

No. 639,932.

E. PENNING-DUPUIS.
TROLLEY.

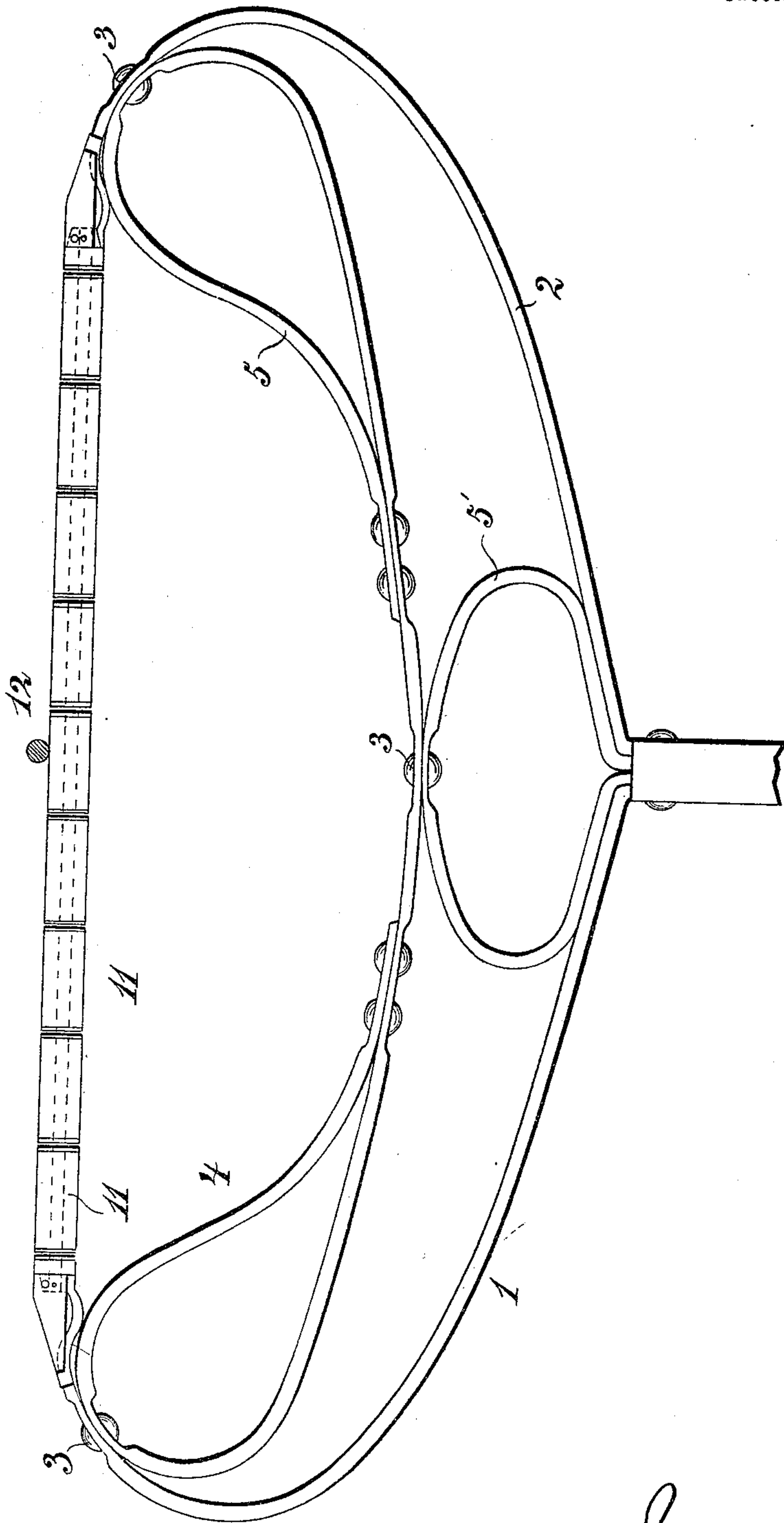
Patented Dec. 26, 1899.

(No Model.)

(Application filed Mar. 2, 1899.)

2 Sheets—Sheet 1.

Fig. 1.



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Fig. 2.

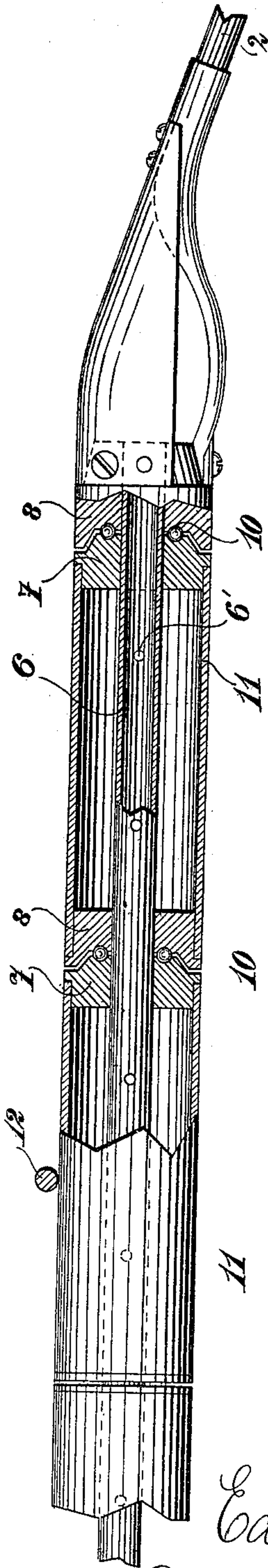
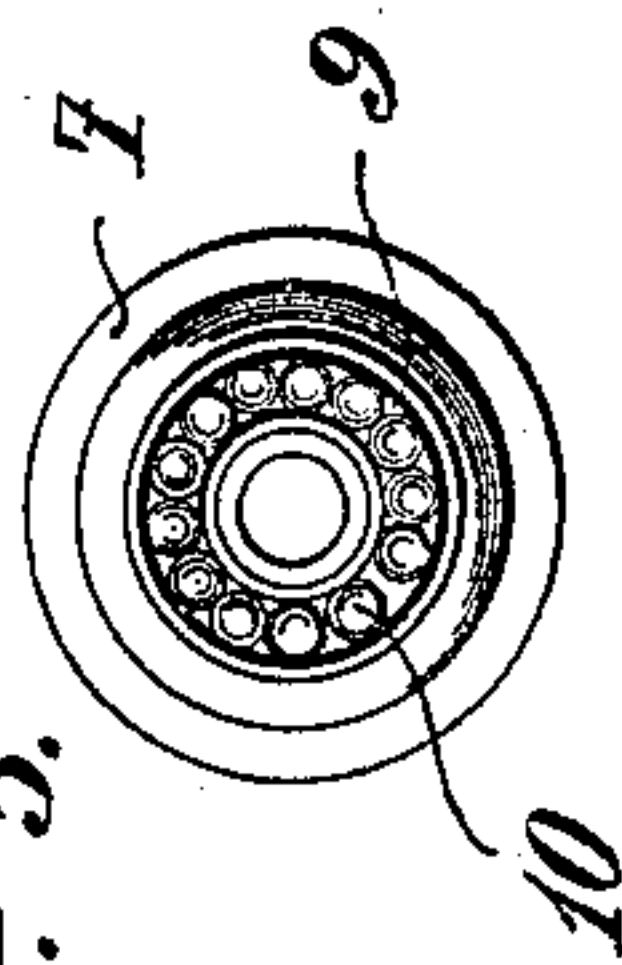


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDUARD PENNING-DUPUIS, OF HALLE-ON-THE-SAALE, GERMANY.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 639,932, dated December 26, 1899.

Application filed March 2, 1899. Serial No. 707,530. (No model.)

To all whom it may concern:

Be it known that I, EDUARD PENNING-DUPUIS, engineer, a subject of the Emperor of Germany, residing at Halle-on-the-Saale, in the Kingdom of Prussia and Empire of Germany, have invented certain new and useful Improvements in Current-Collectors, of which the following is a full, clear, and exact description.

This invention relates to current-collectors for overhead systems of electric traction, which collectors possess the great advantage of being less easily disarranged at switches and also make less noise than ordinary collecting-rollers. By the present construction the objections to this kind of collector—viz., lack of mobility, and consequently great absorption of power—are almost entirely avoided.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the upper part of the collector. Fig. 2 is a longitudinal section, on a larger scale, through the current-collecting part or series of rollers, of which Fig. 3 shows a cross-section.

The collector comprises a bow-frame formed of steel tubes, which to insure the necessary degree of strength are connected together in the manner shown in Fig. 1. The two principal members 1 and 3 are braced by the bent or looped members 4 and 5, being riveted at 3, said members being riveted at 3' to the looped member 5', by which they are connected to the arm of the collector, the structure being thus rendered very rigid and able to resist lateral thrust. The members 1 and 2 are connected together at the top by a steel tube 6, which forms the shaft for a series of rollers acting as the current-collectors, which are mounted along the shaft 6 and are constructed of tubes of suitable material, their ends being provided with bronze bushes 7 8, as shown in Fig. 2. The right-hand bush 7 and the left-hand bush 8 to such adjacent rollers are coned, so that they fit well the one into the other, and thus afford excellent protection to the ball-

bearings inclosed between them, which are thus protected from injury, grooves being turned in these bushes to form races in which balls 10 run. By this arrangement of the ball-bearings the individual contact-rollers 11 of the whole current-collectors are enabled to turn very easily independently the one of the other, so that only that section of the collector that is actually in contact with the line-wire 12 will revolve, so that the weight of the revolving portion is reduced to a minimum, and consequently the energy consumed by the advancing movement of the collector is very small.

The tubular spindle 6 is provided with lateral holes 6' and contains a wick of suitable material impregnated with the best lubricating-oil—for example, graphite-oil—so that the oil continuously escapes through the holes while the apparatus is at work and keeps the bearing-surface of the spindle properly oiled.

The subject-matter of this invention combines all the advantages of other forms of construction, and in particular is unsurpassable in ease of running, and as its rigidity under lateral vibrations is perfect by reason of the excellence of design, and, furthermore, since the penetration of dirt into the ball-bearings is entirely precluded, a more advantageous construction would be almost impossible.

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

A current-collector comprising a supporting bow or frame, a tube supported transversely by said frame and perforated and containing a lubricant, and a series of contact-rolls mounted to rotate on said tube and having their ends closed by bushings, coned so as to fit together and provided with intermediate ball-bearings between said bushings so as to be independently revoluble.

In witness whereof I subscribe my signature in presence of two witnesses.

EDUARD PENNING-DUPUIS.

Witnesses:

WALDEMAR HAUPT,
HENRY HASPER.