

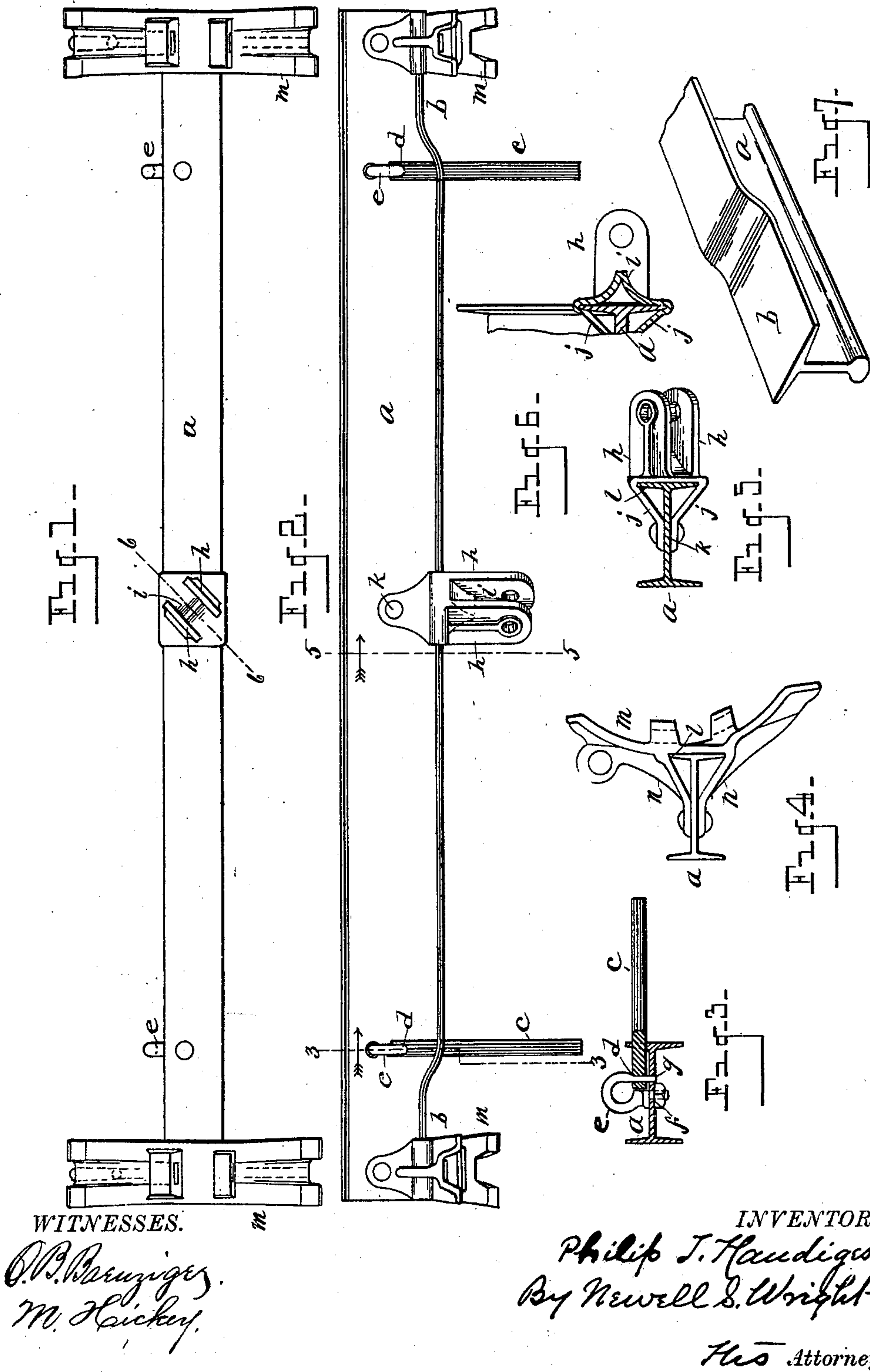
No. 671,552.

Patented Apr. 9, 1901.

P. T. HANDIGES.
BRAKE BEAM.

(Application filed Dec. 26, 1899.)

(No Model.)



UNITED STATES PATENT OFFICE.

PHILIP T. HANDIGES, OF DETROIT, MICHIGAN, ASSIGNOR TO THE MONARCH
BRAKE BEAM COMPANY, LIMITED, OF SAME PLACE.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 671,552, dated April 9, 1901.

Application filed December 26, 1899. Serial No. 741,506. (No model.)

To all whom it may concern:

Be it known that I, PHILIP T. HANDIGES, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Brake-Beams; and I 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, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object certain new and useful improvements in brake-beams; and the invention consists of the structure, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in front elevation. Fig. 2 is a plan view. Fig. 3 is a detail view on the line 3 3, Fig. 2, showing a portion of the beam and guide-pin in section. Fig. 4 is an end elevation. Fig. 5 is a detail view on the line 5 5, Fig. 2. Fig. 6 is a view in section on the line 6 6, Fig. 1. Fig. 7 is a view in perspective, showing a modification in the structure of the beam.

In the drawings, *a* represents a standard rolled beam, the particular beam shown in Figs. 2, 3, 4, and 5 more particularly being an ordinary rolled I-beam; but I do not limit myself solely to an I-beam, as other forms of standard rolled beams may be employed within the scope of my invention, as a standard rolled deck-beam, for example. (Indicated in Fig. 7.)

One of the leading features of my present invention consists in the compression of the ends of a standard rolled beam, as indicated at *b*, so as to narrow the extremities of the beam *a* to permit a sufficient play of the beam when in position.

It is well understood that when the brake-beam is to be applied as an inside-hung beam ordinary standard rolled beams cannot be employed, inasmuch as trucks as commonly constructed all have a certain wheel-base. An ordinary standard rolled beam or section is usually too wide to be used for an inside-hung beam, in consequence of which it has

been customary with some manufacturers to cut away the metal at the extremities of the beam in order that such a beam may be applied. Obviously, however, the cutting away of the extremities of the beam very materially weakens it. My invention aims to overcome the difficulty presented by compressing the extremities of the beam, thereby leaving the beam practically of the same strength and by means of which I am enabled to apply the beam where otherwise it would be impossible to apply it as ordinarily constructed. By compressing the extremities of the beam I secure the advantage of using a standard rolled section or beam and preserve practically its entire strength instead of being obliged to cut away the metal to avoid the difficulty presented in its application. I am enabled to use thus a regular standard rolled section as found upon the market. The compression of the extremities of the beam slightly elongates the beam and thickens the web. The compression is preferably all on one side, leaving the back of the beam straight, the tensile member on the forward side of the beam being compressed toward the opposite corresponding member.

Another feature of my invention consists in the construction whereby the wheel-guide pin *c* is locked in engagement with the beam *a*.

My invention contemplates drilling a hole through one end of the pin, as indicated at *d*, and the employment of a hook-bolt *e*, engaged with the web of the beam, as indicated at *f*, the hook end of the bolt passing through the orifice *d* of the pin and engaging the web of the beam, as shown more particularly in Fig. 3 at *g*. The pin is preferably passed through a corresponding orifice in the adjacent flange of the beam, as shown. This bolt, commonly used to carry the safety-chain, is thus at the same time made of service to lock the pin in position.

Another feature of my present invention pertains to the construction of the fulcrum-jaws and of the brake-heads. As regards the fulcrum-jaws *h h*, I prefer to form the same with a central wall or connecting-rib, (indicated at *i*,) the rib preferably being in the form of an arch, as indicated more particularly in Fig. 6, this connecting-rib *i* being em-

ployed to strengthen the construction of said jaws. Furthermore, I prefer that the braces *j j* of the jaws, through the extremities of which the jaws are bolted into the web of the beam, as indicated at *k*, should be extended from the edges of the flange portion *l* of the beam in a direct or straight line toward or at the longitudinal center of the web of the beam in order to more effectually strengthen the construction and take the strain, this construction giving more rigidity and also making the construction one more easily to be manufactured, the braces *j j* serving as struts for the fulcrum-jaws. So, also, in the construction of the brake-heads *m* I prefer, as shown more particularly in Fig. 4, to extend the brace or struts of the head (indicated at *n n*) from the adjacent flange *l* of the beam in direct or straight lines to their point of connection with the web of the beam, this construction of the head also affording greater strength and making the heads more easy of construction.

While I have shown and described the beam *a* as compressed upon one side at its extremities, I would have it understood that I do not limit myself solely thereto, as the beam might be compressed on both sides, if preferred, within the scope of my invention.

What I claim as my invention is—

1. In a brake-beam, a standard solid rolled beam formed with a flange and a web, said flange at its extremities compressed toward the adjacent portion of the web, whereby the compressed portion of the flange is offset from the plane of the remaining portion of the flange, as set forth.

2. In a brake-beam, a standard solid rolled beam formed with a flange and a web, said flange at its extremities compressed on one side thereof toward the adjacent portion of the web, whereby the compressed portion of the flange is offset from the plane of the remaining portion of the flange, as set forth.

3. In a brake-beam, a standard solid rolled beam having a flange and a tensile member on opposite sides of a connecting-web, said flange at its extremities compressed toward

the opposite member, whereby the compressed portion of the flange is offset from the plane of the remaining portion of the flange, substantially as set forth.

4. In a brake-beam, the combination with a beam, of a wheel-guide pin, and a bolt passed through the web of the beam, said bolt provided with a hook engaging the pin with the beam.

5. In a brake-beam, the combination with a beam formed with a flange and a web, of a wheel-guide pin passed through a flange of the beam and provided with an orifice in its adjacent extremity, and a bolt passed through the web of the beam, said bolt provided with a hook engaging said orifice in the pin.

6. In a brake-beam, the combination with a beam, of fulcrum-jaws, said jaws formed with braces or struts united with the web of the beam, said braces or struts extending in straight lines from the marginal edges of the adjacent flange of the beam to their point of connection with said web, substantially as set forth.

7. In a brake-beam, the combination with a beam, of a brake-head formed with braces or struts united to the web of the beam, said braces or struts extending in direct lines from the marginal edges of the adjacent flange of the beam to their point of connection with said web, substantially as set forth.

8. A flanged brake-beam having upset or compressed ends, the flange of the beam being continuous from one end to the other.

9. A brake-beam having upset or compressed ends and being flanged at such ends.

10. A solid brake-beam having reduced ends and being flanged at such ends.

11. A solid brake-beam having upset or compressed ends, the ends gradually diminishing in size.

In testimony whereof I sign this specification in the presence of two witnesses.

PHILIP T. HANDIGES.

Witnesses:

N. S. WRIGHT,
M. HICKEY.