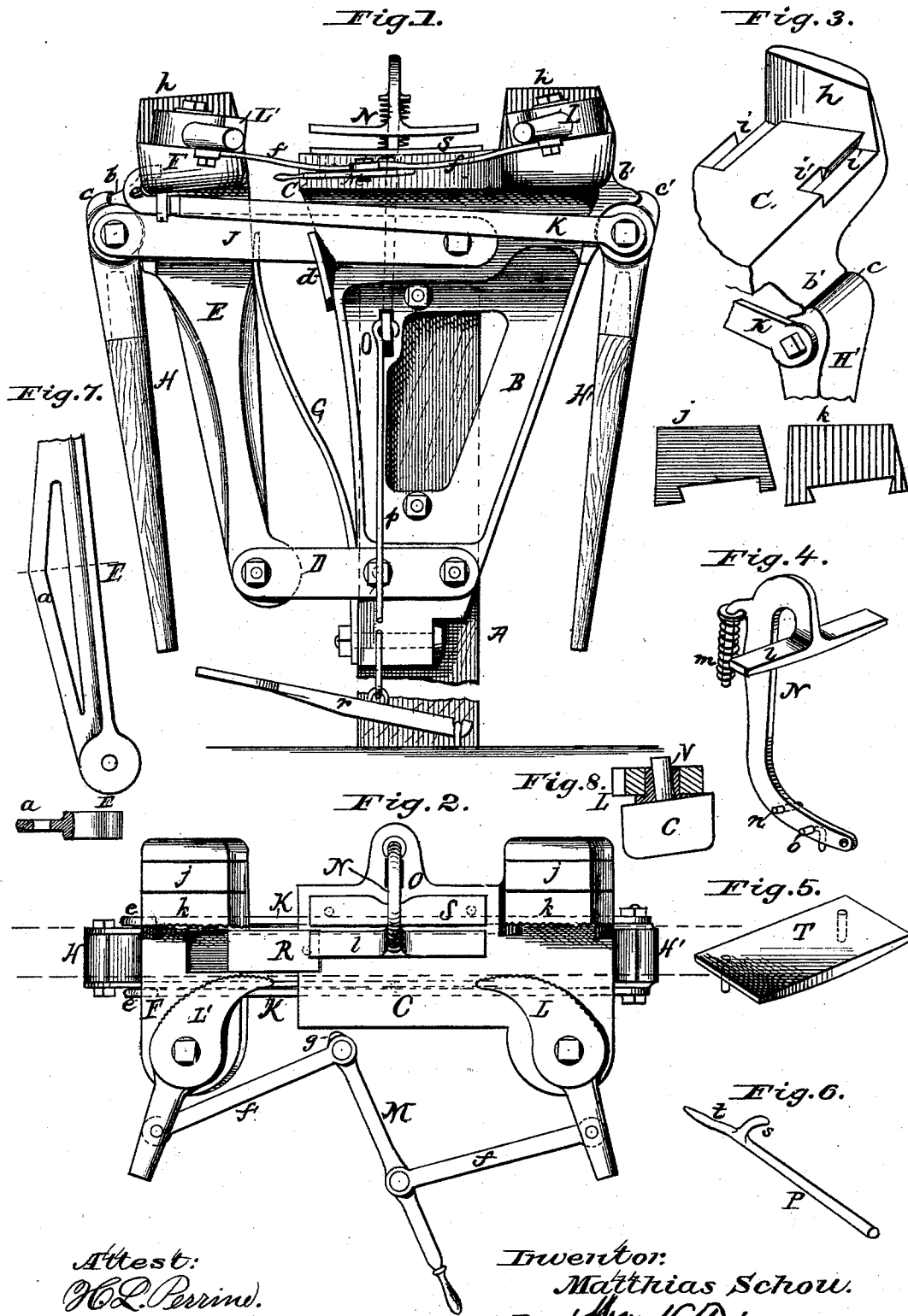


M. SCHOU.
TIRE-UPSETTER.

No. 170,688.

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Attest:
J. L. Perrine.
as Clerk.

Inventor:
Matthias Schou.
BY *Amos G. Dinkel*
Atty.

UNITED STATES PATENT OFFICE.

MATTHIAS SCHOU, OF FREEHOLD, NEW JERSEY.

IMPROVEMENT IN TIRE-UPSETTERS.

Specification forming part of Letters Patent No. **170,688**, dated December 7, 1875; application filed October 30, 1875.

To all whom it may concern:

Be it known that I, MATTHIAS SCHOU, of Freehold, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Machines for Upsetting Tires &c., whereof the following is a full, clear, and exact description.

This invention is in the nature of an improvement in the machine for which Letters Patent numbered 148,385 were issued to me the 10th day of March, 1874; and the invention consists in operating the clamping-jaws by means of three levers connected together, but without a common fulcrum, so as to permit the clamping of articles of varying width; also, in the peculiar construction of the clamping-blocks; also, in an attachment for preventing the springing up of tires, &c., being upset; also, in the construction and arrangement of the lever or levers for actuating the moving or pressure jaw. Finally, the invention consists in the construction of the machine as a whole.

In the accompanying drawings illustrating my invention, in which similar letters of reference indicate like parts in the several figures, Figure 1 is a side elevation; Fig. 2, a top or plan view; Figs. 3, 4, 5, 6, 7, and 8, views showing details of construction hereinafter fully specified.

The letter A represents a standard of suitable construction, to which may be bolted a cast-iron frame, B, formed with which is the anvil C, having a somewhat concave face. Straps or bars D, of wrought or other metal, are bolted to the frame B at its lower end, and form bearings for the fulcrum-pin of a lever, E. This lever carries the moving jaw F, which is made with it, the two being cast in one piece. This lever I prefer to make with a brace, a, Fig. 7, in order to lessen the liability to fracture; and I also prefer to make a web on the outer edges of both the brace and lever, or on the edge of either, so as to increase the strength of the lever. A spring, G, is interposed between the frame B and lever E, so as to keep the moving jaw extended. The upper end of the lever is made with a rounded projecting lip, b, over which fits a hook-shaped lip, c, on the operating-lever H. This lever is hung on a pivot secured in the outer ends of two bars, J, which are bolted, at their other ends, loosely

to the frame B, so that they may rise and fall with the lever H as it is moved in operating the jaw F. These bars are guided in their motion by a slotted plate or a fork, d, secured to the frame B. Instead of operating this jaw thus, I may make a lip, b', on the anvil, over which projects the hook c' of a lever, H', as in the other case. This lever is secured between bars K, which, instead of being bolted to the frame, extend to the jaw F, where their ends are curved into hooks that enter sockets in said jaw, in such manner that the strain in operating will be borne at the center of curvature in the hooks, and not on the ends of the hooks, whereby there is less liability of bending the hooks, and the jaw is made to work smoothly. These bars K may be confined to the jaw by suitable pins, to prevent displacement. L L' are steel-faced clamping-jaws, secured to pintles on the anvil and jaw F, respectively. These jaws are connected for operation by levers M f f'. The main lever M is fulcrumless, and from near its center the lever or connecting-rod f extends to a handle on the jaw L. The lever f' extends from the end of lever M to jaw L'. On the end of lever M is a stop, g, for arresting the movement of the levers. Each of the jaws L L' is provided with a handle for use as may be necessary.

By connecting these jaws by this system of levers having no fixed fulcrum, each jaw can be independently operated, so that articles having different widths can be as securely clamped as those of uniform width throughout. It will, of course, be understood that when one jaw has taken hold of the article to be upset the other jaw will be also brought to bear upon it with the same amount of friction, but not necessarily in the same line.

Instead of caps on the ears of the anvil and jaw F, I make backs h h, and the edges of said ears I form with dovetail grooves i i, with a portion cut out of one groove in each ear, at v'. These grooves receive dovetailed projections on the clamping-blocks j k. The blocks j are filling-blocks, and may have only one dovetail projection, and blocks k have serrated faces, and both projections are dovetailed, the cuts v' being made so that said projections may be fitted in the grooves, slid back, and thus held in place. These blocks are made straight on

top, and inclined at the bottom, so as to conform to the shape of the anvil and jaw; and by this construction is gained a wider bearing-surface. (See above-named details in Fig. 3.)

In upsetting thin articles, as steel tires, it becomes necessary to use means for preventing them from springing up. For this purpose I employ a spring-lever, N. (See Fig. 4, where it is shown detached.) This lever has a curved bearing-face, *l*, for contact with the tire, and is held in a recess in the frame B by means of a pintle, *n*, and pin *o*, the pin *o* being removable, so that said lever may be readily detached when necessary. The upper end of the lever N rests in an opening in a projection, O, of the anvil, and against this projection a spring, *m*, on an arm of the lever rests, so as to keep the lever raised, as in Fig. 1. The lever N may be operated by a rod, *p*, and treadle *r*, or a bar or hand-lever, P, Fig. 6, may be employed by resting its point *t* in a hole in the frame B, and inserting the hook *s* in the eye in said lever's end, and applying properly the necessary force.

In order to prevent the heated metal, when being upset, from extending between the jaw and anvil—an evil of frequent occurrence—I employ a plate, R, secured by a pin in a recess in the anvil, and working in a groove in the moving jaw, whereby the space between the jaw and anvil is constantly bridged.

To prevent lateral spreading of the article being upset, I employ a plate, S, set in the anvil by pins and easily removable. This plate is curved to conform to the anvil.

If a straight article is to be operated upon, the bed of the anvil may be leveled by inserting in pin-holes therein a flat-faced plate, T, Fig. 5, the bottom thereof being curved to fit the anvil.

In Fig. 8 I have shown means for adjusting the clamping-jaws. On the pintle I place a bushing, *v*, through which the hole is made diagonally, the base of said bushing being

inclined or wedge-shaped. As shown in Fig. 8, this bushing is so turned and keyed to the pintle as to bring the jaw in a horizontal plane, whereby the jaw can get a firmer hold on a straight article. By turning the bushing one-half a revolution the jaw is inclined as in Fig. 1.

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

1. The independent fulcrumless lever or bar M, stop *g*, and levers or bars *f f'*, in combination with the clamping-jaws L L', substantially as and for the purpose described.

2. The clamping-blocks provided with dove-tailed projections, in combination with dovetail grooves in their supports, substantially as described.

3. The spring-lever N, constructed as described, in combination with the frame and anvil of a tire-upsetting machine, as specified.

4. The lever H, having the hook-shaped end *e*, and hung in swinging bars J, in combination with the moving jaw E F, having the rounded projection *b*, whereby the lever and jaw operate in direct contact, substantially as specified.

5. The clamping-jaws L, secured to their pintles on bushings *v*, having holes diagonally through them, and provided with wedge-shaped bases, substantially as and for the purpose described.

6. The combination of the frame B, anvil C, lever E, jaw F, the operating-lever and hangings, clamping-jaws and levers M *f f'*, blocks *k*, and plate R, substantially as shown and described.

To the above specification of my invention I have signed my name this 30th day of October, 1875.

M. SCHOU.

Witnesses:

A. C. BRADLEY,
WM. H. FINCKEL.