

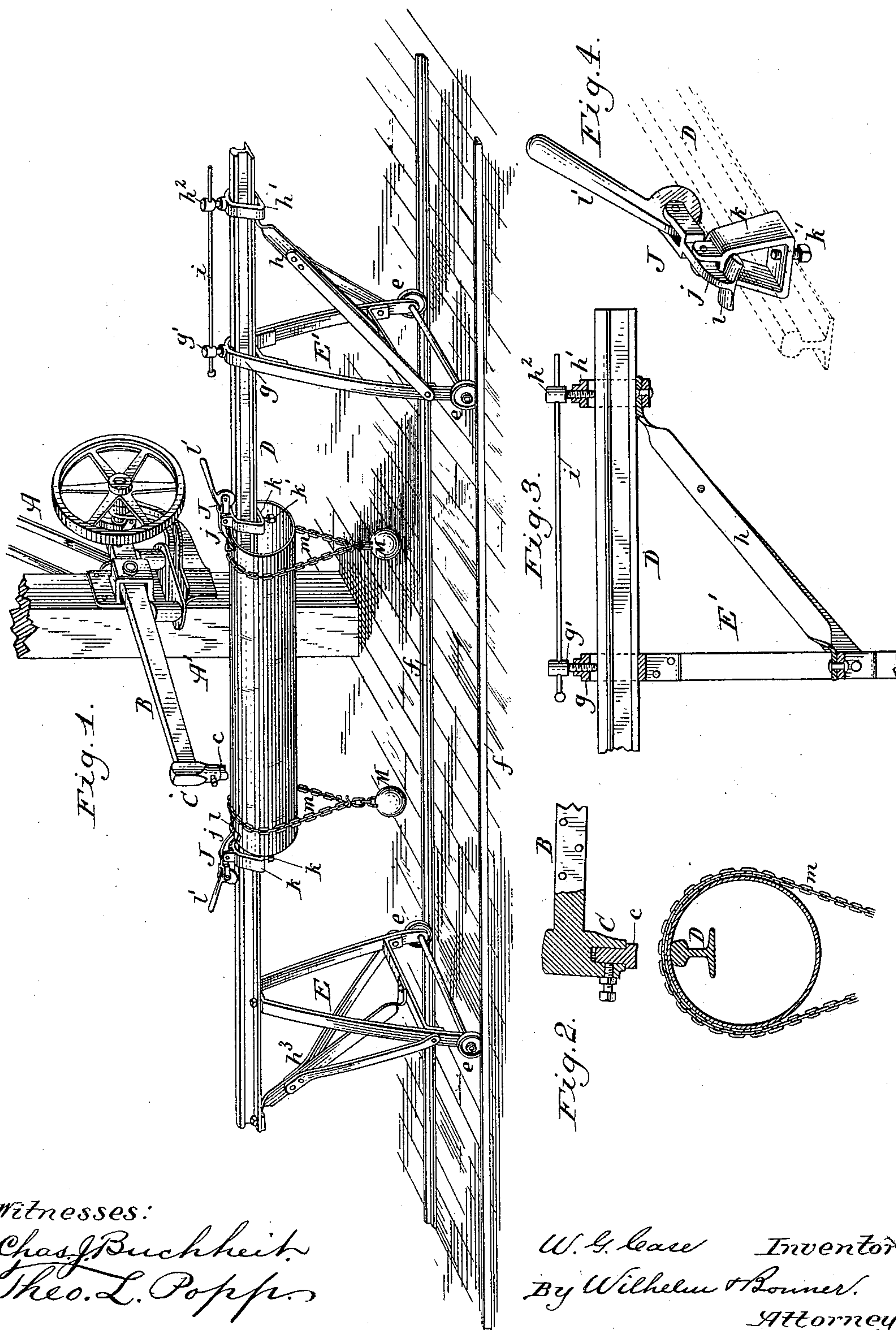
(No Model.)

W. G. CASE

MACHINE FOR BEATING AND POLISHING SHEET METAL TUBING.

No. 403,736.

Patented May 21 1889.



Witnesses:

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UNITED STATES PATENT OFFICE.

WHITNEY G. CASE, OF BUFFALO, NEW YORK.

MACHINE FOR BEATING AND POLISHING SHEET-METAL TUBING.

SPECIFICATION forming part of Letters Patent No. 403,736, dated May 21, 1889.

Application filed April 9, 1888. Serial No. 270,036. (No model.)

To all whom it may concern:

Be it known that I, WHITNEY G. CASE, of the city of Buffalo, in the county of Erie and State of New York, have invented new and
5 useful Improvements in Machines for Beating and Polishing Sheet Metal, of which the following is a specification.

This invention relates to a machine which is more especially designed for beating and
10 polishing sheet-metal tubing. Heretofore these operations have been generally performed by hand; but this practice is objectionable, as it involves much labor and expense. The object of my invention is to construct a
15 simple and inexpensive machine whereby copper or other sheet-metal tubes or cylinders can be beaten and polished with less labor and at smaller cost than heretofore.

The invention consists of the improvements
20 which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved machine. Fig. 2 is a vertical sectional elevation of the
25 hammer-head and a cross-section of the movable supporting-bar on an enlarged scale. Fig. 3 is a central vertical section of the detachable truck on an enlarged scale. Fig. 4
30 is a perspective view of one of the clamps whereby the sheet-metal cylinder or other article is secured to the supporting-bar.

Like letters of reference refer to like parts in the several figures.

A represents a power-hammer of any suitable or well-known construction, and which is
35 operated in any suitable manner. In the construction shown in the drawings the parts of the hammer are secured to an upright post, A'.

B is the helve, and C the hammer-head,
40 which is provided in its under side with a socket or recess, in which the die *c* is removably secured by a set-screw or otherwise.

D represents a supporting-bar arranged below the hammer-head C, and upon which the
45 tube or cylinder to be polished is held under the hammer. The bar D consists, preferably, of an ordinary railway-rail, and is supported upon trucks E E', which run upon tracks *f*, so that the bar, with the copper or other sheet-metal tube or cylinder, can be moved back
50 and forth under the hammer-head to beat and polish the entire length of the cylinder. The

trucks E E' are both composed of triangular frames of wrought-iron, which are provided with wheels or rollers *e*, running upon the
55 tracks *f*. The truck E is rigidly secured to one end of the bar D by bolts or rivets, while the truck E' is detachably secured to the opposite end of the bar, so that it can be removed therefrom to permit the sheet-metal cylinder to
60 be slipped over the bar or be removed therefrom. The detachable truck E' is provided at its upper end with a loop, *g*, which embraces the bar and is secured thereto by a set-screw, *g'*, bearing against the upper surface of the bar.
65 The frame of the detachable truck E' is provided with an inclined brace, *h*, which is secured with its lower end to the lower portion of the truck-frame and with its upper end to a loop, *h'*, which embraces the bar D. This
70 loop is provided with a set-screw, *h²*, whereby it is secured to the bar D. The fixed truck E is provided with an inclined brace, *h³*, which is secured with its ends respectively to the bar D and the lower portion of the truck-
75 frame. The heads of the set-screws *g'* *h²* are provided with horizontal openings, through which passes a locking-bar, *i*, whereby these set-screws are held against turning after being tightened.
80

J represents clamps attached to the bar D, and whereby the cylinder or other object is
85 securely held upon the bar. These clamps each consist of a lever, *j*, pivoted to a loop, *k*, which surrounds the bar, and is provided at one end with a curved jaw or head, *l*, bearing
90 upon the cylinder, and at its opposite end with a cam-lever, *l'*, which bears against the upper side of the bar. Upon depressing the cam-lever *l'* the jaw *l* is caused to clamp the cylinder upon the bar. The loops *k* are
95 secured to the bar by set-screws *k'*, which bear against the under side of the bar.

M represents weights which are suspended from the bar D by means of chains *m*, loosely
100 surrounding the cylinder or the bar. These weights tend to retain the trucks E E' upon the tracks *f* and prevent the same from jumping or vibrating violently under the blows of the hammer. Two of these weights are preferably employed, one at each end of the cylinder.

In applying the sheet-metal cylinder to the bar the truck E' is detached from the bar by

loosening the set-screws g' h^2 , and the cylinder is then passed over the free end of the bar, when the truck is again secured in place. The cylinder is then secured to the bar by the
 5 clamps J and the chains m are passed over the ends of the cylinder. By moving the bar back and forth under the hammer and turning the cylinder from time to time to present
 10 fresh surfaces to the hammer the entire surface of the cylinder is rapidly beaten and polished. It is obvious that both trucks E E' may be made detachable, if desired.

By my improved machine sheet-metal tubes or cylinders are beaten and polished more
 15 evenly and uniformly than by hand, and a considerable saving of time and expense is effected.

I claim as my invention—

1. The combination, with a power-hammer,
 20 of a movable supporting-bar arranged below said hammer, a truck rigidly secured to one end of the bar, and a truck detachably arranged at the opposite end of the bar, substantially as set forth.

25 2. The combination, with a power-hammer, of a movable supporting-bar arranged below said hammer, a truck, E , rigidly secured to

one end of said bar, and a detachable truck, E' , arranged at the opposite end of the bar and provided with a loop embracing the bar, 30 and a set-screw whereby the loop is secured to the bar, substantially as set forth.

3. The combination, with a power-hammer and a movable supporting-bar provided at one end with a fixed truck, of a detachable truck, 35 E' , arranged at the opposite end of the bar and provided with a loop, g , having a set-screw, g' , and a brace, h , having a loop, h' , and set-screw h^2 , substantially as set forth.

4. The combination, with a power-hammer, 40 of a movable supporting-bar provided at one end with a fixed truck, a detachable truck, E' , arranged at the opposite end of the bar and provided with a loop, g , having a set-screw, g' , a brace, h , having a loop, h' , and 45 set-screw h^2 , and a locking-bar, i , whereby the set-screws g' and h^2 are held against turning, substantially as set forth.

Witness my hand this 18th day of January, 1888.

WHITNEY G. CASE.

Witnesses:

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