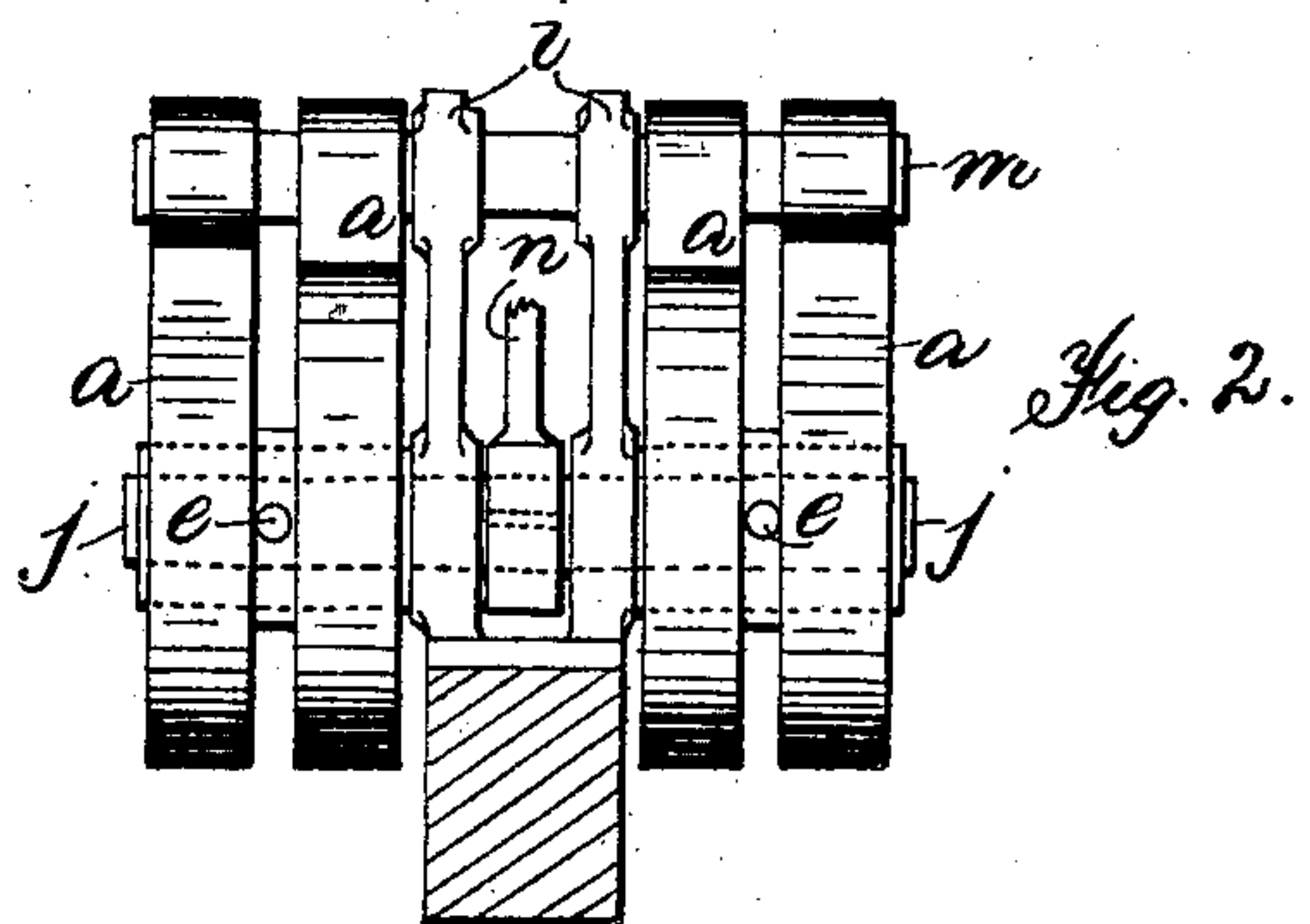
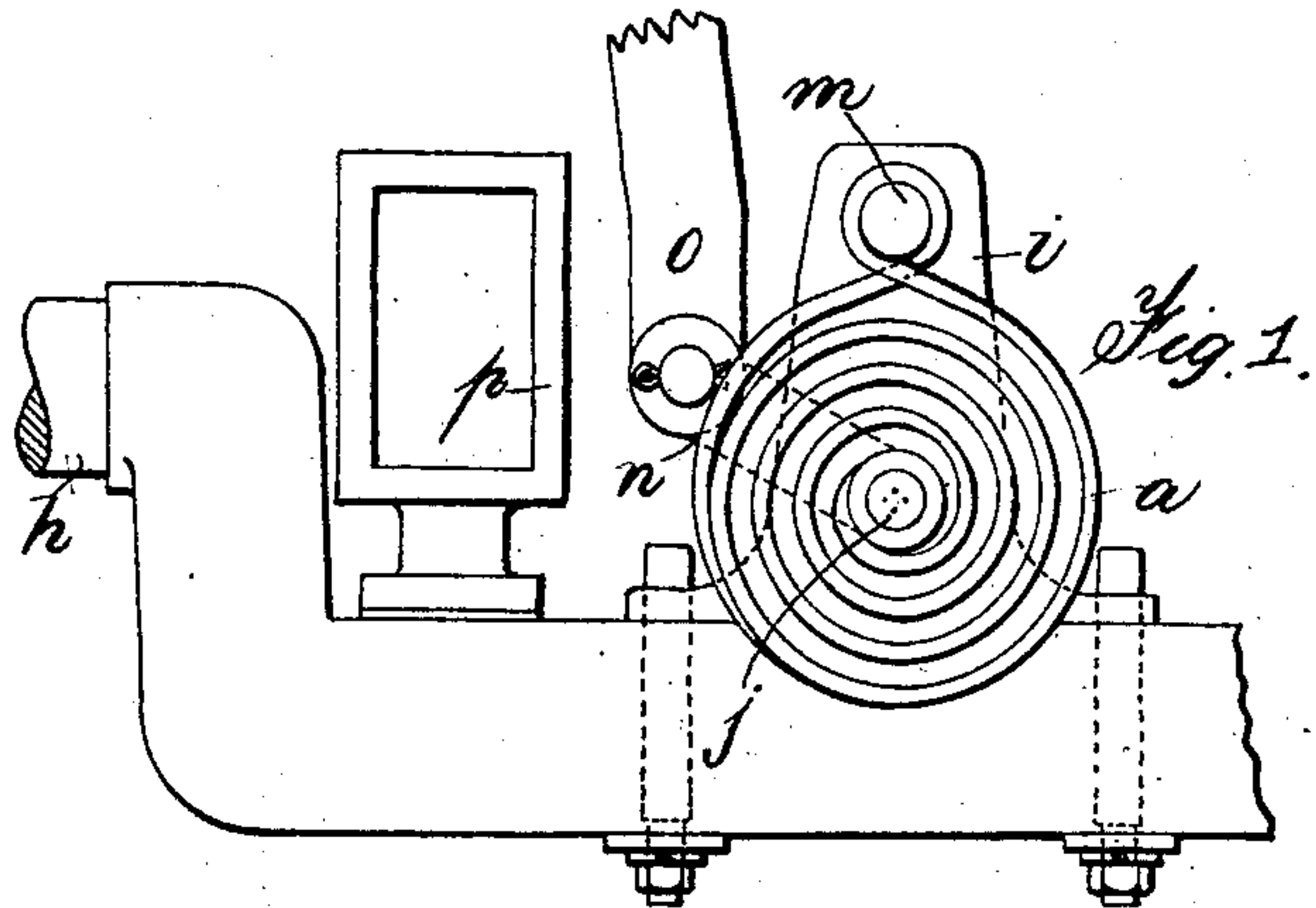


No. 863,146.

PATENTED AUG. 13, 1907.

W. BRIERLEY.
VEHICLE SUSPENDING DEVICE.

APPLICATION FILED MAY 17, 1907.



Witnesses:
J. H. H. H.
A. W. Neale, Jr.

Inventor
W. Brierley
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his Attors.

UNITED STATES PATENT OFFICE.

WYNFORD BRIERLEY, OF NEW MALDEN, ENGLAND.

VEHICLE-SUSPENDING DEVICE.

No. 863,146.

Specification of Letters Patent.

Patented Aug. 13, 1907.

Application filed May 17, 1907. Serial No. 374,242.

To all whom it may concern:

Be it known that I, WYNFORD BRIERLEY, a subject of the King of England, residing at Parkstone, Boombe Road, New Malden, in the county of Surrey, England, journalist, have invented certain new and useful Improvements in Vehicle-Suspending Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to vehicle-suspending devices, including a compound spiral or convolute spring, thereby balancing the vehicle more evenly and greatly reducing vibration, said compound springs having a tendency to always restore the parts to their normal position when displaced therefrom.

In the accompanying drawings Figure 1 is a side elevation of a part of a vehicle, showing my invention applied thereto, and Fig. 2 is an end view of the same. *a* indicates a compound convolute spring, with the coils arranged in reverse directions, whereby any displacement from the normal position will produce a tendency to restore the parts to said normal position. It has been found in practice that such a compound spring is far superior to separate oppositely acting springs, one reason being that it is very difficult to get springs of the same tension.

h shows the wheel axle, and *i* indicates a double bracket forming supports for the axle *j*. Through the

upper ends of the bracket *i* passes a rod *m*. On the ends of this rod *m* are fitted the ends of two pairs of compound springs *a*, such as already described, one pair on each side of bracket, the middle portion of these springs being attached to the axle *j* by means of the pin *e*.

On the axle *j* is keyed one end of an arm *n*, to the other end of which is pivoted a lever *o*. The other end of this lever is attached to the framework of the vehicle.

p shows a spring box which may be used when it is desired to use ordinary springs in addition to the compound springs *a*.

Having thus described my invention, I claim:

1. In vehicle suspending devices, the combination of the vehicle axle, a cross shaft above the same, compound convolute spiral springs fastened at the center to said cross shaft, an arm extending up from said cross shaft, and a support connected to the vehicle frame and pivotally connected to said arm, substantially as described.

2. In vehicle suspending devices, the combination of the vehicle axle, a cross shaft thereon, compound convolute spiral springs each having its central portion attached to said cross shaft, an arm fastened to said cross shaft, and a lever carried by the vehicle frame and pivotally connected to said arm, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

WYNFORD BRIERLEY.

Witnesses:

A. E. VIDAL,
H. D. JAMESON.