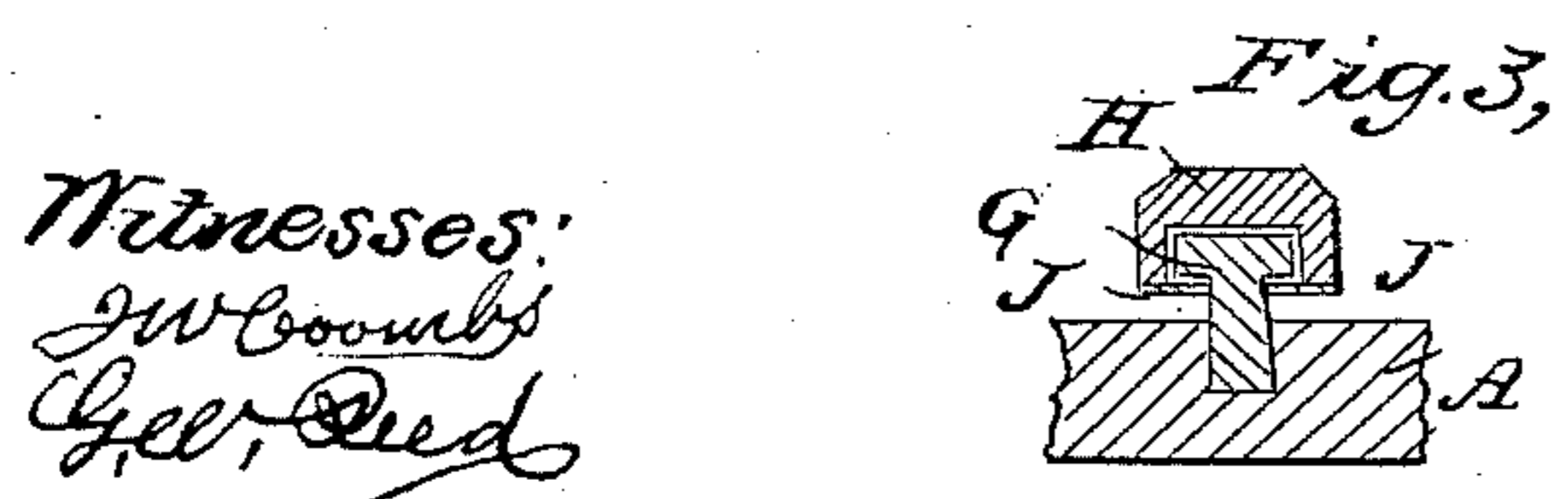
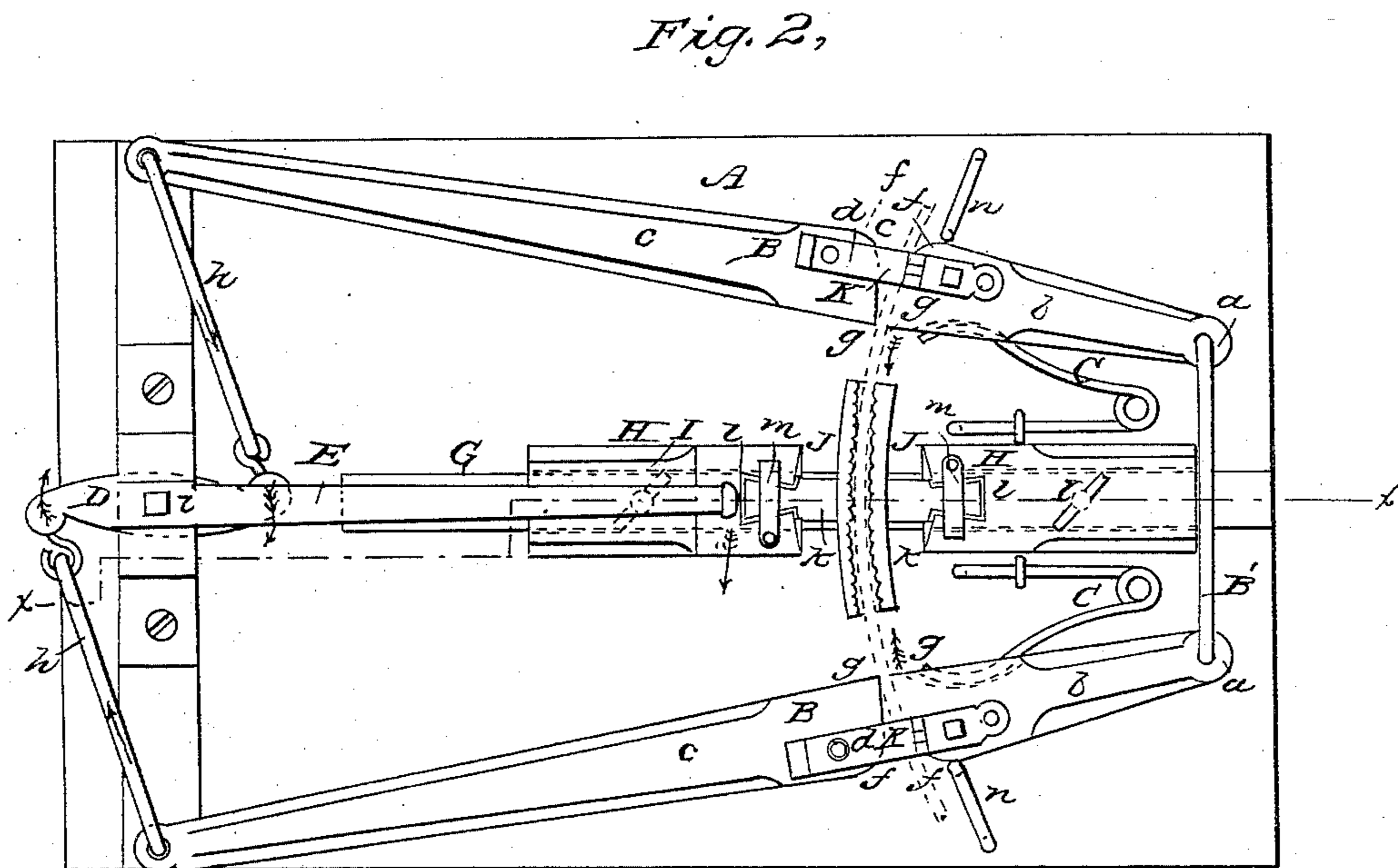
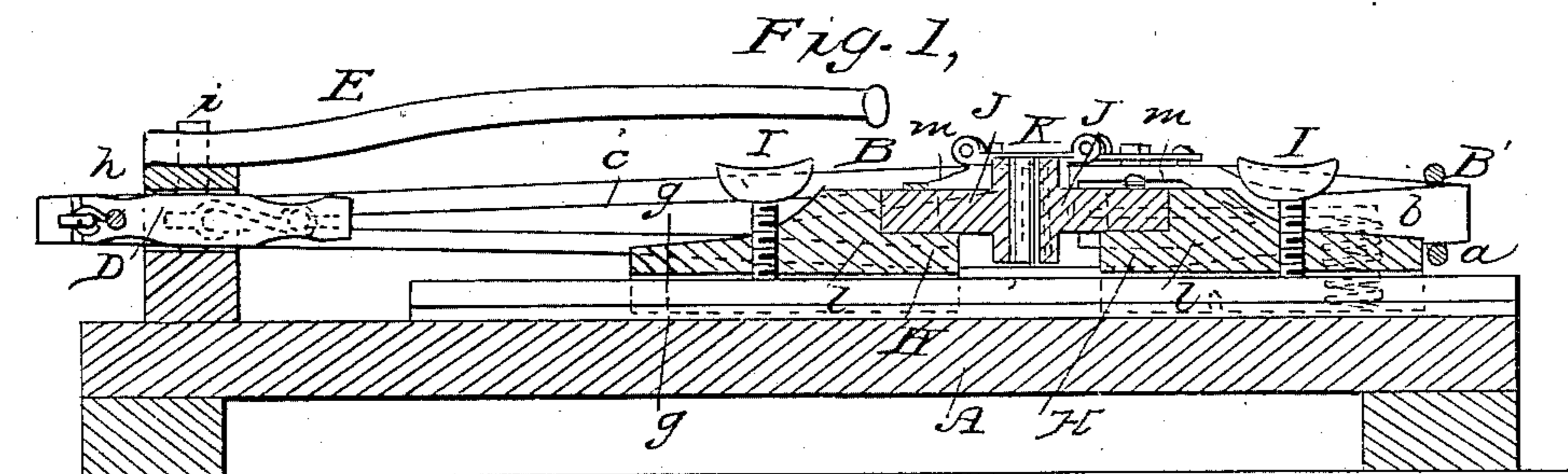


F. R. WILSON.
Upsetting Tires.

No. 37,121.

Patented Dec. 9, 1862.



Witnesses:
J. W. Coombs
Geo. Reed

Inventor:
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UNITED STATES PATENT OFFICE.

F. R. WILSON, OF AUBURN, CALIFORNIA.

IMPROVEMENT IN MACHINES FOR UPSETTING TIRES.

Specification forming part of Letters Patent No. 37,121, dated December 9, 1862.

To all whom it may concern:

Be it known that I, F. R. WILSON, of Auburn, in the county of Placer and State of California, have invented a new and Improved Implement or Device for Shrinking Tires; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2. Fig. 2 is a plan or top view of the same; Fig. 3, a transverse section of a portion of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a novel and improved arrangement of levers and adjustable guides, as hereinafter fully shown and described, whereby tires for wheels may be very expeditiously upset or shrunk to the proper size without cutting and rewelding, and the machine readily adapted for operating upon tires of different sizes or diameter.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a bed or base plate, on which two levers, B B, are placed, having their fulcrum *a a* at the ends of a frame, B', which is permanently secured to the bed A. The levers B B are each formed of two parts, *b c*, connected by a joint or pivot, *d*, which admits of the adjoining ends of the parts *b c* having a space, *e*, between them, as shown in Fig. 2. The outer edges of the adjoining ends of the parts *b c* of the levers B B are rounded, as shown at *f*, while the inner edges are angular, as shown at *g*, to form jaws or clamps. The part *b* of each lever B has a spring, C, bearing against it, which springs have a tendency to keep the levers distended or forced apart the extreme length of their movement. The outer or free ends of the parts *c c* of the levers B are connected by rods *h h* to the ends of a centrally-pivoted bar, D, the axis or pivot *i* of which has a lever, E, fitted on it. By actuating this lever the bar D may be turned and the levers B B operated, as will be fully understood by referring to Fig. 2. On the bed or base A there is placed centrally and

longitudinally a guide, G, on which two slides, H H, are placed and allowed to move or work freely. These slides may be secured firmly to the guide G at any desired point by means of set-screws I. The guide G is of T form in its transverse section, and the slides have plates *j* secured to their under sides, which fit underneath the top part of the guide, and prevent the slides from rising therefrom under the action of the set-screws I. (See Fig. 3.) To the inner end of each slide H there is attached a segment-guide, J. One of these guides has a convex, and the other a concave, face side, as shown in Fig. 2. The guides are each provided with a shank, *k*, which project at right angles from them, are of dovetail form, and fit in corresponding-shaped recesses *l* in the upper surfaces of the slides, each shank having a button, *m*, fitted over it to prevent its casual detachment from its slide. The face sides of the guides are corrugated.

The operation is as follows: The tire to be shrunk is heated at a certain point, and the heated portion is placed in the spaces between the two parts *b c* of the levers B and between the guides J J, which are adjusted by moving the slides H H so as to be quite near the tire, but not so as to clamp or be in close contact with it. The operator, by then actuating the lever E, draws the two levers B B toward each other, and the inner ends of the two parts *b c* of the levers clamp the tire, and the latter is compressed or upset by the movement of the levers B B. The guides J J prevent the portion of the tire between the levers B B from doubling or kinking under the upsetting movement of the levers B B. Different-sized guides J may be used to suit different-sized tires.

The advantage of this invention consists in having the levers B formed each of two parts connected by a joint, so as to perform the double function of levers and jaws or cranks, thereby dispensing with parts hitherto used in other machines of this class, and rendering it less liable to get out of repair, and capable of being operated with great facility.

I would remark that stops *n n* are attached to the bed or base A to prevent the levers B B being thrown out from each other beyond a certain point by the springs C C, and that the spaces between the inner ends of

the parts *b c* of the levers B B are covered by hinged plates K K when said levers are at work.

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

The jointed levers B B, in combination with the adjustable guides J J, the levers B B be-

ing connected to a pivoted bar, D, having a lever, E, attached, and all arranged to operate as and for the purpose herein set forth.

F. R. WILSON.

Witnesses:

R. C. POLAND,
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