

(No Model.)

H. B. ROBISCHUNG.
BRAKE BEAM.

No. 575,127.

Patented Jan. 12, 1897.

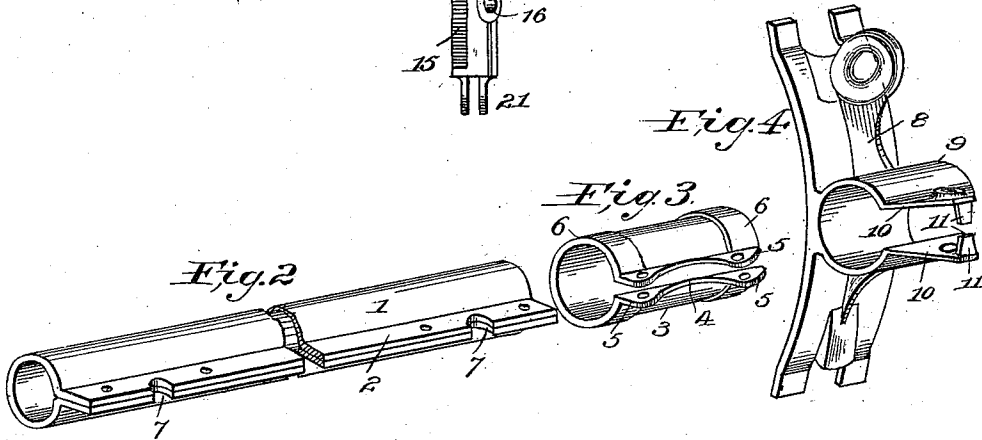
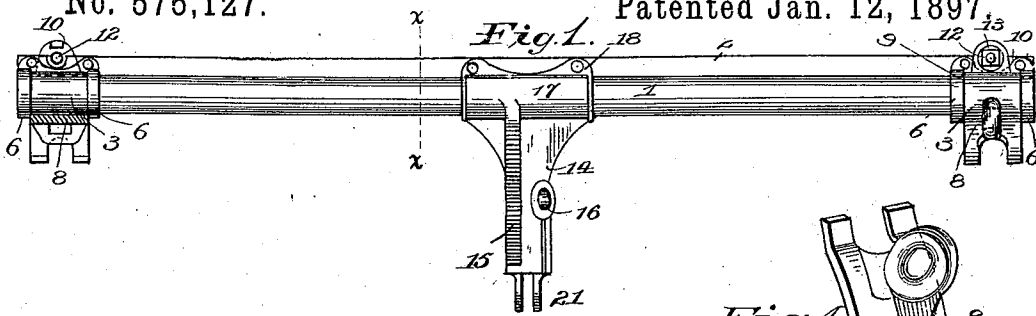


Fig. 8

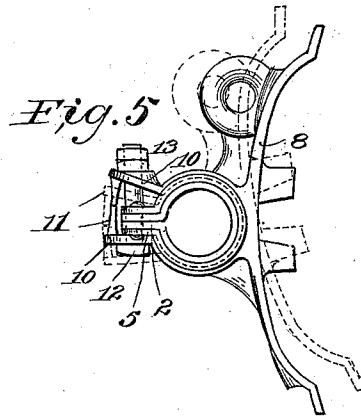
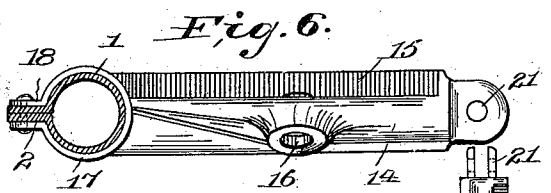
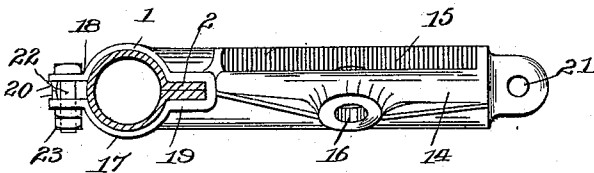
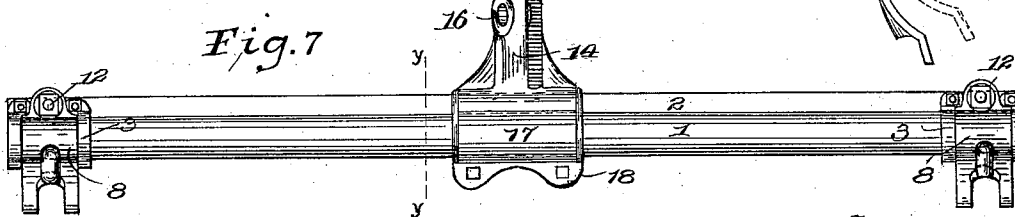


Fig. 7



Witnesses

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Inventor
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UNITED STATES PATENT OFFICE.

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BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 575,127, dated January 12, 1897.

Application filed September 16, 1896. Serial No. 605,982. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. ROBISCHUNG, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Brake-Beams; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of a brake-beam embodying my invention. Fig. 2 is a detached perspective view of the tubular beam, parts broken away and the sleeve and brake-head removed. Fig. 3 is a detached perspective view of the sleeve, and Fig. 4 is a detached perspective view of the brake-head. In Figs. 2, 3, and 4 the parts are shown in line and in the order in which they would be assembled in setting up the beam. Fig. 5 is an end view of the beam, showing the position of the sleeve on the tubular beam and the position of the brake-head on the sleeve, the dotted lines indicating the adjustability of the brake-head. Fig. 6 is a sectional view taken on the line *x x*, Fig. 1, showing the lever-post in detail. Fig. 7 is a plan view of the beam, the post being reversed thereon; and Fig. 8 is a sectional view taken on the line *y y*, Fig. 7, illustrating the preferred construction of the base of the post when reversed on the beam.

Like symbols refer to like parts wherever they occur.

My present invention relates generally to brake-beams, but has been especially devised with relation to brake-beams for use on electric cars, and has in view the production of a light-weight stiff beam of non-trussed form, capable of standing a moderately-heavy load (or pressure) with little deflection, and provided with a simple and effective adjustable brake-head which will admit of the beam being hung at different heights according to the requirements of different roads.

To this end the main feature of my invention embraces the combination, with a longitudinally slotted and flanged beam having its flanges in apposition, of end sleeves secured thereto and adapted to receive the brake-

heads, whereby the beam is stiffened and strengthened at the points of applied power.

A secondary feature of my invention embodies the combination, with a tubular flanged beam, of a brake-head having an open-slotted clamp with projecting ears, whereby the head is rendered adjustable upon the beam and its movement thereon limited within the required bounds for effective service at different heights from the track.

There are other minor features of invention, all as will hereinafter more fully appear.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, 1 indicates a tubular brake-beam having on one side thereof and throughout its length a radially-projecting stiffening-flange 2.

The beam is preferably formed from a blank of high-grade steel of suitable length for the beam and of a thickness which will give the required strength when bent into tubular form, said blank having parallel sides and of a width in excess of the circumference of the tube to be formed, so that when bent into the open or longitudinally-slotted tube 1 the excess of metal will project radially, and when brought in apposition will constitute the stiffening-flange 2, which extends the length of the structure.

3 3 indicate end sleeves for the beam, said sleeves being preferably of the open-slotted form with radially-projecting longitudinal flanges cut away centrally, as at 4, to leave the perforated ears 5 5, whereby the said sleeves may be riveted or bolted to the ends of the beam. The recess 4 affords space for the passage of the bolt 12 of the clamp brake-head, and the beam 1 is notched near each end, as at 7 7, for the passage of said bolt.

The sleeves 3 3 have end collars 6 6, or other and equivalent means are provided to prevent the endwise movement of the brake-heads on the sleeves and beam.

8 8 indicate the brake-heads, each of which is provided with an open sleeve or band-clamp 9 of width substantially equal to the distance between the end collars 6 6 of sleeve 3, said clamp-band having projecting perfo-

rated ears 10 10, (preferably divergent,) provided on their inner surfaces with limit-lugs 11 11.

12 indicates the clamp-bolt, which passes through the perforated ears 10 10 of the clamp-sleeve of the brake-head and is provided with the usual nuts 13. When the clamp-sleeve of the brake-head has been slipped on the end sleeve of the beam and the nuts 13 screwed down on the bolt 12, the brake-head may be set, as indicated in Fig. 5, with the lower ear 10 in contact with the flange of the end sleeve 3, and thus secured against falling by gravity, yet being yieldingly held by the spring-clamp described, viz., the ears 10 10 and limit-lugs 11 can thereafter, upon the application of force, as in applying the brakes, automatically adjust itself to the proper relation of brake-head to wheel for the height at which the beam is hung, and will thereafter be so retained by the clamp while the conditions remain the same. If desired, however, the clamp can be so tightened as to render the brake-head immovable.

14 indicates the lever-post of the beam. Said post will have the usual right or left hand slot 15 and holes 16 for the fulcrum-pin of a right or left hand brake-lever, as the case may be, perforated ears 21 for a third suspension-hanger, and at its base will be provided with an open-slotted sleeve 17, adapted to fit over the beam 1 and flange 2 thereof. In case the post is to be used on the plain (or front) side of the beam, (see Figs. 1 and 6,) said sleeve 17 may have only the perforated flanges 18 for riveting or bolting the post to said beam, but in case it is to be applied on the flanged (or rear) side of the beam the post should be provided with the flange-recess 19, (see Fig. 8,) and its flanges 18 may be provided with limit-lugs 20, (as in the case of the brake-head clamp,) and a threaded bolt 22, with nuts 23, may be employed, (see Fig. 8,) there being no flange to which the flanges 18 may be secured for riveting except at a point where the leverage on the rivets would be too great.

In setting up the beam the parts hereinbefore described are assembled as follows: The lever or fulcrum-post 14 is first slipped on the beam 1 and passed to the center thereof and secured thereto either by riveting or bolting through the flanges 2 18 or by screwing home the nuts 23 on bolt 22, as the case may be, after which the end sleeves 3 3 are slipped on the ends of beam 1 and secured thereto by riveting or bolting through the perforated ears 5 5 and flange 2. Next the clamp-sleeves 9 of the brake-heads are slipped over the end sleeves 3 3 and adjusted, being finally secured either movably or rigidly, as desired, by setting home the nuts 13 on the bolts 12.

By the construction hereinbefore pointed out I secure a very light, stiff, compact, and simple beam reinforced at the points of greatest torsional strain and readily adjustable to

different heights of hanging, one which will readily sustain a load or braking pressure of seven thousand five hundred pounds with a deflection of .18 of an inch, as has been ascertained by practical tests, and a beam especially adapted for use with electric cars and similar light structures.

Wherever in the following claims I refer to the flanges 2, 5, 10, and 18 as "radially-projecting" I do not mean it to be understood that the said flanges absolutely project in radial lines, but that for purposes of description the term "radially-projecting" is sufficiently definite and has been used as a matter of convenience.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a brake-beam, the combination of a tubular longitudinally-slotted or open beam having radially-projecting flanges arranged in apposition, and a longitudinally-slotted end sleeve having radially-projecting flanges to embrace the flanges on the beam; substantially as and for the purposes specified.

2. In a brake-beam, the combination of a tubular longitudinally-slotted beam having radially-projecting flanges in apposition, of a longitudinally-slotted end sleeve having radially-projecting flanges and circumferential collars, and a brake-head having a clamp sleeve or band; substantially as and for the purposes specified.

3. In a brake-beam the combination with a brake-beam having a radially-projecting flange, of a brake-head having an open sleeve or band clamp provided with radially-projecting ears, and means for closing the clamp; substantially as and for the purposes specified.

4. In a brake-beam the combination of a tubular longitudinally-flanged beam, an open end sleeve having radially-projecting flanges, a brake-head having an open sleeve-clamp provided with radially-projecting ears, and means for securing the end sleeve and the brake-head to the beam; substantially as and for the purposes specified.

5. In a brake-beam, the combination with a beam having a radially-projecting flange, of a post having at its base a longitudinally-slotted clamp-sleeve provided with radially-projecting perforated ears; substantially as and for the purposes specified.

6. In a brake-beam the combination with a tubular beam having a radially-projecting flange, of a post having at its base a clamp-sleeve provided with a flange-recess and with radially-projecting perforated ears; substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 11th day of September, 1896.

HENRY B. ROBISCHUNG.

Witnesses:

E. T. WALKER,
J. W. ADAMS.