*. Thereby the two frames *e* and *r* will be moved away from each other, so that the angle piece *x* will be above the plane of the eccentric *v*. Now the shaft *i*
90 can be turned to bring the eccentric *v* into the extreme position shown at Fig. 2, so that the latter engages beneath the angle piece *x* and prevents the same and therewith also the upper frame *e* from dropping. Of
95 course in this upper position of the upper frame *e* the small friction wheel *o* will be detached from the respective wheels *c* and will remain out of engagement with the same. After the fly wheel *a* has been put into quick rotation in any known manner, it is only
100 necessary to turn back the shaft *i* and thereby to withdraw the eccentric *v* from the angle piece *x*, for starting the toy vehicle, as in this case the upper frame *e* with all the parts thereon will drop and the rotating small friction wheel *o* will engage with the respective wheel
105 *c* and will drive the same.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a toy vehicle, the combination with a body, of a wheel-shaft mounted in said body to turn and provided with two wheels to support said body, a rod fastened
110 in said body parallel to said wheel-shaft, a frame turnable on said rod and provided with a slot, a fly wheel shaft parallel to said two wheel-shafts and mounted in said body to

turn, a friction wheel fastened on said fly wheel shaft and adapted to engage with the one of the two wheels on the wheel-shaft in said frame, a vertical shaft mounted in said body to turn and adapted to be turned by hand, and an
5 eccentric fastened on said vertical shaft and engaging in the slot of said frame and adapted for depressing the latter and thereby raising said friction wheel out of contact with the respective wheel.

2. In a toy vehicle, the combination with a body, of a
10 wheel-shaft mounted in said body to turn and provided with two wheels to support said body, a rod fastened in said body parallel to said wheel-shaft, a frame turnable on said rod and provided with a slot, a fly wheel shaft parallel to said two wheel-shafts and mounted in said body to
15 turn, a friction wheel fastened on said fly wheel shaft and

adapted to engage with the one of the two wheels on the wheel-shaft in said frame, a projection on the lower side of said body, a vertical shaft mounted in said body to turn and to longitudinally move and adapted to be actuated by hand, and an eccentric fastened on said vertical shaft and
20 engaging in the slot of said frame and adapted to engage in its one extreme position beneath said projection for detaching said friction wheel from the respective wheel.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 25

KARL HESS.

Witnesses:

WILHELM FLÜNN,
WILHELM FACHER.