

(No Model.)

O. LUDEWIGS.
VELOCIPÈDE.

No. 369,017.

Patented Aug. 30, 1887.

Fig. 1.

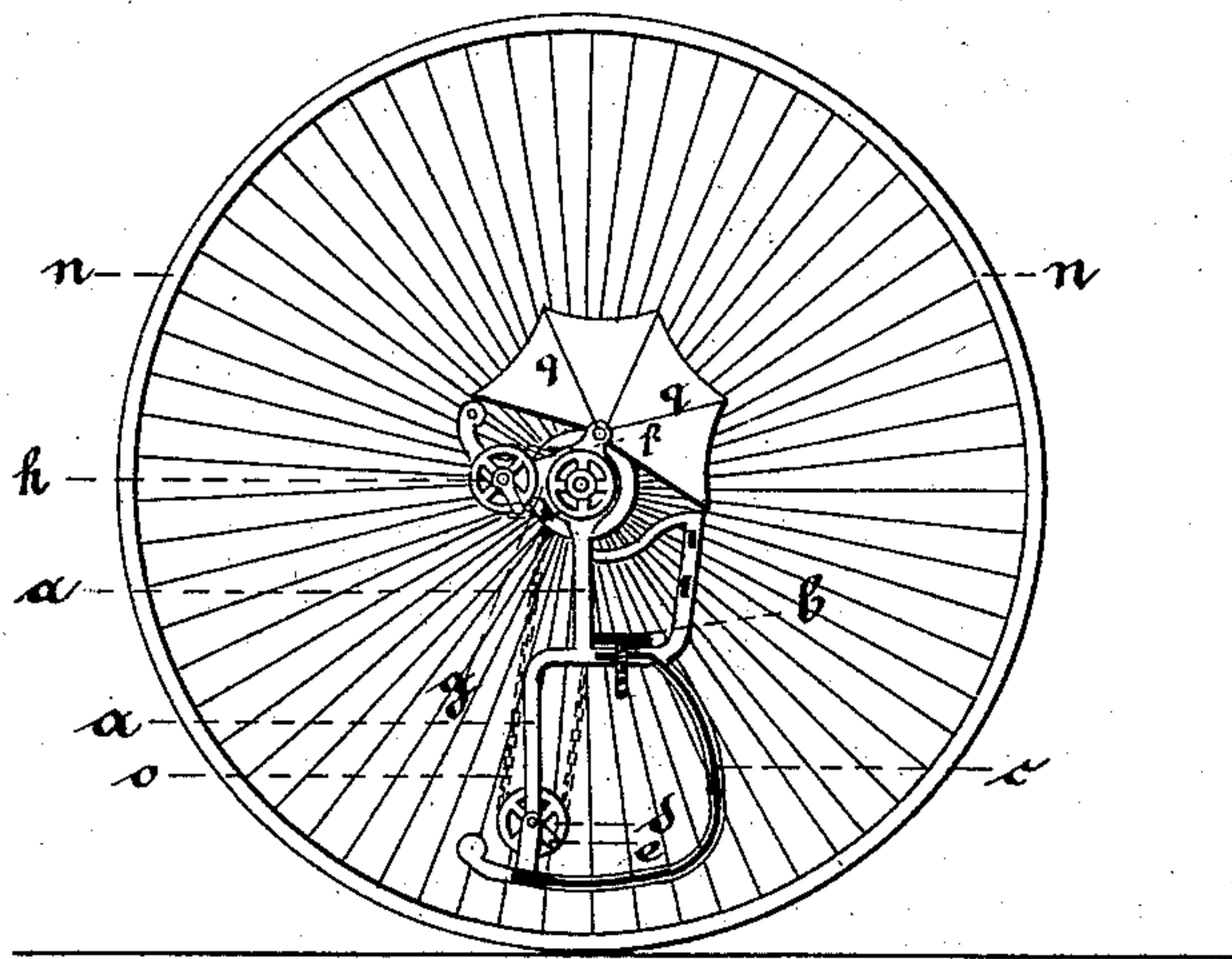


Fig. 2.

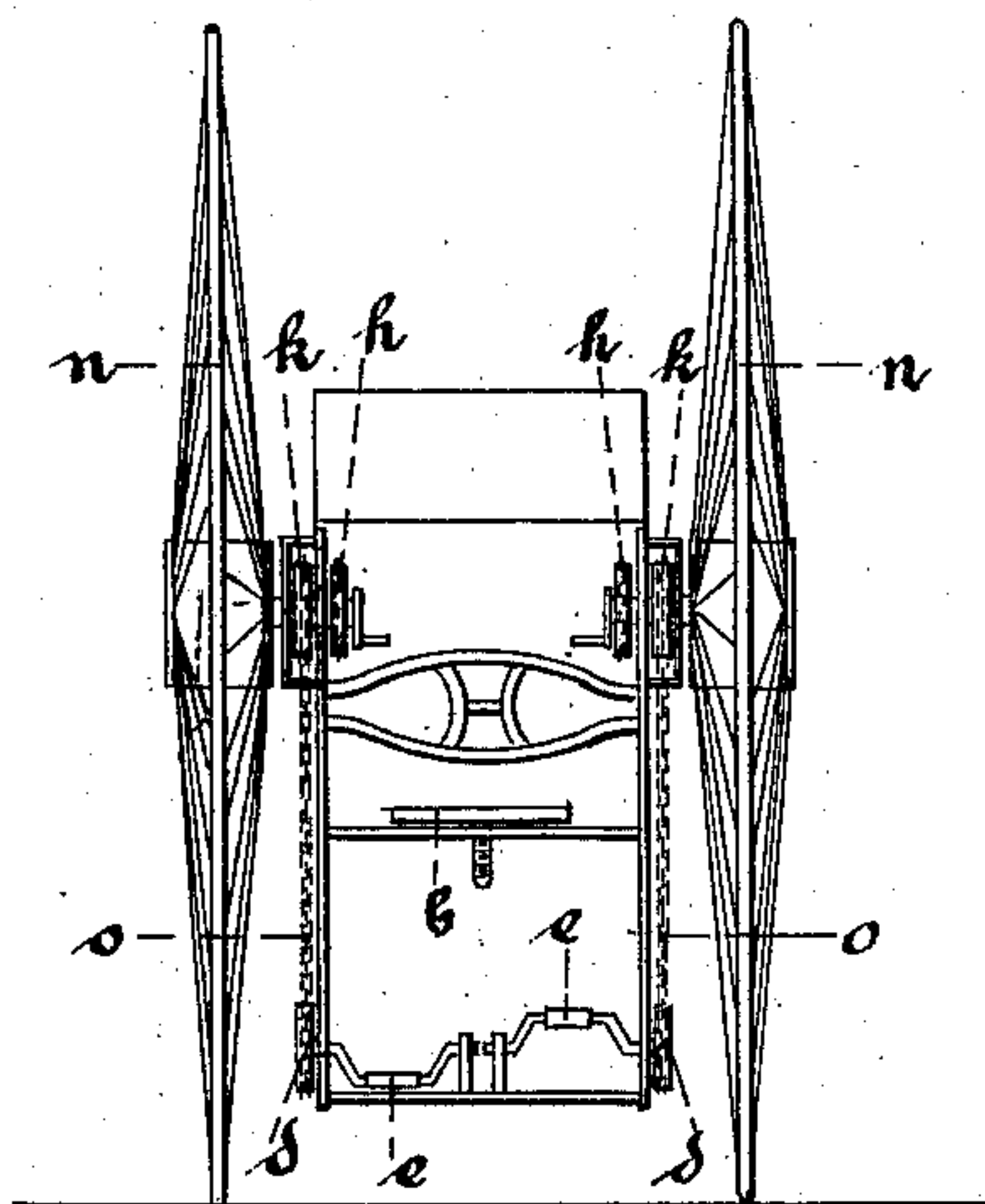
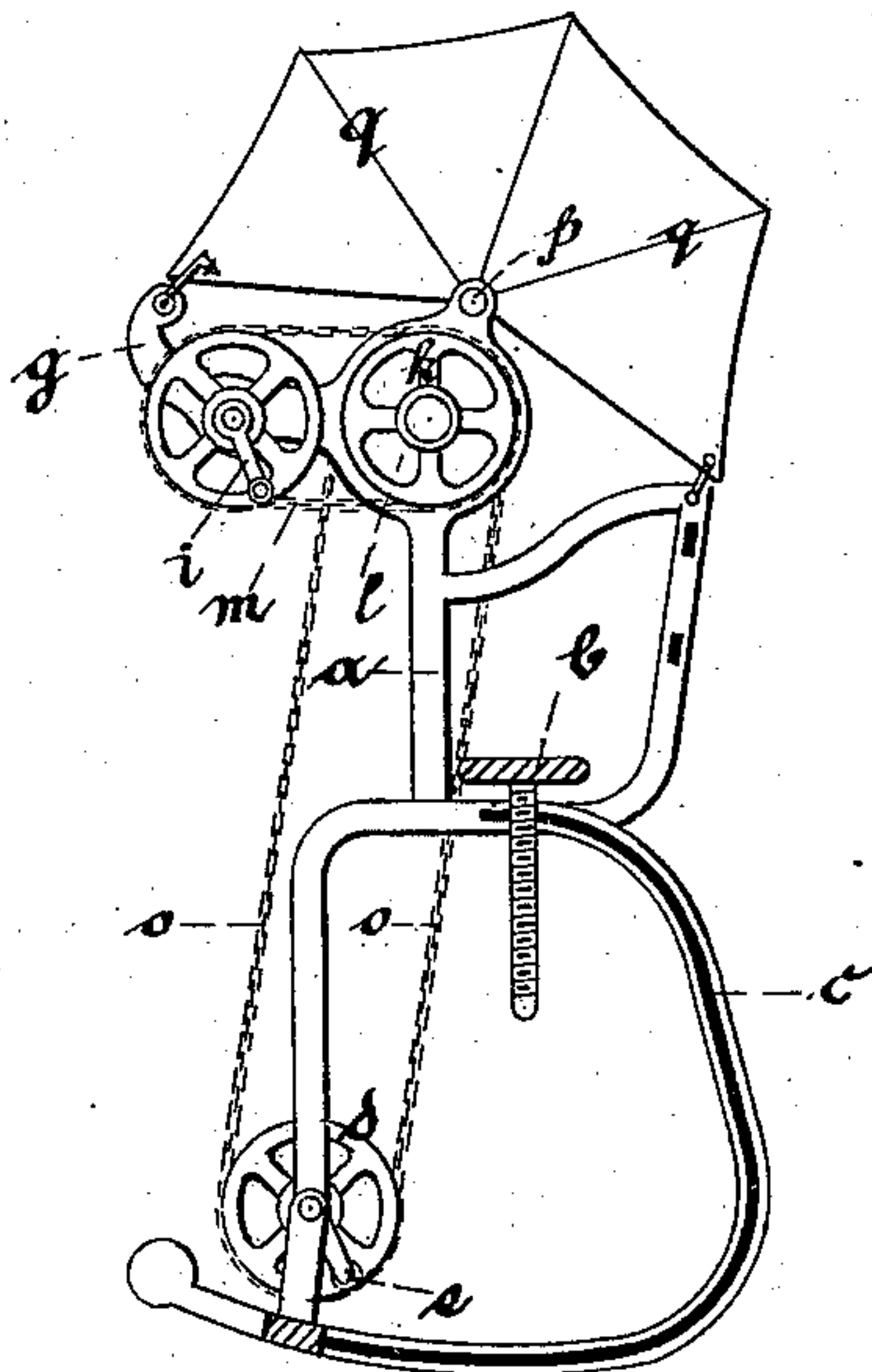


Fig. 3.



Witnesses:

August Hoyer
Otto Kohn

Inventor:

Otto Ludewigs
by *Wm. A. H. H. H.*

UNITED STATES PATENT OFFICE.

OTTO LUDEWIGS, OF SALZWEDEL, PRUSSIA, GERMANY, ASSIGNOR OF ONE-HALF TO HEINRICH WOLTERS, OF SAME PLACE.

VELOCIPED.

SPECIFICATION forming part of Letters Patent No. 369,017, dated August 30, 1887.

Application filed February 25, 1886. Serial No. 193,102. (No model.) Patented in Italy September 30, 1885, No. 18,788; in Austria-Hungary October 16, 1885, No. 29,229 and No. 54,698; in England November 3, 1885, No. 13,265, and in Germany December 9, 1885.

To all whom it may concern:

Be it known that I, OTTO LUDEWIGS, of Salzwedel, in the Kingdom of Prussia and German Empire, have invented new and useful
5 Improvements in Velocipedes, of which the following is a specification, reference being had therein to the accompanying drawings.

The improvements in this velocipede consist of, first, the doing away of the third (steering)
10 wheel; second, the arrangement of the seat underneath the wheel-axle, which prevents the vehicle from turning over; and, third, the application of a frame for erecting a sheltering-roof against rain.

15 In the drawings, Figure 1 is a side elevation. Fig. 2 is a front view, and Fig. 3 is a vertical section of the frame detached.

The shape of the carriage *a* is such that sufficient stability is insured. The seat *b* is adjustable as regards its height, and is fastened to
20 the lower closed part of the carriage *c*. On the foot end of the carriage *a* are the two treadle-levers or cranks *e e*, which are adjusted at an angle of one hundred and eighty degrees
25 to each other, and are provided at their extreme ends with the chain-wheels *d d*. In the same way at the head end of the carriage *a* an arm, *g*, is applied to the wheel-nave *f*, which arm bears the two hand-crank *i i*, provided
30 with chain-wheels *h h*. A double chain-wheel is likewise fixed to the shaft *l* of the carriage-wheel. Owing to the connection of the chain-wheel *h h* with the wheel *k k* by means of a chain, *m*, the motion communicated by crank
35 *i* to cog-disks *k k* is transferred to the running wheels *n n*. The motion communicated by cranks *e e* and cog-disks *d d* is transferred to the running wheels *n n* also. In this arrangement the running wheel *n* can be set in motion
40 either by means of cranks *i* or cranks *e*, or by

both pairs of cranks together. The convertible shade, made of light steel ribs *q*, is fastened to the arm *p* of the carriage *a*. These ribs are covered over with oil-cloth, and the whole serves to keep off the rain.

Similar letters refer to similar parts throughout the several views.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a velocipede worked by hand or foot, 50 the application of the treadle-crank *e e*, divided in the middle, which, by means of the chain-wheels *d d*, chains *o o*, and chain-wheels *k k*, transfer the motion to the shaft *l l* of the running wheels *n n*, in combination with the application of separate hand-crank *i i*, which, 55 by means of chain-wheels *h h*, chains *m m*, and cog-disks *k k*, transfer the motion to the shafts *l l* of the running wheels *n n*, for the purpose of creating an independent motion of the right 60 and left hand side, either when riding straight forward or also when turning, substantially as described.

2. In a velocipede with combined and divided motion of treadle and hand-crank, produced by chain-wheels *d d*, *k k*, and *h h k k*, 65 chains *o o* and *m m*, and shafts *e e* and *l l*, a seat, *b*, below the shafts *l l* of the running wheel, so as to put the center of gravity of the seat underneath the point of suspension of the 70 latter on shafts *l l* of the running wheels, to which seat there may be fitted a folding umbrella-frame to shelter the rider, substantially as described.

In witness whereof I have hereunto set my 75 hand in presence of two witnesses.

OTTO LUDEWIGS.

Witnesses:

HEINRICH WOLTER,
JOSEPH PURESKY.