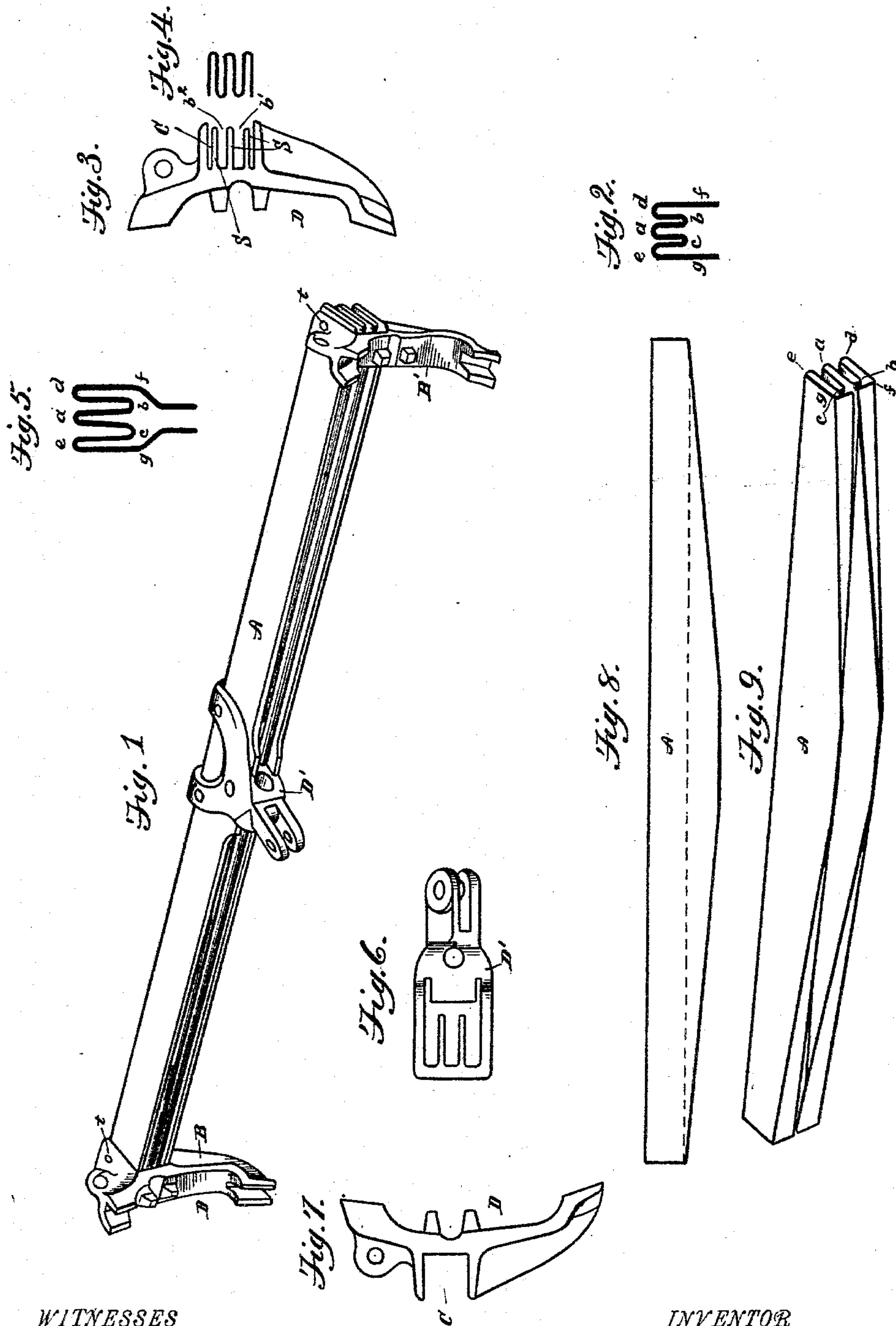


(No Model.)

F. H. SEYMOUR.  
BRAKE BEAM.

No. 548,665.

Patented Oct. 29, 1895.



WITNESSES  
*F. Clough.*  
*D. W. Bradford*

INVENTOR  
*Frederick H. Seymour*  
By *Parker & Burton.*  
Attorneys.



# UNITED STATES PATENT OFFICE.

FREDERICK H. SEYMOUR, OF DETROIT, MICHIGAN.

## BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 548,665, dated October 29, 1895.

Application filed December 15, 1893. Serial No. 493,756. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK H. SEYMOUR, 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

In the accompanying drawings, which form part of this specification, Figure 1 is a perspective of a brake-beam embodying my invention. Fig. 2 is a central cross-section. Fig. 3 is a side elevation of one of the brake-heads. Fig. 4 is a cross-section of the beam near its end. Fig. 5 is a central cross-section showing the outside folds disposed of differently from the form shown in Fig. 2. Fig. 6 is an elevation on a cross-section of the beam of the lever attachment. Fig. 7 shows the common brake-head. Fig. 8 is a plan of a beam in which the two side folds are cut obliquely from end to middle of beam. Fig. 9 shows a beam in which the two side folds are not cut, but are folded down toward the middle line of the beam.

The central idea of the invention embodied in the beam is to secure the requisite strength and desired lightness by folding a sheet of thin metal into several folds, producing a fluted or corrugated bar, to the ends of which are secured the brake-heads, and to the middle of which is secured the lever attachment.

A indicates the body of a brake-beam produced by folding or fluting a sheet of metal in the manner described. As shown in the drawings, the sheet of metal is bent into five folds; but it may have more or less folds, as desired.

B B' indicate the brake-heads, and these may be the ordinary heads in common use, (shown in Fig. 7,) or the head may be specially formed with a number of fillets  $b^2 b'$ , made integral with the head and projecting from the body part of the head into the socket C. In either case the face D is presented for engagement with the brake-shoe.

The main or body part of the beam presents a straight, fluted, or corrugated bar, which is greatly strengthened in all directions by the peculiar form. Those parts of the

web which lie between the front and the rear of the beam—from  $e$  to  $g$ , from  $e$  to  $e$ , from  $a$  to  $c$ , from  $a$  to  $b$ , from  $d$  to  $b$ , and from  $d$  to  $f$ —give great strength to resist the principal strain upon the beam, which is pulled at its middle by the lever-fixture D' against resistance at the ends, while that portion of the web which forms the curves at  $a d e b c$  gives great strength to resist a bending strain either up or down. The plurality of folds aids greatly in preventing the web from buckling or bulging, so as to permit the beam to bend across the folded or curved parts  $a c e$ . The folds or semitubular curves on one side of the beam aid the similar folds on the other side.

The forms shown in Figs. 8 and 9 differ from that shown in Fig. 1 only in having that portion of the outer folds either cut off obliquely, as in Fig. 8, or folded down, as in Fig. 9. The brake-heads B B' are placed in position at the ends of the beam and are secured to the beam by bolts or rivets  $t t$ . S S indicate fillets placed between the folds and in the middle, where the bolts  $t t$  pass through the beam.

When the common form of brake-head is used, independent fillets are used to prevent the folds from being crushed together at the ends.

What I claim is—

1. In combination with a fluted beam, a brake head provided with a socket and with fillets extending from the body of the brake head into the socket, substantially as specified.

2. In combination with suitable brake heads a fluted beam having the side folds turned toward the middle line of the beam, substantially as specified.

3. In combination with a fluted brake beam, a central lever fixture and fillets placed within the folds of the beam, substantially as specified.

4. The combination of a multiple fluted beam having the side folds turned toward the middle line of the beam, suitable fillets placed in the flutings, and brake heads secured to said fluted beam, substantially as and for the purpose described.

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

FREDERICK H. SEYMOUR.

Witnesses:

CHARLES F. BURTON,  
D. W. BRADFORD.