

(Model.)

2 Sheets—Sheet 1.

L. MILLER.

Machine for Splicing or Connecting Bale Ties.
No. 238,417.

Patented March 1, 1881.

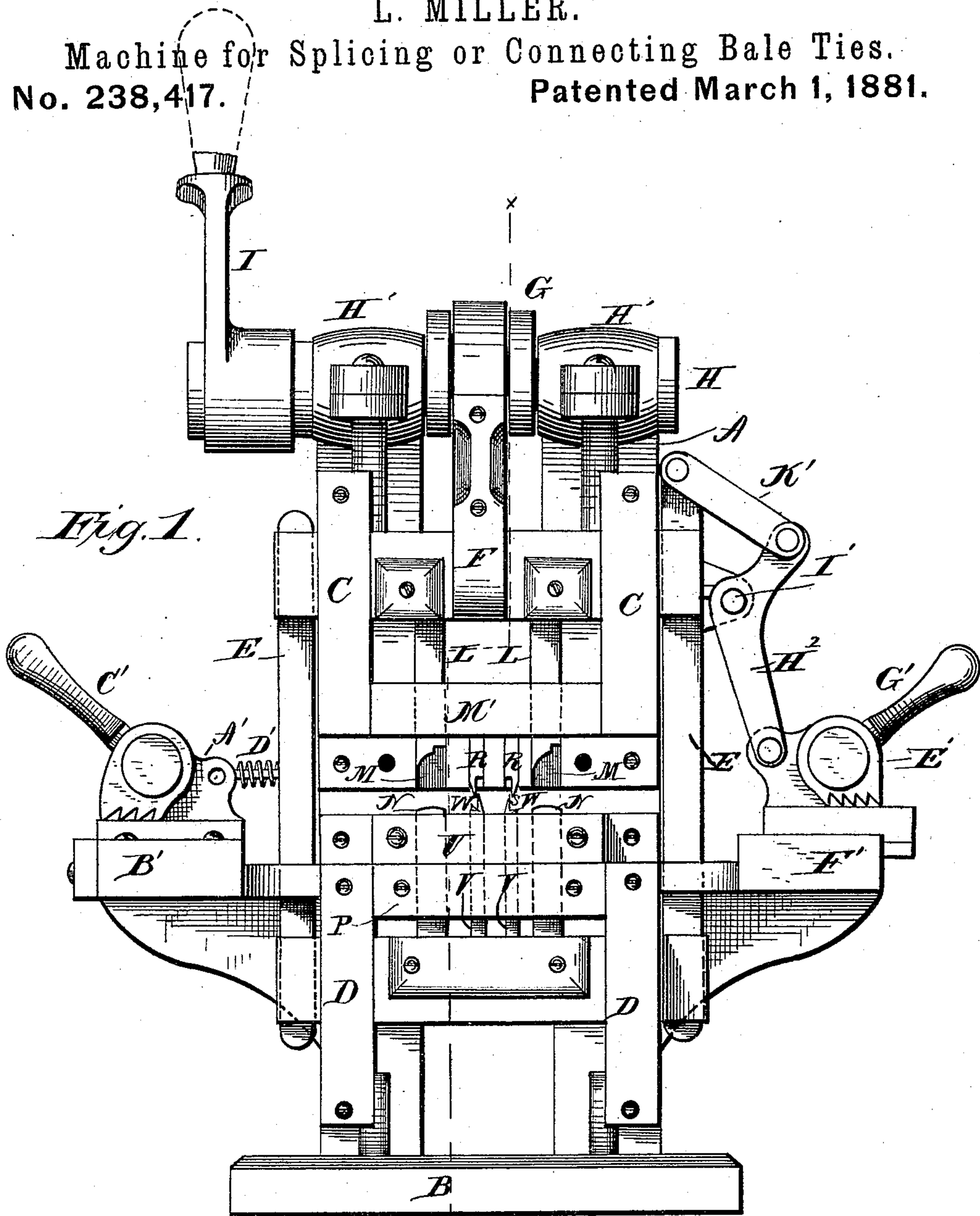


Fig. 1.

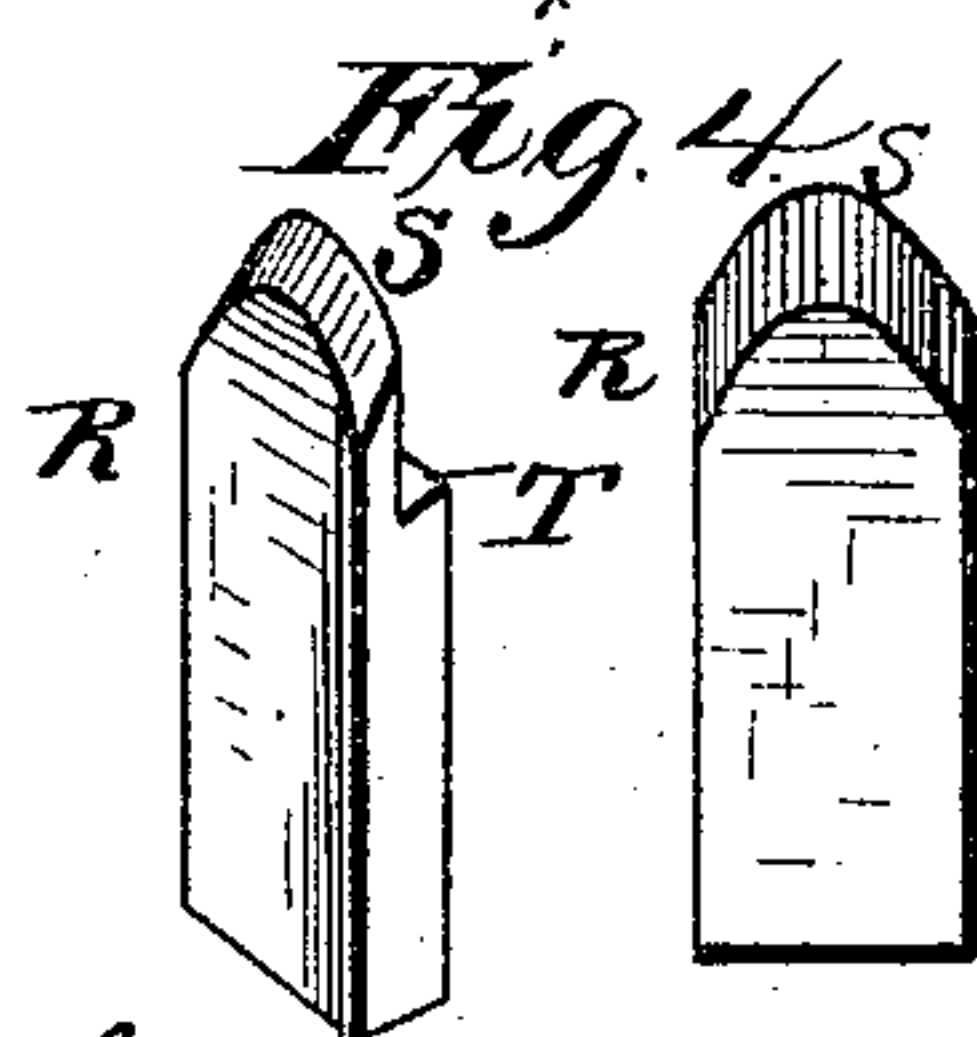


Fig. 4.

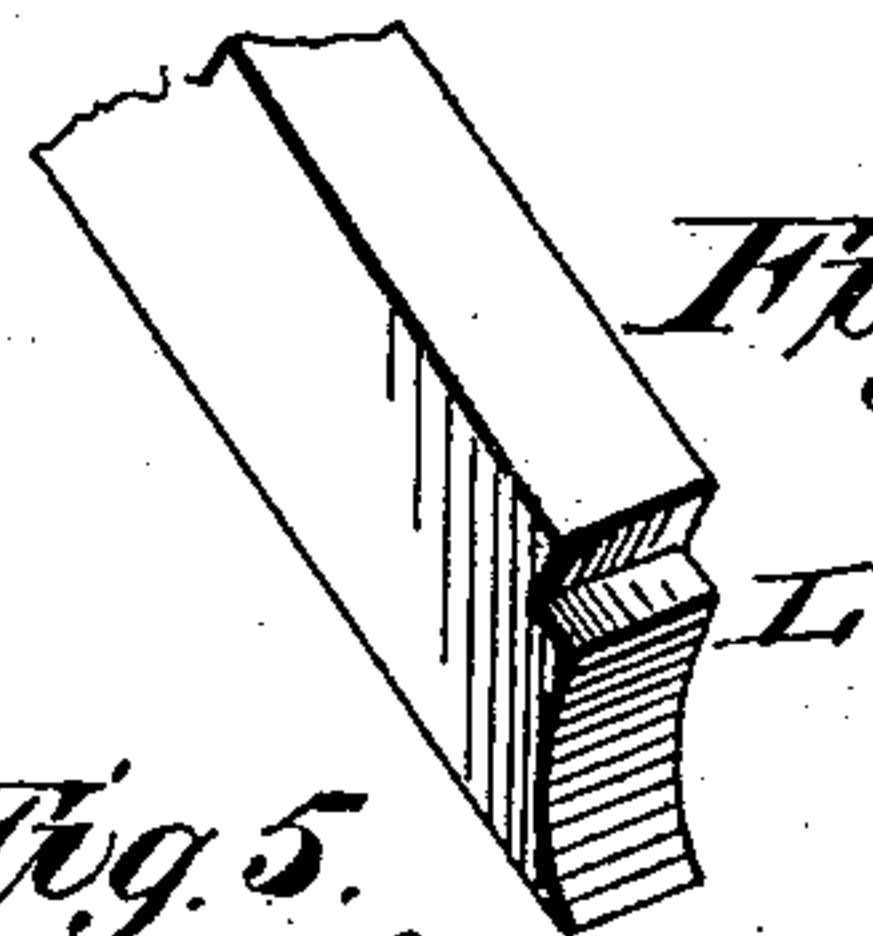


Fig. 3.

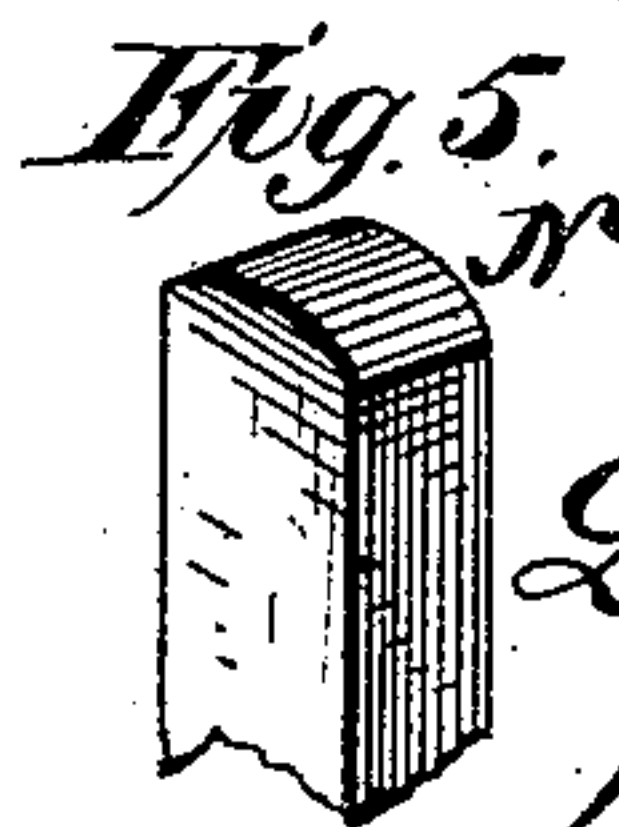


Fig. 5.

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Inventor:
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Alexander D. Mason
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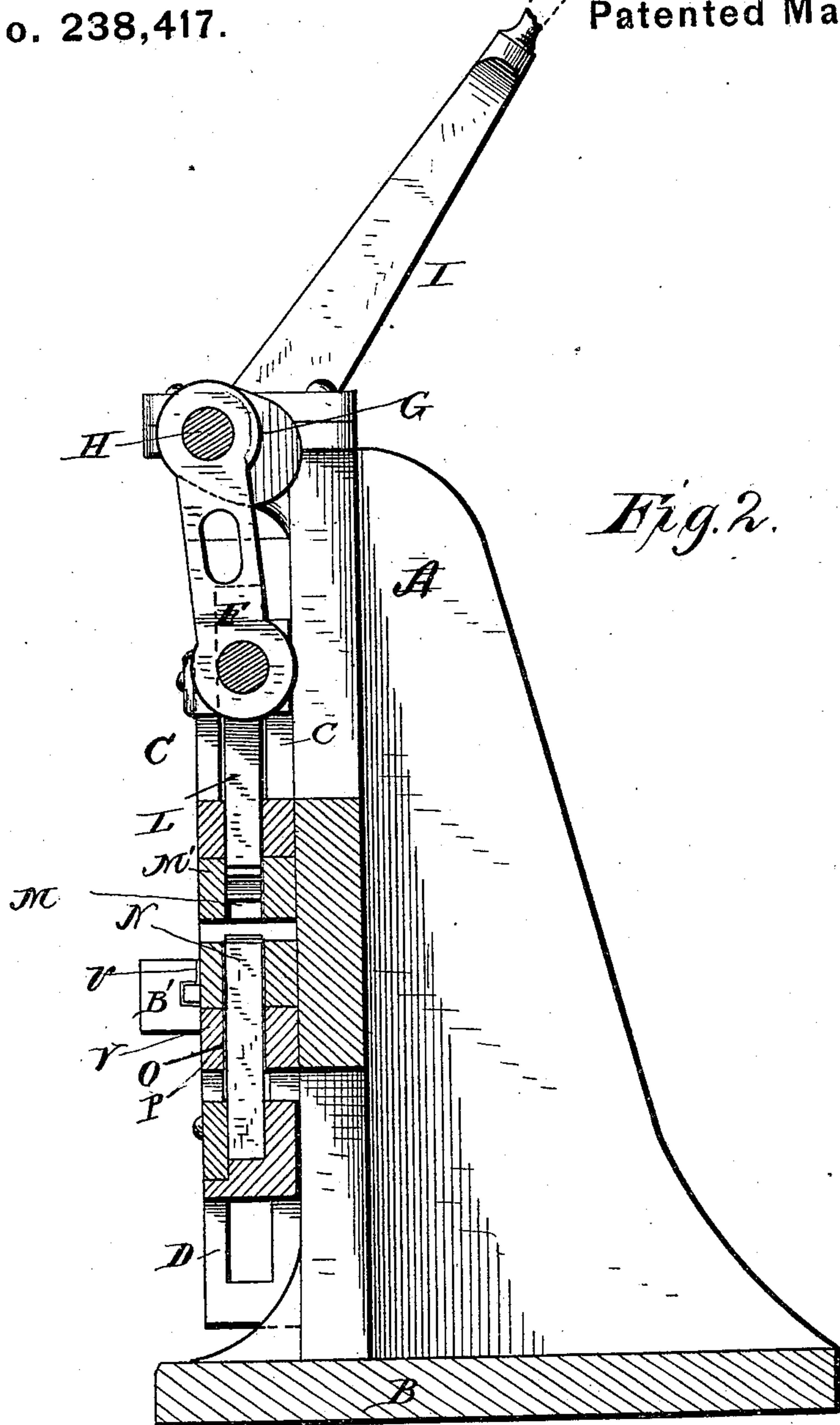


Fig. 2.

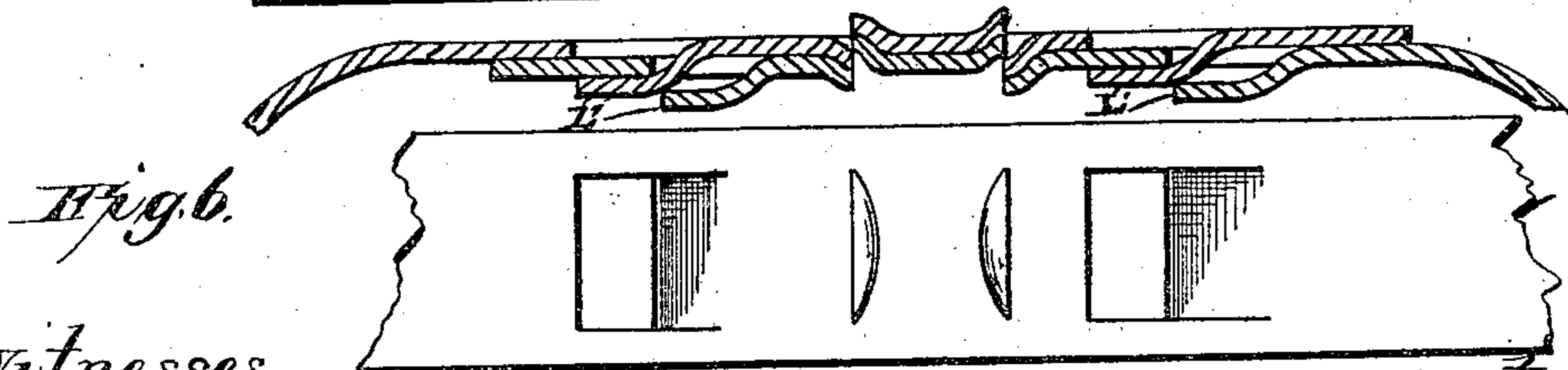


Fig. 6.

Witnesses,
Frank L. Curran
H. Aubrey Toutmin

Inventor,
Louis Miller
By Alexander Mason
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UNITED STATES PATENT OFFICE.

LEWIS MILLER, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR SPLICING OR CONNECTING BALE-TIES.

SPECIFICATION forming part of Letters Patent No. 238,417, dated March 1, 1881.

Application filed November 19, 1880. (Model.)

To all whom it may concern:

Be it known that I, LEWIS MILLER, of Philadelphia, in the county of Philadelphia, and in the State of Pennsylvania, have invented certain new and useful Improvements in Machines for Splicing and Connecting Bale-Ties; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to certain improvements in machines for splicing or connecting cotton and other bale ties; and it has for its objects to provide a machine whereby two or more interlocking lips or tongues may be formed in the ends of the band after they have been properly overlapped, and the ends of the band may be drawn automatically in opposite directions so as to interlock the lips, and whereby an intermediate locking-connection may be formed between the interlocked lips or tongues and the lips or tongues may be swaged together, as more fully hereinafter specified. These objects I attain by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a front elevation of my machine complete; Fig. 2, a vertical sectional view of the same; Fig. 3, a detached perspective view of one of the cutters for forming the interlocking lips; Fig. 4, detached perspective views of the cutters or dies for forming the intermediate interlocking parts of the band; Fig. 5, a detached perspective view of one of the swaging-dies, and Fig. 6 detached views of the bale-band with the ends interlocked or spliced.

The letter A indicates a vertical frame, constructed of metal or other suitable material, and mounted upon a base or support, B. The front of said frame is provided with ways C at its upper part and with guides D at its lower part, in which ways and upon which guides are adapted to reciprocate the upper and lower cross-heads of a sliding frame, E, the upper head of which is connected by a pitman, F, to a crank, G, on a shaft, H, located at the upper part of the frame A, and journaled in boxes or bearings H'. The said

shaft has fastened at one end a hand-lever, I, by means of which it may be operated to reciprocate the frame E. The upper cross-head of the frame E carries two parallel vertical cutters, L, which work through the vertical apertures M in a stationary cross-head, M', secured to the front of the frame A. The lower cross-head of the reciprocating frame E carries two swaging-dies, N, which work through apertures O in a stationary cross-head, P, secured to the face of the frame A just below the cross-head M', the apertures O being in a direct vertical line with the apertures M, so that the swaging-dies, in their upward stroke, will force the lips formed by the cutters together and swage or compress the same, as more fully hereinafter specified.

The upper cross-head, M', of the frame A, on its lower face, between the apertures through which the cutters work, is provided with two stationary dies, R R, which are formed with cutting-edges S S and shoulders T T, for the purpose of forming intermediate locks between the interlocking lips or tongues. Opposite these dies R R, in the cross-head M', are two vertical apertures, U U, in cross-head P, in which are adapted to work the vertical cutters V V, which are secured to the lower cross-head of the frame E, between the swaging-dies thereon. The said cutters V V are formed with cutting-edges and shoulders W W, similarly to the stationary dies R R, and are adapted to work up between said dies, so as to cut the metal of the bands and force the parts upward at the proper time, so as to interlock with each other, as more fully hereinafter specified.

The cutters R S T V, by means of their curved cutting-edges, pierce the metal, and the shoulders serve to swage the metal, so as to form the intermediate locking-connection.

The letter A' indicates a sliding head, mounted in ways B' at one side of the frame A. The said head has its upper face on a line level with the space between the two cross-heads of the frame A. The said head A' is provided with a gripe-lever, C', by which one portion of the band to be spliced is held, the end of said band passing between the cross-heads, as more fully hereinafter specified.

The letter D' indicates a spring, by means

of which a slight yielding motion is permitted to the head A' when the band is drawn upon, as more fully hereinafter set forth.

On the opposite side of the frame A is located, in the same plane with the head A', a similar sliding head, E', which is located in ways F', and is adapted to slide therein. The said head E' is provided with a gripe-lever, G', to seize the band. To the said head E' is connected the lower end of an angle-lever, H², fulcrumed at I' to the frame A. The upper end of said lever H² is connected by means of a link, K', to the upper part of the frame, so as to oscillate and thereby reciprocate the head E' as the frame E is reciprocated vertically.

The operation of my invention is as follows: The ends of the bands to be spliced or connected are overlapped and placed within the space between the two stationary cross-heads on the frame A, the two portions being secured to the respective heads by means of the gripe-levers thereon. Upon reciprocating the frame E so as to bring down the upper cutters the same will pass through the overlapped ends of the bands forming the lips L'. Upon reversing the motion of the frame E the head E' will draw upon the portion of the bale-band which it holds, so as to interlock the lips L' on the overlapped ends, and directly after the lower cutters will pass through the band at a point between the two series of lips, cutting the metal and forcing the parts together, so as to interlock them. The dies N at the same time are forced upward against the lips, swaging or compressing them securely together.

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

1. In combination with the reciprocating frame carrying the cutters and the stationary cross-heads, the heads at each side of the frame provided with gripe-levers to seize the band, one of said heads being connected with the sliding frame by means of an angle-lever and link, whereby the said head may be reciprocated to draw the band and interlock the lips or tongues, substantially as specified.

2. In combination with the sliding frame and the upper and lower stationary cross-heads, the stationary dies secured to the upper stationary cross-head and the corresponding cutting-dies secured to the lower cross-head, and adapted to operate in conjunction to form an intermediate locking-connection between the two sets of interlocking lips or tongues, substantially as specified.

3. In combination with the cutters for forming the interlocking lips and the upper and lower stationary cross-heads, the swaging-dies secured to the lower cross-head of the sliding frame, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of October, 1880.

LEWIS MILLER.

Witnesses:

H. AUBREY TOULMIN,
C. A. NEALE.