

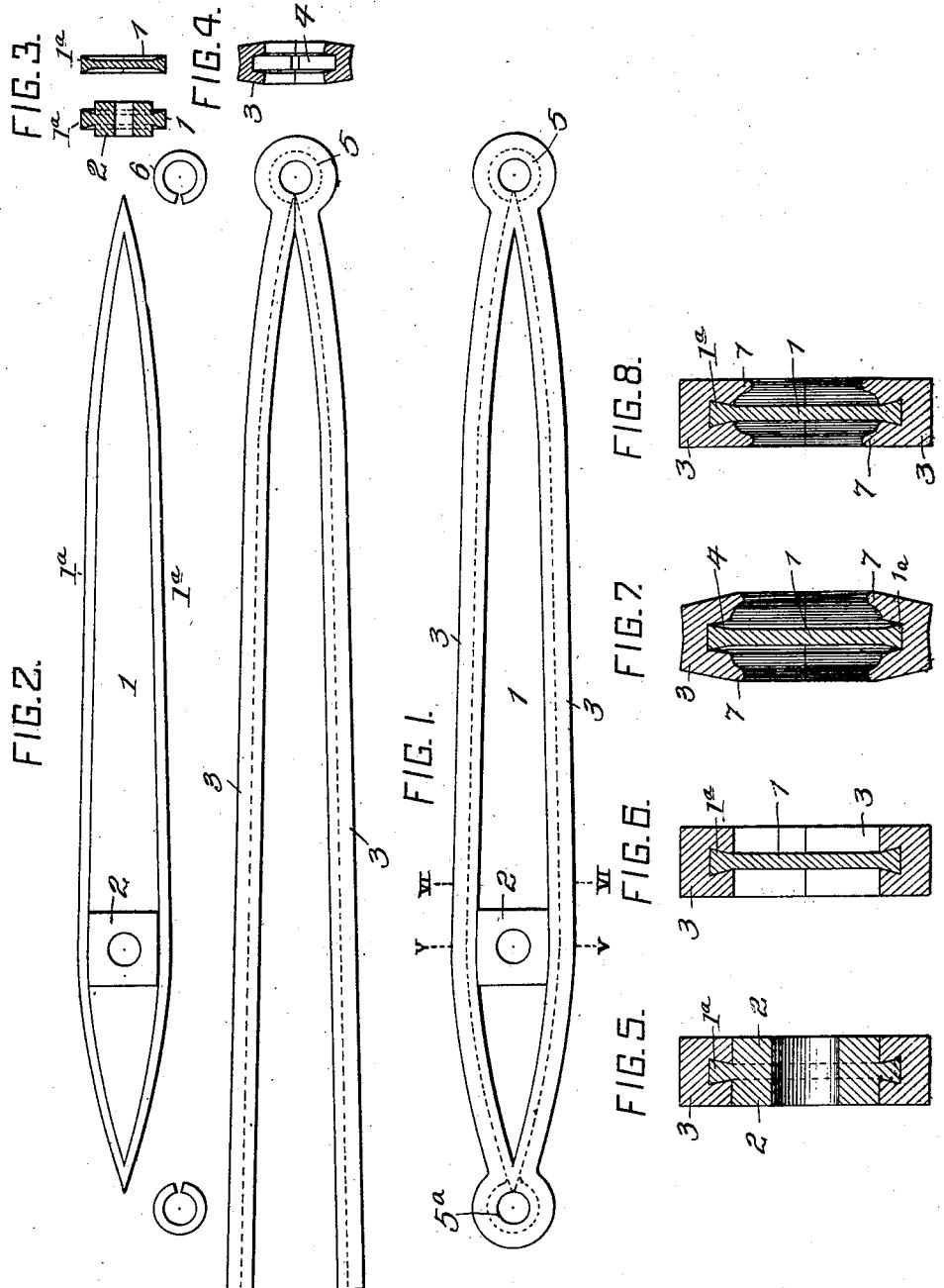
No. 674,591.

Patented May 21, 1901.

J. H. BAKER.
LEVER.

(Application filed Nov. 15, 1900.)

(No Model.)



WITNESSES:

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LEVER.

SPECIFICATION forming part of Letters Patent No. 674,591, dated May 21, 1901.

Application filed November 15, 1900. Serial No. 36,616. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BAKER, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented or discovered 5 certain new and useful Improvements in Levers, of which improvements the following is a specification.

The invention described herein relates to 10 certain improvements in brake-levers and in the method of manufacturing the same, and has for its object the production of a lever from wrought or malleable metal and the strengthening of the lever laterally.

15 The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of a completed lever. Fig. 2 shows in 20 plan the several parts which are combined to form the lever. Fig. 3 shows transverse sections of the blank for the web, and Fig. 4 is a sectional view through the eye of the rim or flange blank. Figs. 5 and 6 are sectional 25 views on planes indicated by the lines V V and VI VI, Fig. 1; and Figs. 7 and 8 are similar views indicating modifications in the structure of the lever prior to and after the pressing of the rim onto the web.

30 In the practice of my invention I provide a blank 1 by forging, rolling and forging combined, or by casting, having approximately the shape shown—*i. e.*, its sides flat or parallel and its edges tapering toward both ends.

35 At the fulcrum-point of the lever the web is thickened, as shown at 2, to form a good bearing for the pivot-pin of the lever, and it is preferred that the edges 1^a of the blank should be made dovetail in shape, as shown in Fig. 3, preferably by thickening the edges of the blank. The rim or flange of the lever is 40 formed by a bar 3, provided with a groove 4 along one side. Before applying the bar 3 to the blank it is preferred to form therein one of the eyes 5, as shown, by bending the middle portion of the bar. As it is preferred 45 for convenience in construction to groove the entire length of the bar, a filling-ring 6 may be placed in the groove of the portion of the 50 bar forming the eye 5, if desired. After the

eye 5 is formed and the bar bent to **U** shape, as shown in Fig. 1, the web blank 1 is placed in position, the dovetailed edges of the blank fitting within the groove, the sides of which flare outwardly, as shown in Fig. 4. The legs 55 of the **U**-shaped rim are then closed around the end of the web blank and the ends of such legs bent to form an eye 5^a and welded together, a filling-piece or ring being preferably inserted in the groove of the portion of the 60 bar forming such eye.

If the bar forming the rim or flange is hot when applied to the web, the flaring sides of the groove are pressed or hammered down onto the web, thereby firmly connecting the 65 web and the rim or flange portion by a dovetailed joint. If the web portion is cold when the rim or flange is pressed thereon, the contraction of the metal of the rim or flange will cause the latter to tightly grip the web; but 70 it is preferred to employ the interlocking construction, so as to avoid all liability of the rim springing away from the web when the lever is subjected to heavy strains.

If desired, the ends of the lever may be 75 heated to a welding heat and hammered so as to unite the portions of the rim or flange on the inner sides of the eyes.

The levers thus constructed present a maximum edgewise strength with a minimum of 80 material, the flange or rim serving to prevent lateral bending of the lever when under strain.

Where the levers are to be subjected to especially heavy strains, it is preferred to reinforce the flanges or rim by forming along their 85 inner edges supplemental or reinforcing ribs 7, as shown in Figs. 7 and 8.

By my improved method I am enabled to form a flanged lever from a material—*i. e.*, wrought metal—which is much stronger than 90 the malleable metal now used for that purpose and am enabled to connect the rim and web in such manner as will avoid all liability of any separation of the parts.

I claim herein as my invention—

1. As an improvement in the art of forming levers the method herein described consisting in bending a grooved bar around the edges of a suitably-shaped web so that the edges of the web enter the groove in the bar, 100

closing the walls of the groove down onto the web, and bending the bar at the ends of the web to form the eyes for the lever, substantially as set forth.

5 2. A lever having in combination, a web portion and a grooved rim or flange portion surrounding the web, the edges of the web projecting in the groove, and eyes formed by the rim or flange portion at the ends of the web, substantially as set forth.

10 3. A lever having in combination a web portion provided with dovetail edges, and a grooved rim or flange extending around the web, the sides of the groove fitting around

the dovetail edges of the web, substantially 15 as set forth.

4. A lever having in combination, a web portion and a grooved rim or flange surrounding the web, the edges of the web extending into the groove, the rim or flange being provided with reinforcing-ribs, substantially as set forth. 20

In testimony whereof I have hereunto set my hand.

JAMES H. BAKER.

Witnesses:

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