2 Sheets--Sheet 1.

L. BRADLEY.

MACHINE FOR PERFORATING PAPER FOR TELEGRAPHS.

No. 48,479. Patented June 27, 1865.

Fig. 1.

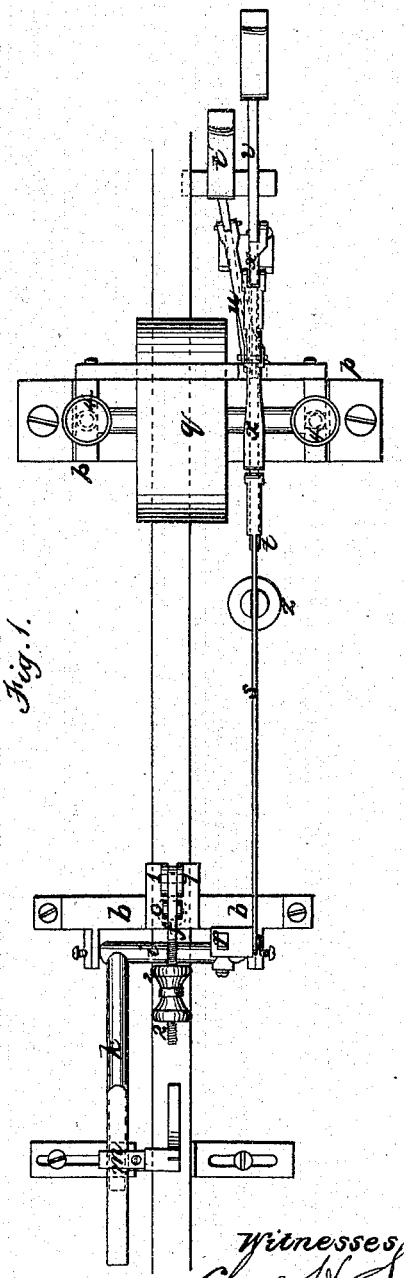
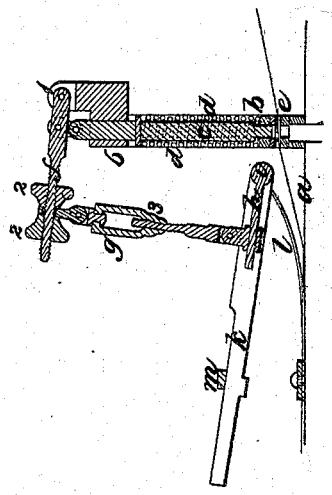


Fig. 5.



Witnesses
Chas. H. Smith
James C. Fennell

Inventor
L. Bradley

2 Sheets—Sheet 2.

L. BRADLEY.

MACHINE FOR PERFORATING PAPER FOR TELEGRAPHS.

No. 48,479. Patented June 27, 1865.

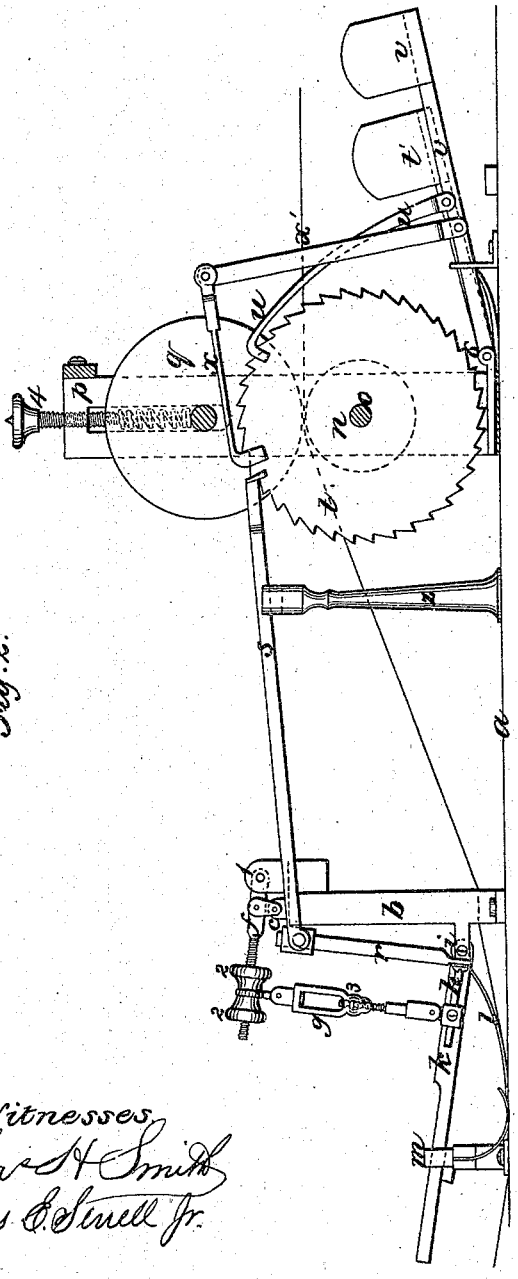


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

LEVERETT BRADLEY, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO MARSHALL LEFFERTS, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR PERFORATING PAPER FOR TELEGRAPHS.

Specification forming part of Letters Patent No. **48,479**, dated June 27, 1865.

To all whom it may concern:

Be it known that I, LEVERETT BRADLEY, of Jersey City, in the county of Hudson and State of New Jersey, have invented, made, and applied to use a certain Improvement in Means for Perforating Paper for Telegraphic Purposes; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a plan of my apparatus. Fig. 2 is a side elevation, a portion of the frame being removed; and Fig. 3 is a vertical section of the punching device.

Similar marks of reference denote the same parts.

The nature of my said invention consists in a punch of a peculiar character fitted to perforate a strip of paper, and in combination therewith I employ a pair of rollers actuated by the movement of the punch for drawing the paper along a given distance each perforation. I also employ levers to act upon the said pair of rollers to cause the strip of paper to be drawn along sufficiently to form spaces between the perforations for representing letters or for making the spaces between the respective letters or the words.

In the drawings, *a* represents a table or bed carrying the parts of the apparatus.

b is a triangular frame, in which the punch *c* is fitted to slide. This punch is kept up by the spring *d* when in a normal position, and when depressed so that the end passes into the die *e* the paper passing between the die and punch, as seen by the red line, is perforated. I prefer that the punch have a square end, so that a series of holes cutting into each other will form an elongated opening in the paper. The punch is actuated by the lever *f* on the fulcrum 1, from which lever is a link, *g*, to an arm, *h*, from the rock-shaft *i*, that is actuated by the lever *k*.

l is a spring to raise the lever *k*, and *m* is a stop regulating the amount of motion that can be given to the moving end of the lever *k*.

By means of the nuts 2 2 on the lever *f* and the shackle 3 in the link *g* the movement communicated from the lever *k* to the punch *c* can be regulated so that the perforation of the paper will be smooth and cleanly cut, but no unnecessary motion be given to the punch *c*.

n is a roller on the shaft *o* in the frame *p*, and *q* is a second roller pressed toward *n* by springs, (see dotted lines in Fig. 2;) and 4 4 are screws acting on the springs to regulate the power with which the rollers are pressed together. The strip of paper passes through between these rollers and is drawn along by them as the punching progresses.

An arm, *r*, from the rock-shaft *i* is provided with a sliding pawl, *s*, taking a wheel, *t*, on the shaft of the roller *n*, which wheel is provided with ratchet-teeth. *z* is a guide-stud for the pawl *s*. The size of these ratchet-teeth is such that at every stroke of the punch the sliding pawl *s* will cause the rollers to draw the paper along a little less than the width of the perforating-punch. Thus the working of the lever *k* alone would form an elongated perforation in the strip of paper. This is necessary for the production of the dashes employed in telegraphing for representing a letter or part of a letter or character.

In order to give movement to the rollers *q* and *n* between one perforation and the next, so as to separate such perforations to produce the letter or character, I employ the lever *t'* on the fulcrum 6, which is acted on by the finger, and by means of the pawl *u* acting on the ratchet-wheel *t* moves the rollers.

When producing a space between each group of perforations representing a letter I employ the lever *v*, with an arm, *x'*, and pawl *x*, that takes the teeth of the ratchet-wheel *t;* and in consequence of the amount of movement given to such pawl *x* it will take two teeth each reciprocation, and thus move the paper sufficiently to leave the space for separating groups of perforations representing letters.

It will be apparent that the operator, by working the lever *k* with one hand and the levers *t'* and *v* with the other, can produce single perforations, spaces, or elongated perforations in the strip of paper or other material, so that the same can be used in the usual or any known manner of transmitting electrical pulsations in telegraphing.

The strip of paper may be led beneath a spring, *w*, and between guides at 7 7, thence beneath the punch and through between the

rollers *q* and *n*, and pass away when perforated to any suitable receptacle, and then afterward be employed for transmitting the telegraphic pulsations according to the perforations formed in the strip of paper.

What I claim, and desire to secure by Letters Patent, is—

1. The punch *c*, actuated by the lever *h*, and regulated in its movements by the adjustment of the nuts 2 2 and shackle, substantially as specified.

2. A reciprocating punch, in combination with a pair of rollers for drawing the paper along, and with a ratchet-movement actuated by the reciprocation of the punch, substantially as specified.

3. A spacing lever or levers, combined with a pair of rollers for drawing the paper along, and with a device for perforating the paper, substantially as and for the purposes specified.

In witness whereof I have hereunto set my signature this 15th day of March, A. D. 1865.

L. BRADLEY.

Witnesses:

CHAS. H. SMITH,

JAMES E. SERRELL, Jr.