

O.C. Ford,

Hand Punch.

No. 107242.

Patented Sep. 13. 1870.

Fig. 1.

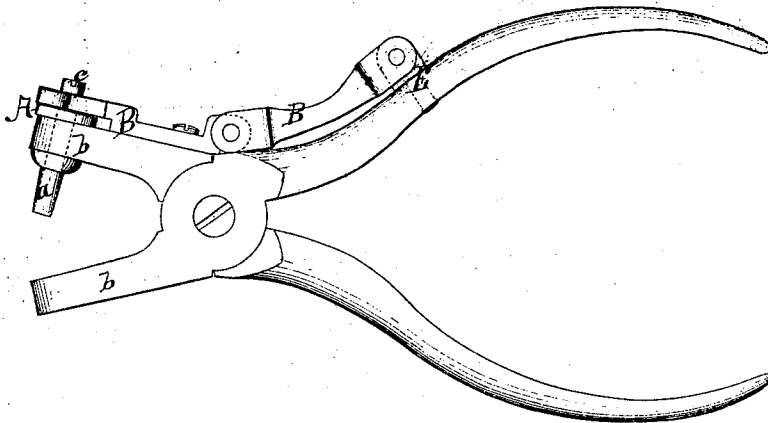


Fig. 2.



Witnesses:

S. J. Hayes  
E. H. Simon

Inventor

O. C. Ford by  
A. M. Beadle Assn. atty.

# United States Patent Office.

OMRI C. FORD, OF BURLINGTON, ASSIGNOR TO HIMSELF AND N. C. STILES,  
OF MIDDLETOWN, CONNECTICUT.

Letters Patent No. 107,242, dated September 13, 1870.

## IMPROVEMENT IN HAND-PUNCHES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, OMRI C. FORD, of Burlington, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Hand-Punches; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in providing the punch with a rotating cutter or perforator, the rotary motion of which is produced by means of a connecting-bar, running from the small fixed pulley upon the head of the cutter to and fastened upon the opposite other half of the punch, and the movement of closing and opening the jaws of the punch in operating the same, by which rotary motion a clean and perfect perforation through the leather, paper, or other similar material to be perforated, is made.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my punch in any of the known forms, except with reference to the cutter or perforator. This cutter or perforator is so constructed and fixed in the jaw of the punch that it has free play, and will rotate, being made in the usual shape and form of cutters in the old style of hand-punches, and where the cutter or perforator comes to the outside of the jaw through which it passes, it is provided with a small fixed pulley, of size to correspond with the size of the punch, say from one-half to three-quarters of an inch in diameter, and upon this fixed pulley is fastened one end of a connecting-bar, at or near the edge of it, at a point far enough from the center of the pulley, and far enough removed from the place where the opposite end of this connecting-bar is attached to the opposite other half of the punch, so that the movement of closing and opening the jaws of the punch will produce a rotary motion of the cutter or perforator, by which rotary motion a clean and perfect perforation is made through paper, leather, or other similar material to be perforated, in the perforation of which the hand-punch is intended to be and is commonly used.

The advantage of my punch over the old style of hand-punches is this, that when using the old-fashion punch, it is necessary to give the same a twist after or while pressing the cutter or perforator through the material to be punched, to complete the perforation; and even this rarely ever performs the operation perfectly, while, by my improvement, while the cutter or perforator is passing through the material to be punched, it at the same time rotates, thus making

and cutting a perfect and clean hole through the material.

The connecting-bar is made of the same metal as the punch, or may be made of any other suitable material, and is constructed with an elbow or joint, so as to conform to the shape and movement of the handles of the punch in opening and closing the same. The end of this connecting-bar, when it is fastened to the small fixed pulley, is hooked in shape, as will be seen by fig. No. 2 of the drawing. This shape is given to it to produce as much rotary motion as possible of the cutter or perforator.

Figure 1 of the drawing represents a hand-punch with my improvement thereto attached, and indicated by the letters B'B.

Letter A of the same figure indicates the small fixed pulley fastened upon the head of the cutter or perforator *a*, that passes through and is made to rotate in the jaw *b*, by means of connecting-bar B'B and the movement of closing and opening the jaws *b b*.

Figure 2 of the drawing represents the connecting-bar and fixed pulley detached from the punch, B'B being the connecting-bar, A being the fixed pulley attached to the head of the cutter or perforator, C being the pin or screw that fastens the hooked end of the connecting-bar to the fixed pulley, and the letter *d* being the elbow or joint in the connecting-bar.

Letter E in fig. 1 is the point where the connecting-bar is fastened to the punch-handle, and, when the handles are pressed together, the part B' of the connecting-bar is drawn toward the hand that is operating the punch, and the part B' being attached to the edge of the fixed pulley A, as seen in fig. No. 1, and also in fig. No. 2, thus causes the fixed pulley to turn, which, being firmly fastened to the head of the cutter or perforator *a*, as seen in fig. No. 1, produces the rotary motion of the cutter or perforator, which motion can be used in power-punches.

Now, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The cutter *a*, pivoted in one of the jaws *b* in such manner as to be capable of revolving in the jaw, as and for the purpose described.
2. The connecting-bars B'B, in combination with the fixed pulley A, substantially as described.
3. The device described, consisting of the punch, rotary cutter *a*, pulley A, and connecting-bars B'B, when the parts are constructed specifically as described, for the purpose set forth.

O. C. FORD.

Witnesses:

SAMUEL S. WARNER,  
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