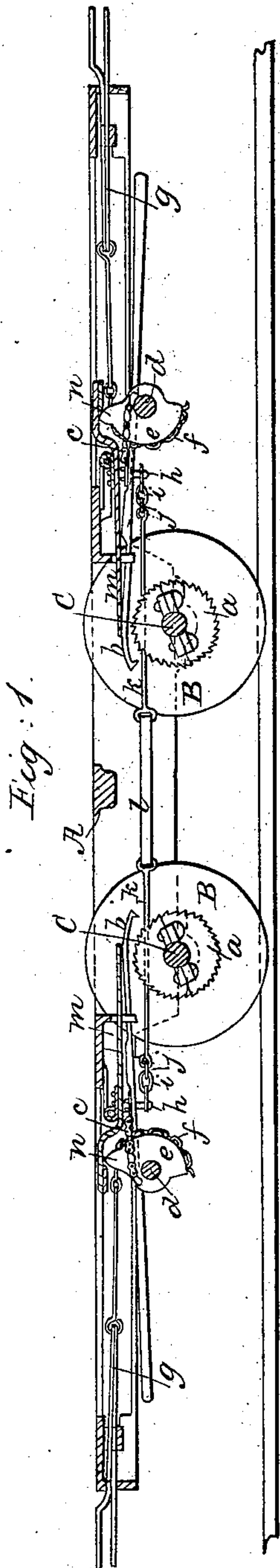


J. STEGER.

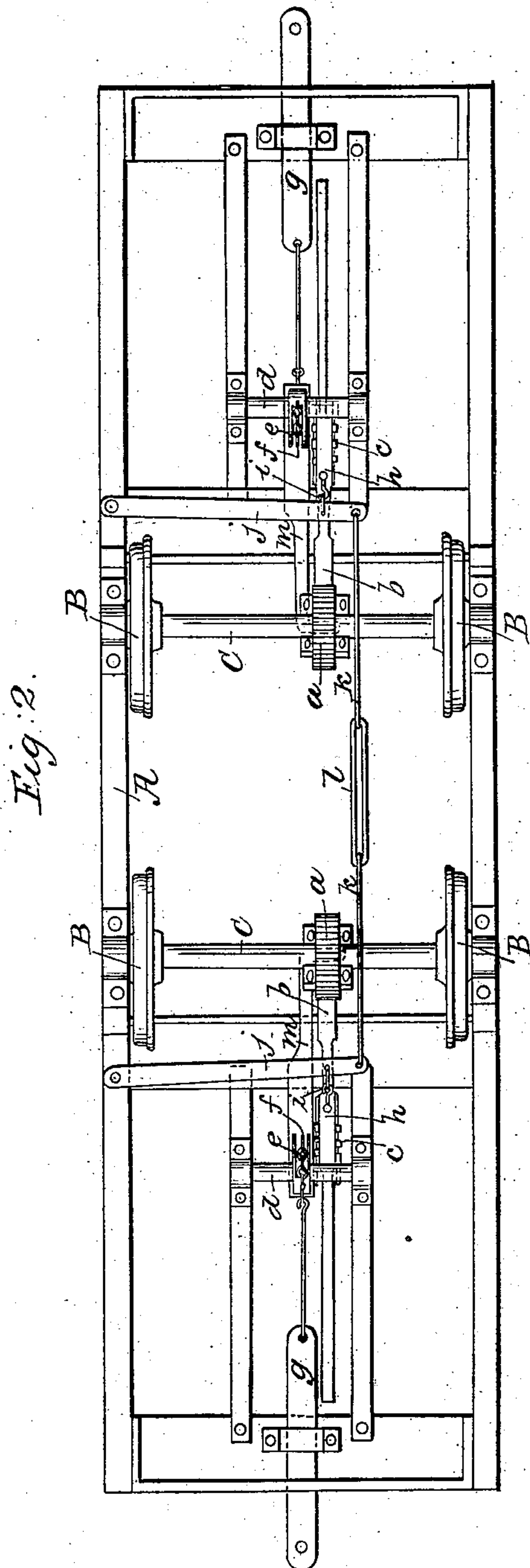
Car Starter.

No. 85,407.

Patented Dec. 29, 1868.



Witnesses;
H. Hauf
Ernest F. Hastenbury



Inventor;
Joseph Steger

United States Patent Office.

JOSEPH STEGER, OF NEW YORK, N. Y.

Letters Patent No. 85,407, dated December 29, 1868.

IMPROVED CAR-STARTER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOSEPH STEGER, of the city, county, and State of New York, have invented a new and useful Improvement in Car-Starters; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a longitudinal vertical section of this invention.

Figure 2 is an inverted plan thereof.

Similar letters indicate corresponding parts.

This invention relates to certain improvements in that class of car-starters in which the car is started from a dead stop by means of a pawl connected with the draw-bar of the car, and acting on a ratchet-wheel secured to one of the car-axles.

These improvements consist—

First, in the arrangement of a cam, in combination with the draw-bar, pawl, and ratchet-wheel, in such a manner that by the action of the draw-bar on the cam, the pawl is positively thrown in gear with the ratchet-wheel, and a correct action of the starting-gear is insured, and if the starting-gear has produced the desired effect, or whenever it is not used, the pawl is free to clear the teeth of the ratchet-wheel, and all unnecessary friction and noise are avoided.

Second, in the arrangement of a spring, situated between the draw-bars and the starting-gears at the ends of the car, and connected to both starting-gears in such a manner that one and the same spring controls the position of both starting-gears and draw-bars.

A represents a railroad-car, which is supported by four wheels, B, mounted on the axles C, and which is intended to be drawn by horses.

On each of the axles is mounted a ratchet-wheel, *a*, and over this ratchet-wheel is suspended a pawl, *b*, the tail-end of which is made so heavy that it overbalances the working-end, and keeps the same clear of the teeth of the ratchet-wheel.

Said pawl is connected by a chain, *c*, with the shaft *d*, on which is mounted the lever-segment *e*, and a chain, *f*, which is secured at one end to said segment, and winds round the same, is connected at its opposite end to the draw-bar *g*.

From the lower surface of each of the pawls projects a stud, *h*, which connects, by a chain, *i*, with a swivel-arm, *j*, and the two arms *j* connect by rods *k* with one and the same spring *l*, as clearly shown in the drawing.

By the action of this spring, both pawls *b* are drawn inward, and the shafts *d* are turned back, until the heads of the draw-bars strike the frame of the car, and at the same time the chains *c* and *f* are kept taut.

Over each pawl is situated a lever, *m*, which is hinged to the frame of the car, so that its inner end rests on the pawl, while its outer end extends over a cam, *n*, projecting from the periphery of the lever-segment *e*.

When the draw-bar is pulled out, the lever-segment revolves, the cam *n* strikes the lever *m*, the pawl is brought in gear with the ratchet-teeth, and as the outward motion of the draw-bar progresses, the axle of the car is turned by the strain of the pawl on the ratchet-wheel, the power of this strain being increased in proportion between the diameter of the shaft *d* and that of the lever-segment *e*.

As soon as the cam *n* has passed the end of the lever *m*, and the draw-bar is drawn out far enough, the pawl releases the teeth of the ratchet-wheel, and the car-axle revolves freely, and without producing any noise, and if the strain on the draw-bar ceases, the spring *l* causes the same, together with the pawl and lever-segment, to reassume their original positions, as shown in the drawing.

It is obvious that the cam *n*, instead of being secured to the lever-segment, might be attached to the pawl itself, without changing the result.

Having thus described my invention,

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

1. The arrangement of a cam, which is actuated by the strain on the draw-bar, and which acts on the pawl *b*, substantially in the manner and for the purpose described.

2. The spring *l*, situated under the middle of the car, and acting on the starting-gear at the opposite ends of the car, substantially as set forth.

JOSEPH STEGER.

Witnesses:

W. HAUFF,
ERNEST F. KASTENHUBER.