

W. P. WILLOUGHBY.  
LEATHER-PUNCHING APPARATUS.

No. 193,583.

Patented July 24, 1877.

Fig. 1.

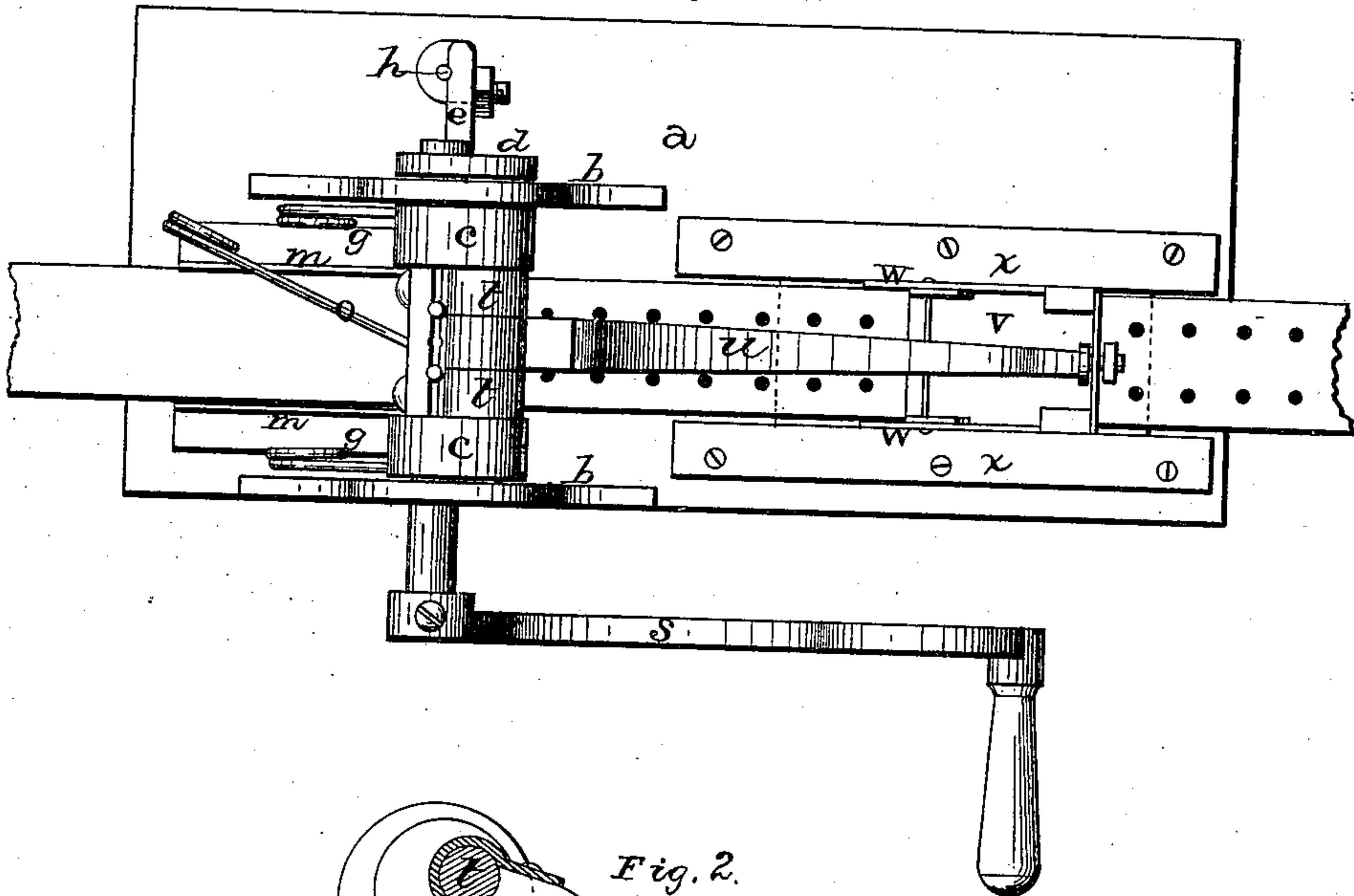
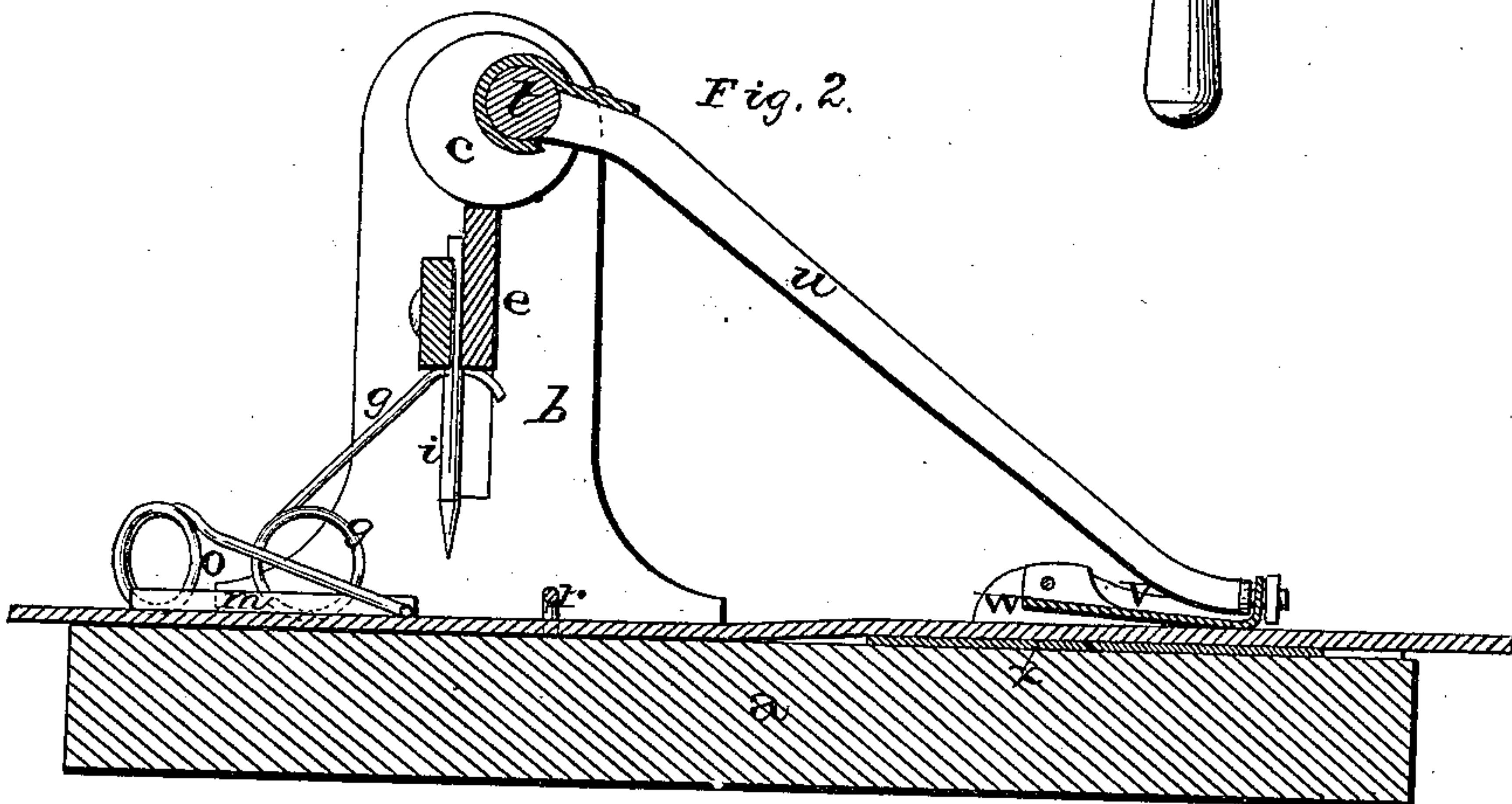


Fig. 2.



WITNESSES

William Garner  
Nat. E. Oliphant.

INVENTOR.

W. P. Willoughby  
per  
F. A. Lehmann, Atty

# UNITED STATES PATENT OFFICE.

WILLIAM P. WILLOUGHBY, OF CHARITON, IOWA.

## IMPROVEMENT IN LEATHER-PUNCHING APPARATUS.

Specification forming part of Letters Patent No. **193,533**, dated July 24, 1877; application filed July 6, 1877.

*To all whom it may concern:*

Be it known that I, WILLIAM P. WILLOUGHBY, of Chariton, in the county of Lucas and State of Iowa, have invented certain new and useful Improvements in Leather-Punches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in leather-punches; and it consists in the combination of a suitable punch for punching holes through straps, and a mechanism for feeding the straps forward as fast as the holes are punched, as will be more fully described hereinafter.

The accompanying drawings represent my invention.

*a* represents a suitable base, upon which are secured the two slotted standards *b*. In the top of these standards is journaled a shaft, which forms four eccentrics.

The two eccentrics *c*, just inside of the two standards, and the eccentric *d*, outside of one of the standards, are used for depressing the punch-bar *e*, which moves vertically in the slots made through both standards, and which is raised upward again into position by two or more springs, *g*, which bear up against its under side.

On the outer side of this punch-bar, between the two standards, are made a number of grooves, in which are clamped suitable sharp-pointed instruments, *i*, for punching holes through straps. These grooves are so formed that the instruments *i* may be arranged to punch either one, two, or three holes through the strap, as may be desired.

The punch-bar projects through the slot in one of the standards so as to extend a distance beyond it, and to this projecting end is clamped another instrument, *h*, which is used when it is desired to punch but a single hole through a strap or other piece of leather.

In between the two standards are secured the two guides *m*, between which the strap is placed as it is fed forward to be punched, so

as to keep it straight, and bearing down upon the top of this strap is a spring, *o*, which holds the strap pressed down upon the base, and prevents it from raising upward as the punch-bar is raised. Just beyond the inner end of these two guides is placed a wide staple, *r*, under which the strap also passes, for the purpose of guiding and holding it down in position.

The central part of the operating-shaft, to which the handle *s* is attached, forms an eccentric, *t*, to which eccentric is secured one end of the rod *u*. To the lower end of this rod is fastened a clamp, *v*, the rear end of which clamp is pivoted in a sliding frame, *w*, that is moved back and forth by the rod within the guides *x*. Each time that the operating-shaft is turned the punch-bar descends, and the sharp instrument makes one or more holes through the strap, and then, as the punch-bar rises upward, the hinged clamp on the end of the rod *u* is forced downward upon the top of the strap, that passes between it and the sliding frame, and clamps the strap tightly down upon the top of the sliding frame. As the shaft continues to turn, the sliding frame, having the strap clamped tightly to it, moves forward, drawing the strap along with it, and just sufficiently far for the next holes that are to be punched in it. By the time the punch-bar, with its sharp instruments, has descended upon the strap again, the sliding frame stops in its forward movement, when the eccentric upon the driving-shaft causes the rod *u* to lift the outer end of the clamp, and thereby release the strap. While the sharp instruments are punching holes in the strap the sliding frame begins a backward movement upon the strap, so as to take a fresh hold upon it, and again move it just sufficiently far forward for the next holes that are to be punched.

By means of this machine fly-nets can be rapidly and cheaply made, at the same time that the outside punch is used upon all kinds of other work.

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

1. The combination of the standards *b*,



shaft provided with eccentrics *c*, punch-bar *e*, spring *g*, eccentrics *t*, rod *u*, and a feeding device attached to the end of the rod, substantially as shown.

2. The combination of the eccentric *t*, rod *u*, clamp *v*, and sliding frame *w*, whereby the strap is fed forward after it has been punched, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of June, 1877.

WILLIAM P. WILLOUGHBY.

Witnesses:

N. B. GARDNER,

JOHN J. REED.