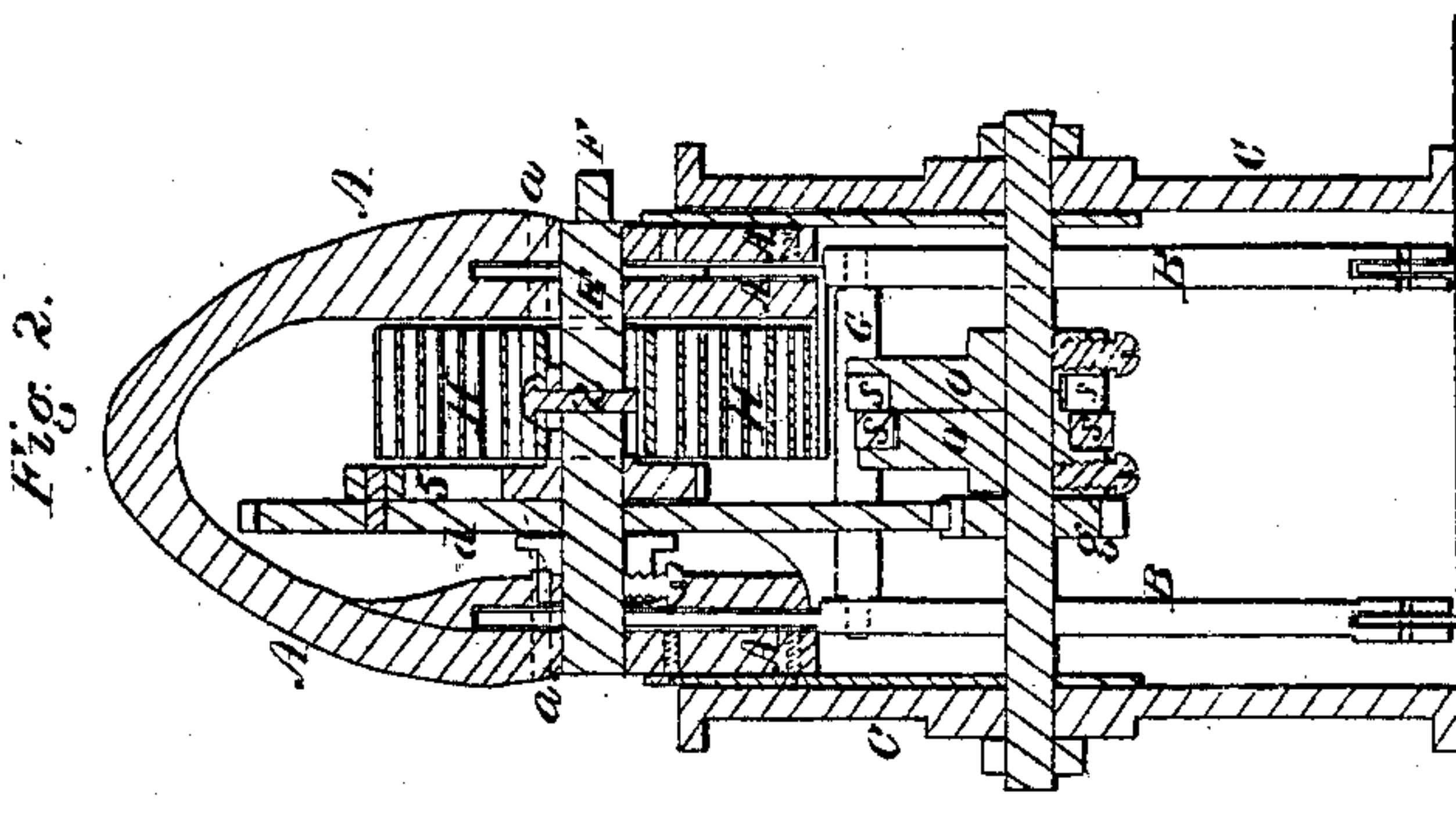
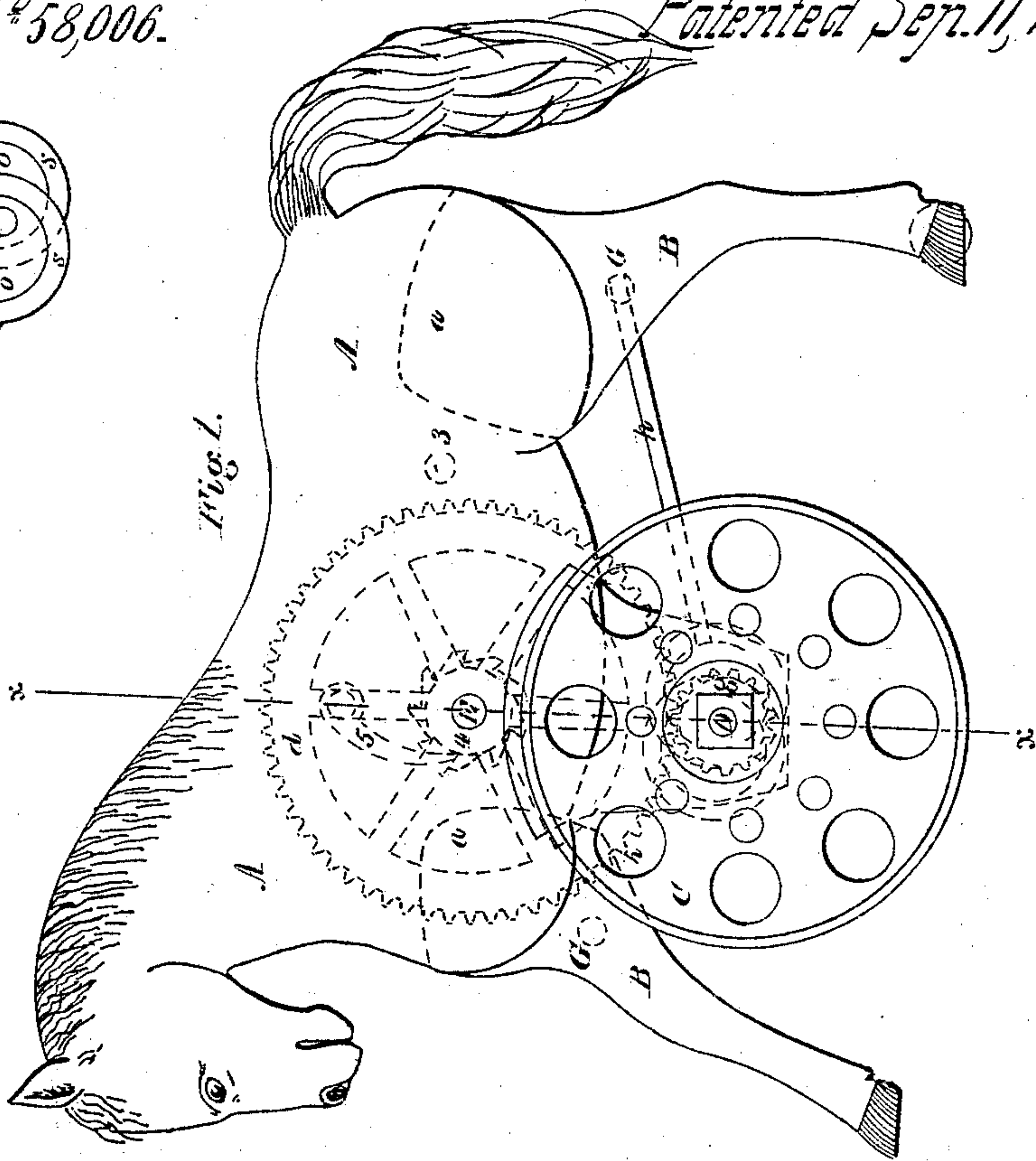
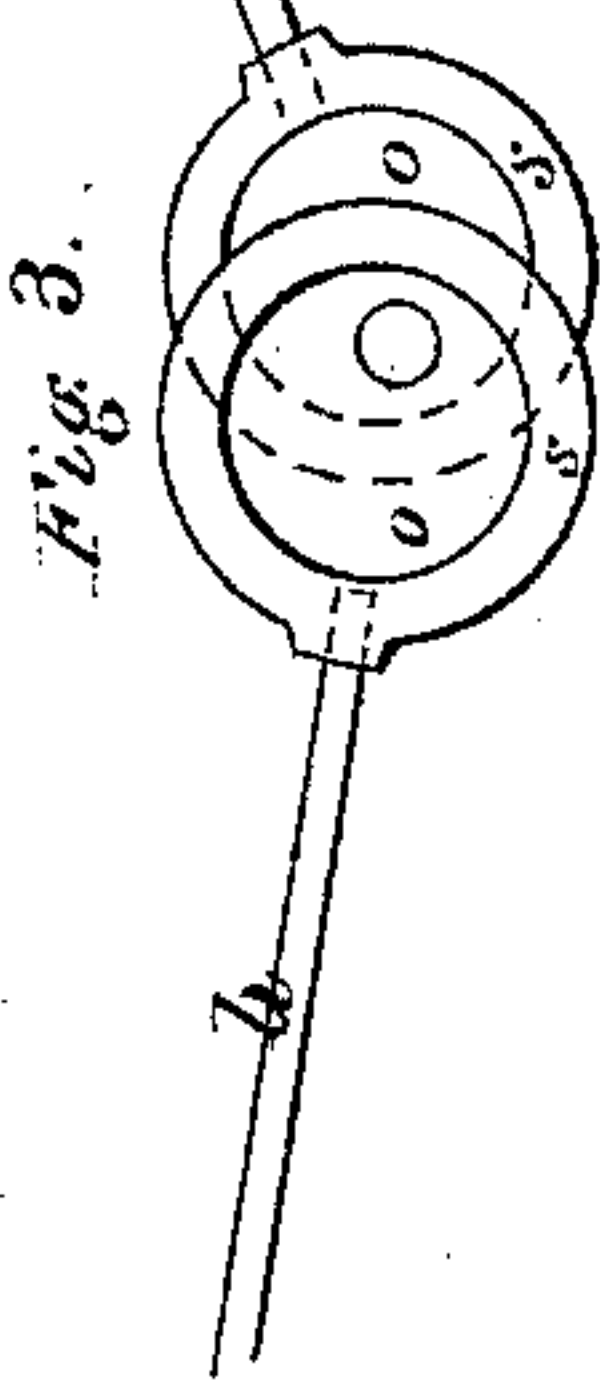


*H. S. Vrooman,  
Automatic Toy.*

*Patented Sep. 11, 1866.*

*N<sup>o</sup> 58,006.*



*Witnesses*

*J. H. Clark  
Thos R. Dill*

*Inventor*

*Henry S. Vrooman*



# UNITED STATES PATENT OFFICE.

HENRY S. VROOMAN, OF HOBOKEN, NEW JERSEY.

## MECHANICAL TOY.

Specification forming part of Letters Patent No. 58,006, dated September 11, 1866; antedated September 2, 1866.

*To all whom it may concern:*

Be it known that I, HENRY S. VROOMAN, of Hoboken, in the county of Hudson, State of New Jersey, have invented a new Mechanical Toy for the amusement of children, in the form of a horse or other animal; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures marked thereon, all of which form a part of this specification.

The nature of my invention consists in wholly or in part suspending the body of a toy horse or other animal upon a wheel or wheels upon which to propel such animal toy, while at the same time such toy is provided with movable legs, which are operated to imitate a natural movement by a spring such as is usually used in clocks or watches. I also use eccentric or elliptical form of wheels, so that, as they revolve, the toy will be raised up and down, as may be desired, to represent the natural movements of an animal in galloping, trotting, or walking.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a side view of a toy horse partially suspended on two wheels. Fig. 2 is a cross vertical section of the same, on line *x x*, Fig. 1, showing the plane of such section.

The body *A A* of the horse (see Figs. 1 and 2) is constructed hollow and provided with movable legs *B B*, which are let up into the body of the horse and hinged by the pins *a a*. That portion of the sides of the horse just back of the fore legs extends down sufficiently far to receive the shaft or axle-tree *D*, upon which shaft I place wheels *C C*, one on each side of the horse. (See Fig. 2.) These wheels *C C* are fitted eccentrically on the shaft *D*, and of sufficient diameter to elevate and suspend the fore part of the body and head of the horse, so that the fore legs are left free to move without touching the object upon which the wheels rest, while the hinder legs support the back part of the horse and rest upon the same object as the wheels. The two fore legs and the two hinder legs are each connected together by means of cross-pieces *G G*. (See Figs. 1

and 2.) These cross-pieces are connected each to a separate eccentric on the shaft *D* by rods *h h*. These eccentrics are shown in dotted lines in Fig. 1, and designated in Figs. 2 and 3 by letters *o o* and *s s*.

When the wheels *C C* are revolved with their axle-tree *D* the eccentrics are operated and move the legs *B B* back and forward, while the eccentricity of the wheels *C C* causes the rising and falling of the head and fore shoulders of the horse. Thus are produced the galloping movements of the toy horse.

To produce the walking or trotting movements of a toy animal, each leg should be connected to a separate eccentric on the shaft *D*, and the wheels *C C* made in an elliptical form, so that, as the alternate greater and lesser diameters of the wheels present themselves vertically as the wheels revolve, the head and shoulders of the toy will be raised and lowered to correspond with the step or movement of each fore foot.

The toy animal constructed as above described may be propelled by a spring located in the vehicle attached to it, or in the body of the animal. The latter plan I have adopted in the drawings of this application for a patent.

Within the body of the horse *A A* and upon the shaft *E* is located a large cogged wheel, *d*. (Seen in dotted lines, Fig. 1, and more clearly shown in Fig. 2.) This cogged wheel *d* gears into a pinion, *g*, on the shaft or axle-tree *D*, and is propelled by a common clock or watch spring, *H H*, (see sectional drawing, Fig. 2,) attached to the shaft *E* by pin 2 at one end, and to the body of the horse at 3, Fig. 1.

To the shaft *E* and cogged wheel *d* is attached a common arrangement of ratch, 4, and pawl 5, (see Fig. 2,) to secure the cogged wheel *d* to the shaft *E*, and also to prevent movement while the spring is being wound up, which is accomplished by applying a common key to the square end of the shaft *E* at *F*. (See Fig. 2.)

Having now described the parts and separate movements of this new toy, the operation complete is as follows: The spring *H* is wound up, which then moves the cogged wheel *d*, which, gearing into the pinion *g*, rotates the shaft *D* and wheels *C C*. The body of the horse is thus propelled along, while the eccentrics

O O and S S operate the legs, and the eccentricity of the wheels C C gives a graceful undulating movement to the head and fore shoulders of the toy animal.

The description being now complete of this new toy, I will proceed definitely to state what I claim as new and of my invention and desire to secure by Letters Patent—

1. An automatic animal figure having four movable legs operated by a coil-spring, in combination with a wheel or wheels, C, substantially as shown, when such wheel or wheels are used upon which to suspend and propel forward the body of such figure, so as to leave

the legs free to be operated to imitate the running movements of a quadruped, as shown.

2. The use or employment of a wheel or wheels upon which animal automatic figures are suspended and propelled forward, of an irregular or eccentric form, so as to give a rising-and-falling movement to the head and fore shoulders of such animal-moving figure at each stride or movement of the legs.

HENRY S. VROOMAN.

Witnesses:

I. F. CLARK,  
THOS. B. DILL.