



Date of Application, 10th Feb., 1905—Accepted, 30th Mar., 1905

COMPLETE SPECIFICATION.

“An Improved Adjusting Device for Coppersmiths' Hammers.”

I, JOHAN PETTER JOHANSSON, of Fanna, near Enköping, in the Kingdom of Sweden, Managing Director, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement;—

- 5 This invention relates to a device for adjusting the force of the blow in coppersmiths' hammers of the well-known “trip” type where the outer end of the rocking hammer arm is actuated by a toothed wheel while the part situated between the fulcrum of the arm and the head of the hammer is acted upon by a spring. In order to effect such adjustment, the shaft of the toothed wheel has
10 previously been located in a kind of cradle allowing of the wheel being set more or less close to the end of the hammer arm, so that the teeth of the wheel may act upon the latter for a longer or shorter period of time and the force of the blow consequently be controlled. The present invention relates to another
15 contrivance for the same purpose, admitting of steadier journalling of the shaft of the toothed wheel and a steadier running of the hammer than the construction just referred to. The invention consists in journalling the shaft of the toothed wheel eccentrically in discs which are rotatably mounted in the frame of the hammer, so that, by turning said discs through a greater or smaller angle, the toothed wheel can be adjusted to the desired position rela-
20 tively to the end of the hammer-arm or lever. When the toothed wheel is situated near the hammer-lever, the teeth of the wheel will reach farther in over said end and, as the wheel revolves, bear on this end for a longer time, the head consequently being lifted higher and the tension of the spring that acts upon the lever being increased, so that the force of the blow also becomes in-
25 creased. The reverse condition will take place if the toothed wheel be adjusted so as to remain farther away from the hammer lever.

One form of the invention is illustrated in the accompanying drawing where Figure 1 is a side view and

- 30 Figure 2 a vertical section on the line 2—2, Figure 1, of the hammer referred to.

- a is the hammer, the lever b of which is supported at about the middle of its length by a shaft d journalled in a forked bracket c . The bracket c is attached to a frame e which is adjustable to different heights on a base plate f and supports two bearings h at its upper horizontal part e^1 , that is provided
35 with an aperture for the toothed wheel g . The shaft i of the said toothed wheel g is journalled eccentrically in two discs k which are in their turn journalled in the bearings h just mentioned and connected with each other by means of the yoke k^1 which can be shifted by means of a handle k^2 . In order to retain the discs k in position after adjustment, the cap of either of the
40 boxes h may be tightened by means of a thumb-nut or set-screw h^1 . The shaft i is provided at one end with a crank, when the hammer is to be driven by hand power, or with a belt pulley, where engine power is to be employed.

- As already mentioned, the frame e can be adjusted to different heights on a base-plate f to which it is secured by means of bolts f^1 or in any other suitable
45 manner. This arrangement is designed to permit the forging of articles of different sizes, by adjusting the hammer to suit the position of the anvil. For

[Price 8d.]



Johansson's Improved Adjusting Device for Coppersmiths' Hammers.

supporting the article to be forged, a bar *o* is employed as usual which is inserted through the uprights of the frame *e*, which are for this purpose provided with longitudinal slots. The bar *o* is secured to the base-plate by means of a strap *p* and can either directly support the article to be operated on, or be provided with a detachable anvil on which the article is placed. 5

The device operates as follows;—If powerful blows of the hammer are required, the handle *k*² is pushed away from the hammer lever, the toothed wheel *g* being thereby moved closer to said lever, the end of which is consequently brought into contact with the teeth of the wheel for a longer time and depressed to a greater extent, which results in an increased tension of the spring *m* and accordingly in a greater force of blow. If on the other hand 10 less forcible blows be required, the handle *k*² should be pushed toward the hammer, the toothed wheel *g* being thereby moved backwards away from the lever, so that the teeth will be in contact with the lever end for a briefer period and consequently compress the spring less. 15

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is;—

In coppersmiths' hammers of the kind wherein one end of the rocking hammer-lever is actuated by a toothed wheel while the part situated between 20 the fulcrum of the lever and the head of the hammer is acted on by a spring, the mounting of the shaft of the toothed wheel eccentrically in discs journalled in the frame, for the purpose of enabling the toothed wheel to be adjusted toward or away from the end of the hammer lever and thus the force of the blow to be controlled, by turning the said discs, substantially as described. 25

Dated this 10th. day of February, 1905.

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Fig: 1

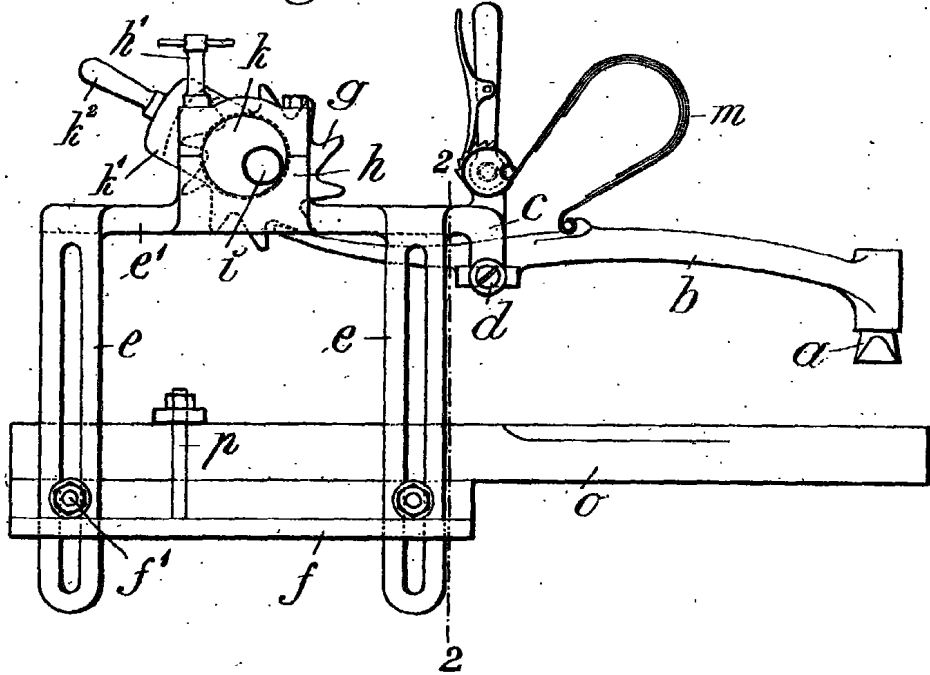
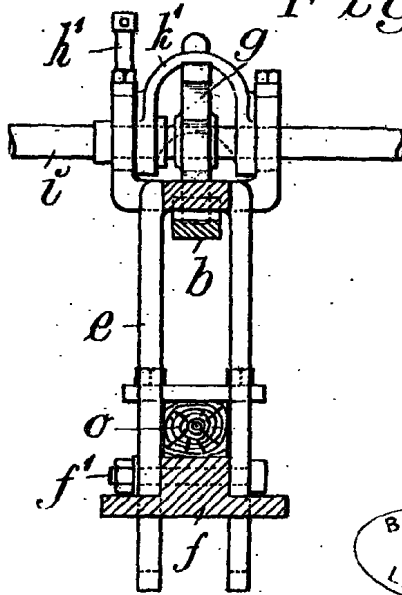


Fig: 2.



[This Drawing is a reproduction of the Original on a reduced scale.]

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