M. L. GUTMANN.

Portable Hand-Punch.

No. 199,060. Patented Jan. 8, 1878.

Fig. 1.

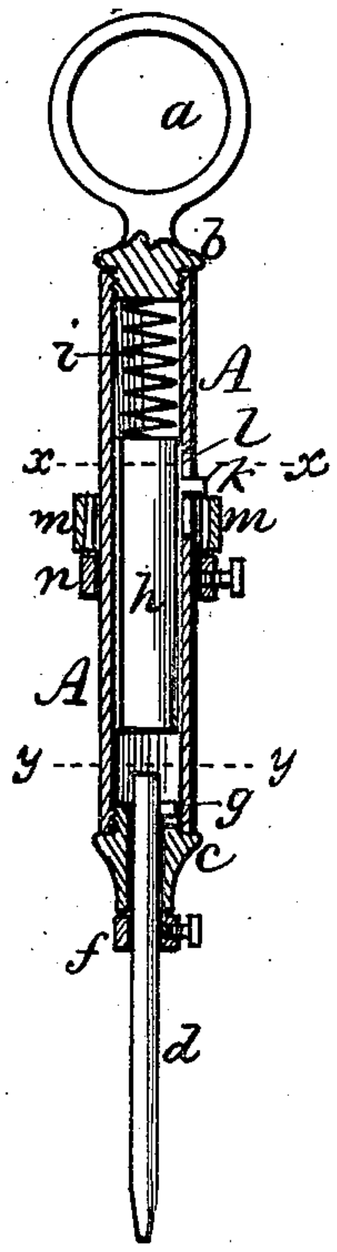


Fig. 2.


Fig. 3.

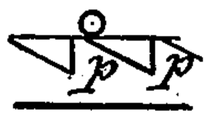


Fig. 4.


Attest.

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# UNITED STATES PATENT OFFICE.

MAX L. GUTMANN, OF ROCHESTER, NEW YORK.

## IMPROVEMENT IN PORTABLE HAND-PUNCHES.

Specification forming part of Letters Patent No. **199,060,** dated January 8, 1878; application filed December 7, 1877.

*To all whom it may concern:*

Be it known that I, MAX L. GUTMANN, of the city of Rochester, county of Monroe, and State of New York, have invented a certain new and useful Improvement in Portable Hand-Punches; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical section of the device. Fig. 2 is a cross-section in line *x x*. Fig. 3 is a diagram, showing the cams on the interior periphery of the cam-ring. Fig. 4 is a cross-section in line *y y*.

My improvement relates to small hand-punches for very light work. It is particularly useful to watch-makers, jewelers, and others, where one hand of the operator has to be used to hold the article to be operated on, and the other hand only can be used to operate the punch.

The invention consists of a punch constructed, arranged, and operating as hereinafter more fully described.

A represents the barrel of the device, which is simply a tube of suitable length. In the upper end of this barrel is screwed a head, *b*, having a finger-loop, *a*, which receives the forefinger of the operator in holding the device. In the lower end is screwed a nut, *c*, through which passes loosely the punch *d*. This punch has a degree of vertical play in the nut sufficient to allow the necessary stroke under concussion. It is gaged in its up and down movements by an adjustable collar, *f*, below the nut *c*, and a pin, *g*, above the nut, which rests in a notch or slot of the nut to keep the punch from turning. By adjusting the collar *f* down lower the stroke of the punch can be made longer.

*h* is a plunger or hammer, which rests in the barrel above the punch; and *i* is a coiled spring above the plunger, resting between it and the head *b*. *k* is a pin secured to the plunger, and passing out through an elongated vertical slot, *l*, made in the barrel. *m* is a cam-ring, resting around the barrel at a suitable position; and *n* is an adjustable collar, secured by a set-screw, and resting under the cam-ring to support it.

On the inner periphery of the cam-ring are a series of cams, *p p*, Fig. 3, consisting of inclined planes, and over these cams rests the pin *k*, which projects from the plunger. It will be seen that when the cam-ring is turned the cams will raise the plunger, and the latter will then be forced down by the coiled spring above it as the pin passes the abrupt shoulders of the cams.

The power of the plunger in its concussion on the punch can be increased by adjusting the cam-ring higher by the collar *n*. The punches may be changeable in different sizes, and, if desired, a split chuck may be used at the lower end of the barrel to hold the punch.

The operation is as follows: The operator inserts his forefinger through the loop at the top, and with his thumb and right finger of the same hand turns the cam-ring, which produces the concussion on the punch. This leaves his left hand free to hold the work.

The device is particularly adapted to watch-makers' and jewelers' uses, and other uses where the work is light.

What I claim as new is—

The portable hand-punch herein described, consisting of the barrel A, the finger-loop *a*, the plunger *h*, the spring *i*, the cam-ring *m*, adjustable collar *n*, and the punch *d*, arranged to receive the blows of the plunger, the whole arranged to operate as and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

MAX L. GUTMANN.

Witnesses:

R. F. OSGOOD,

JACOB SPAHN.