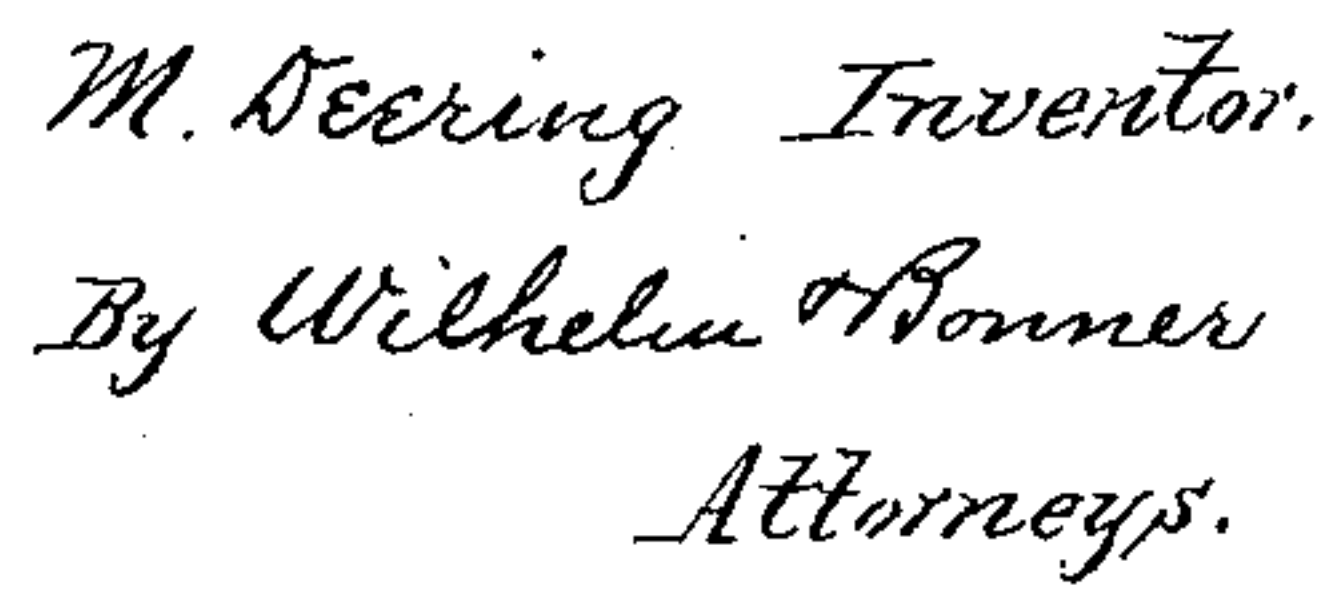


M. DEERING.
POWER HAMMER.

Patented Aug. 16, 1887.



UNITED STATES PATENT OFFICE.

MICHAEL DEERING, OF SYRACUSE, NEW YORK, ASSIGNOR TO CHRISTOPHER C. BRADLEY, OF SAME PLACE.

POWER-HAMMER.

SPECIFICATION forming part of Letters Patent No. 368,384, dated August 16, 1887.

Application filed May 28, 1887. Serial No. 239,626. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL DEERING, of the city of Syracuse, in the county of Onondaga and State of New York, have invented 5 new and useful Improvements in Power-Hammers, of which the following is a specification.

This invention relates to an improvement in that class of power-hammers in which the hammer-head is attached to the helve by a flexible 10 connection, and has for its object to provide simple means whereby the tension of the flexible connection can be easily regulated, and also to construct the connection in such manner that the wear will be distributed, and so that it can 15 be readily repaired when required.

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

In the accompanying drawings, Figure 1 represents a side elevation of my improved hammer. Fig. 2 represents a fragmentary vertical 20 section of the helve on an enlarged scale. Fig. 3 is a top plan view of the helve, partly in section. Fig. 4 is a side elevation of the helve, 25 showing a modified construction of the device whereby the tension of the flexible connection is adjusted. Fig. 5 is a vertical section of a portion of the flexible connection on an enlarged scale.

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

A represents the main frame of the hammer; a, the anvil; and B, the hammer-head, sliding between vertical ways b on the main frame A.

35 C represents the helve, which is pivoted to the main frame and provided at its rear end with cushioning-springs c.

D is the yoke, pivoted to the main frame and arranged between the springs c of the helve in 40 a well-known manner. The yoke D is operated from the driving-shaft E by a connecting-rod, e, in any suitable manner.

F represents the flexible connection, whereby the hammer-head is attached to the helve C, 45 the hammer-head being provided with an opening, f, through which the connection passes.

The flexible connection F is composed of two endless belts or straps, f' f'' , arranged loosely one upon the other. The inner strap, f'' , is 50 preferably constructed of several layers of leather, which are connected together, while

the outer strap may be composed of a single layer or thickness. The jars or shocks of the hammer-head B cause the outer strap, f' , which is loose upon the inner strap, f'' , to move upon 55 the inner strap, whereby different portions of the outer strap are successively presented to the contact-surfaces in the opening f in the hammer-head, thereby distributing the wear equally over the entire surface of the outer 60 strap and preventing the strap from wearing through rapidly, as it would do if it were stationary. When the outer strap, f' , has become so far worn as to be unserviceable, it is replaced 65 by a new strap. By this construction of the straps the inner main portion, f'' , of the flexible connection is to a large extent relieved from wear.

The helve C is provided at its front end with two arms, g g' , which are secured with their rear 70 ends to the helve by vertical bolts h. The outer ends of the arms g g' are arranged on the front and rear sides of the hammer-head B, and are provided with collars or sleeves g'' , around which the connection F passes, said 75 sleeves being mounted on horizontal bolts secured to the bifurcated ends of the arms g g' , as represented in Figs. 2 and 3. The upper arm, g , is provided with elongated openings g^3 , through which the bolts h pass, so that upon 80 loosening the nuts of the bolts the arm g can be adjusted on the helve C to increase or reduce the tension of the connection F.

I represents an adjusting-screw secured with its rear end to the helve C by a transverse pin, 85 i, or otherwise, so as to be held against turning, and projecting through a smooth opening formed in a vertical lug or ear, j, at the inner end of the arm g .

j' j'' are screw-nuts, which work on the screw- 90 bolt I and bear against opposite sides of the lug j.

To increase the tension of the connection F, the nuts of the bolts h and the front nut, j' , of the screw-bolt I are loosened, and the screw- 95 nut j'' is turned in the proper direction to bear against the lug j and move the arm g forwardly. When the latter has been moved forwardly sufficiently to give the connection the proper tension, the nuts of the bolts h and the front 100 nut, j' , are tightened, whereby the arm is rigidly secured to the helve.

* In the modified construction represented in Fig. 4, the lower arm, *k*, is made adjustable. In this case the lower arm, *k*, is provided with elongated openings, through which the bolts *l* pass, and with a lug, *l'*, through which the horizontal screw-bolt *m* passes, which is provided with an adjusting-nut, *m'*.

I claim as my invention—

10 1. The combination, with the hammer-head and the helve, of a stationary arm secured to the helve, an adjustable arm made lengthwise movable on the helve, and a flexible connection whereby said arms are connected with the hammer-head, substantially as set forth.

15 2. The combination, with the hammer-head

and the helve C, provided with a stationary arm, *g'*, of the adjustable arm *g*, attached to the helve, a horizontal adjusting-screw, whereby the adjustable arm is moved lengthwise of the helve, and a flexible connection, F, substantially as set forth. 20

3. The combination, with the hammer-head and the helve, of a flexible connection composed of two straps or belts arranged loosely upon each other, substantially as set forth. 25

Witness my hand this 21st day of May, 1887.

MICHAEL DEERING.

Witnesses:

CALVIN S. BUNNELL,
ORLANDO C. WEST.