(No Model.)

W. ADAMS.

MACHINE OR TEMPLET FOR SETTING-UP AND CAMBERING TRUSSED METALLIC BRAKE BEAMS.

No. 583,163. Patented May 25, 1897.

Fig. 1.

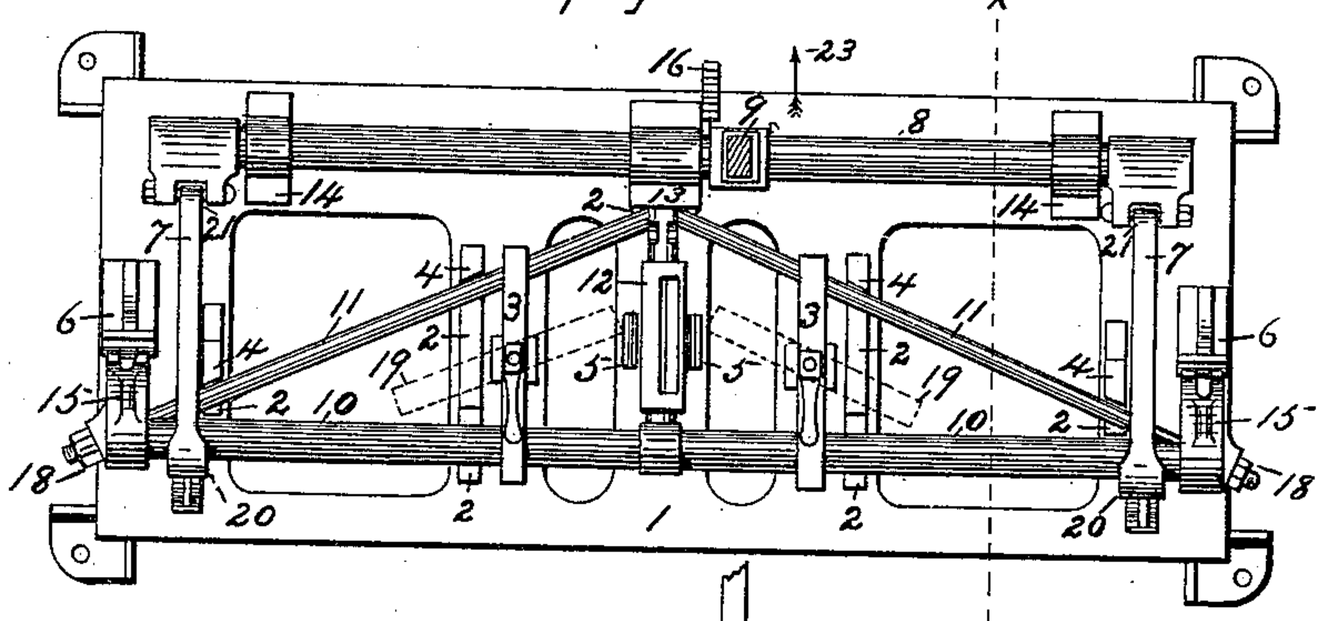


Fig. 2.

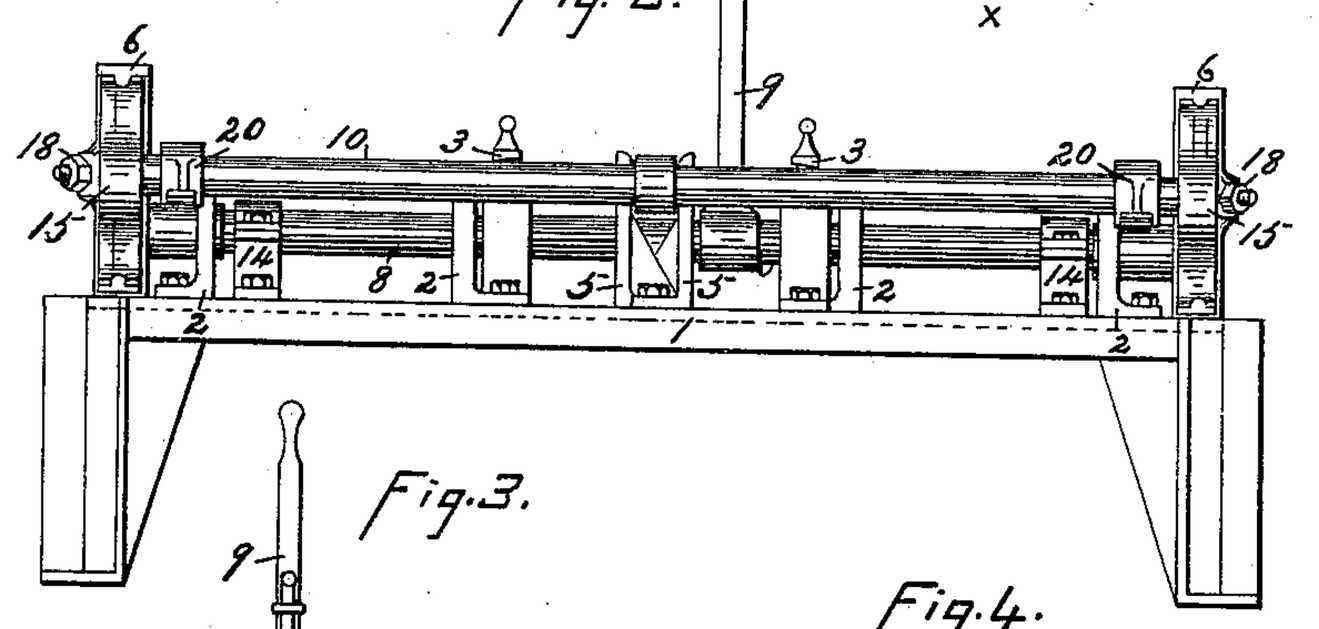


Fig. 3.

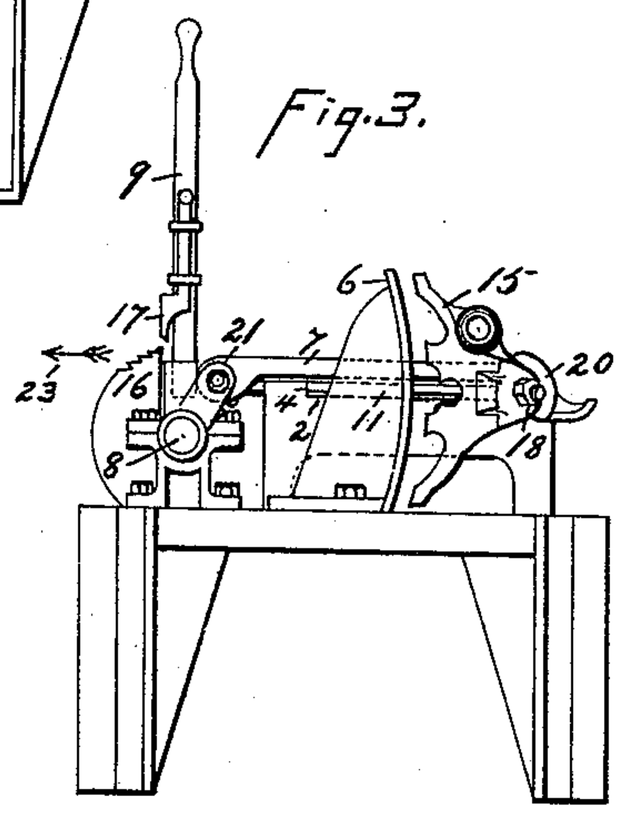


Fig. 4.

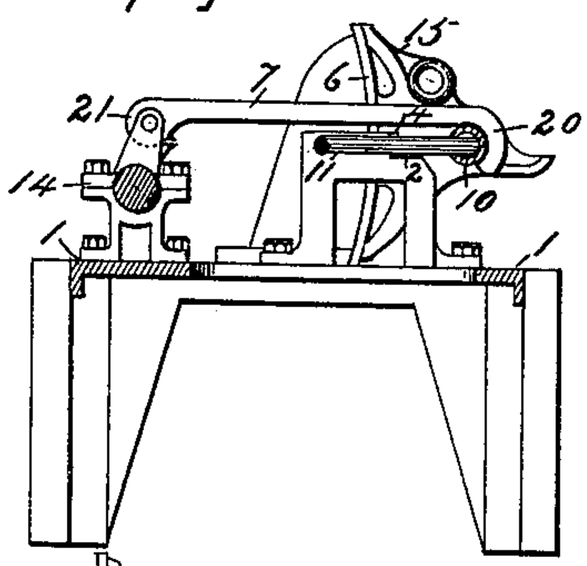
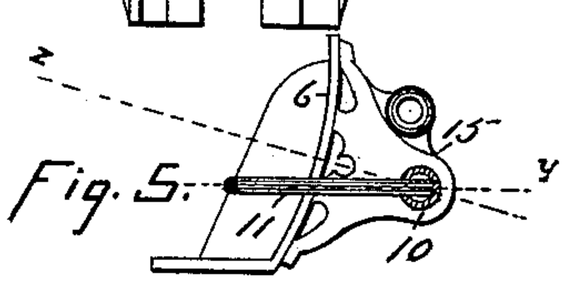


Fig. 5.



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MACHINE OR TEMPLET FOR SETTING UP AND CAMBERING TRUSSED METALLIC BRAKE-BEAMS.

SPECIFICATION forming part of Letters Patent No. 583,163, dated May 25, 1897.

Application filed December 3, 1896. Serial No. 614,338. (No model.)

To all whom it may concern:

Be it known that I, WELLINGTON ADAMS, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a certain new and useful Machine or Templet for Setting Up Trussed Metallic Brake-Beams and of Effecting a Camber in the Same; 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, and to the figures of reference marked thereon, which form a part of this specification.

Similar parts throughout the different figures are correspondingly numbered.

In the accompanying drawings, Figure 1 is a plan view of the machine or templet in which the beams are set up, the camber produced, and the various parts caused to accurately assume their proper relative positions and relationship; Fig. 2, a side elevation; Fig. 3, an end elevation; Fig. 4, a section on the line X X of Fig. 1, and Fig. 5 a detail view intended for explanatory purposes.

My present invention relates to the setting up and assembling of the parts of that class of brake-beams commonly termed "trussed metallic" beams, consisting of a compression member, a tension member, and a strut; and its objects are, first, to provide a means of producing a definite and predetermined camber in the compression member of such beams, whereby all beams manufactured will be given the same camber and just the amount of camber adapted to give to the beam the greatest possible strength; second, to provide a means of causing the various parts of the beam to assume their proper relative positions and relationship and make each beam a counterpart or accurate reproduction of every other beam.

It has heretofore been customary to effect the camber in the compression member by a force exerted through the agency of the tension member, the same being accomplished by screwing up the nuts upon the ends of the tension member. It is apparent that this is a very crude method, inasmuch as it is practically impossible to screw up the nuts at both ends with equal pace, and any difference shifts the tension-rod to one side or the other, which in turn affects the inclinations of the tension-rod upon either side of the strut. Again, it is difficult in this way to always secure the same amount of camber, and without some guide or templet to work to it is impossible to always establish the desired relationship between the brake-head and the truss. For instance, in some cases it is required to have the center of curvature of the brake-head in the same plane as that passing longitudinally through the tension-rod and the compression member, as in Figs. 3 and 4, while in other cases it is required to have the center of curvature of the brake-head in a plane at an angle to that passing longitudinally through the tension-rod and the compression member, as in Fig. 5, where the dotted line *z* represents the plane in which is located the center of curvature of the brake-head and the dotted line *y* the plane passing longitudinally through the tension-rod and the compression member. In both these cases it is quite necessary that this relationship be accurately established with uniformity. Any twist in the beam is likely to subvert this intended relationship unless some means is provided for finally bringing the parts into their proper relative positions.

Under my method, on the other hand, the compression member is given a camber by a force derived from a source outside of the brake-beam, and this camber is afterward simply maintained by the nuts upon the ends of the tension-rod, which hold the parts together in the proper relative positions which they have been caused to assume during the establishment of the camber in a form or templet adapted to suitably fix the relative positions of the parts and determine the extent of the camber.

In the accompanying drawings, 1 indicates the bed-plate of the templet, which for convenience is given the form of a table with legs; 2, ledges upon which the brake-beam is laid after its parts have been assembled; 3, retaining-clamps for holding the brake-beam in position without interfering with its free movement in taking the camber; 4, guides for fixing the angle or inclination of the tension-rod; 5, guides for fixing the position of the strut; 6, guide-plates for deter-

mining and limiting the amount of camber and to cause the brake-heads to assume the desired position with reference to the remainder of the brake-beam; 7, knuckle-jointed lever-arms to hook over the compression member of the brake-beam and pull it into proper position, thus giving it its camber; 8, a rod connecting the lever-arms 7 7, the rotation of which rod operates the said lever-arms; 9, the lever by which the rod 8 is rotated; 10, the compression member of the brake-beam; 11, the tension member; 12, the strut; 13, a post against which the strut pushes when the camber is being given to the compression member, and which also serves, in conjunction with the pillow-blocks 14, to give support to the rod 8; 15, the brake-heads; 16 and 17, a locking device for holding the lever 9 in position and maintaining the camber while the nuts 18 upon the ends of the tension member are being screwed up to position; 19, dotted lines showing the position of the clamps 3 while the brake-beam is being laid upon the templet; 20, a hook upon the extremity of the lever-arm 7, by means of which the compression member is grasped by said lever-arm, and 21 the knuckle-joint of the lever-arm 7. In Fig. 2 the locking device 16 and 17 is left off as an unnecessary complication to this figure, being sufficiently shown in Figs. 1 and 3.

From what has preceded it should be obvious that in following out my method of setting up and cambering trussed brake-beams the procedure is as follows: The lever-arms 7 being raised out of the way and the clamps 3 being turned in the position indicated by the dotted lines 19, Fig. 1, the brake-beam (its parts having been first loosely assembled) is laid upon the supporting-ledges 2, its position being defined by the guides 4 and 5. The retaining-clamps 3 are next turned into position across the compression and tension members, and the beam is thus held down in place upon its supporting-ledges. The knuckle-jointed lever-arms 7 are next lowered, so that their hooked portions 20 will grasp the compression member of the beam, as shown in Fig. 3. Then the lever 9 is pushed or pulled over in the direction of the arrow 23, Figs. 1 and 3, until the curvature of the brake-head is closely adapted to the curvature of the guide-plates 6, as shown in Fig. 4. While the beam is held or locked in this position, with its parts all in proper relationship, the nuts 18 are screwed up against their seats, and the parts are thus permanently maintained. The lever 9 is now thrown back and the lever-arms 7 raised up out of the way, the clamps 3 are turned into their former positions, (indicated by the dotted lines 19,) and the beam is removed from the templet, which latter is then ready to receive the next beam. In case it is desired to make up a beam in which it is required to have the center of curvature of the brake-head in a plane at an angle to the longitudinal plane running through the tension-rod and compression member, as in Fig. 5, then a guide-plate 6, having a form and position as shown in Fig. 5, may be used, and any desired relationship of the curvature of the brake-head to the rest of the beam may be provided for by simply changing this guide-plate 6.

It should be apparent that other arrangements of levers for applying the force outside of the brake-beam, whereby the camber is effected, may be resorted to, and that other locations and arrangements of the ledges and guides forming the templet may be resorted to without departing from the spirit and essence of my invention.

Having thus fully described my invention, I claim—

1. A machine or templet for setting up and cambering trussed brake-beams, consisting of supports in or upon which to rest the beam, retaining-clamps for holding the beam in or upon said supports, and guides for determining the proper relative positions of the parts of the beam, said templet being adapted to admit of effecting said camber, and of permanently fixing the camber against the resilience of the compression member, while the beam is held or locked in said templet.

2. A machine or templet for setting up and cambering trussed metallic brake-beams consisting of supports upon which to rest the beam, retaining-clamps for holding the beam upon said supports, and guides for determining the proper relative positions of the parts of the beam and for limiting and determining the camber to be given said beam, said templet being adapted to admit of effecting said camber, and of permanently fixing the member against the resilience of the compression member, while the beam is locked in the said templet.

3. A machine or templet for setting up and cambering trussed metallic brake-beams, consisting of supports upon which to rest the beam, retaining-clamps for holding the beam upon said supports, guides for determining the proper relative positions of the parts of the beam and for limiting and determining the camber to be given said beam, and means of establishing said camber by a force derived from a source outside of the beam itself.

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

WELLINGTON ADAMS.

Witnesses:
JNO. W. KERR,
J. C. STEWART.