

J. G. Frick.

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Loom.

PATENTED AUG 1 1871

Fig. 1.

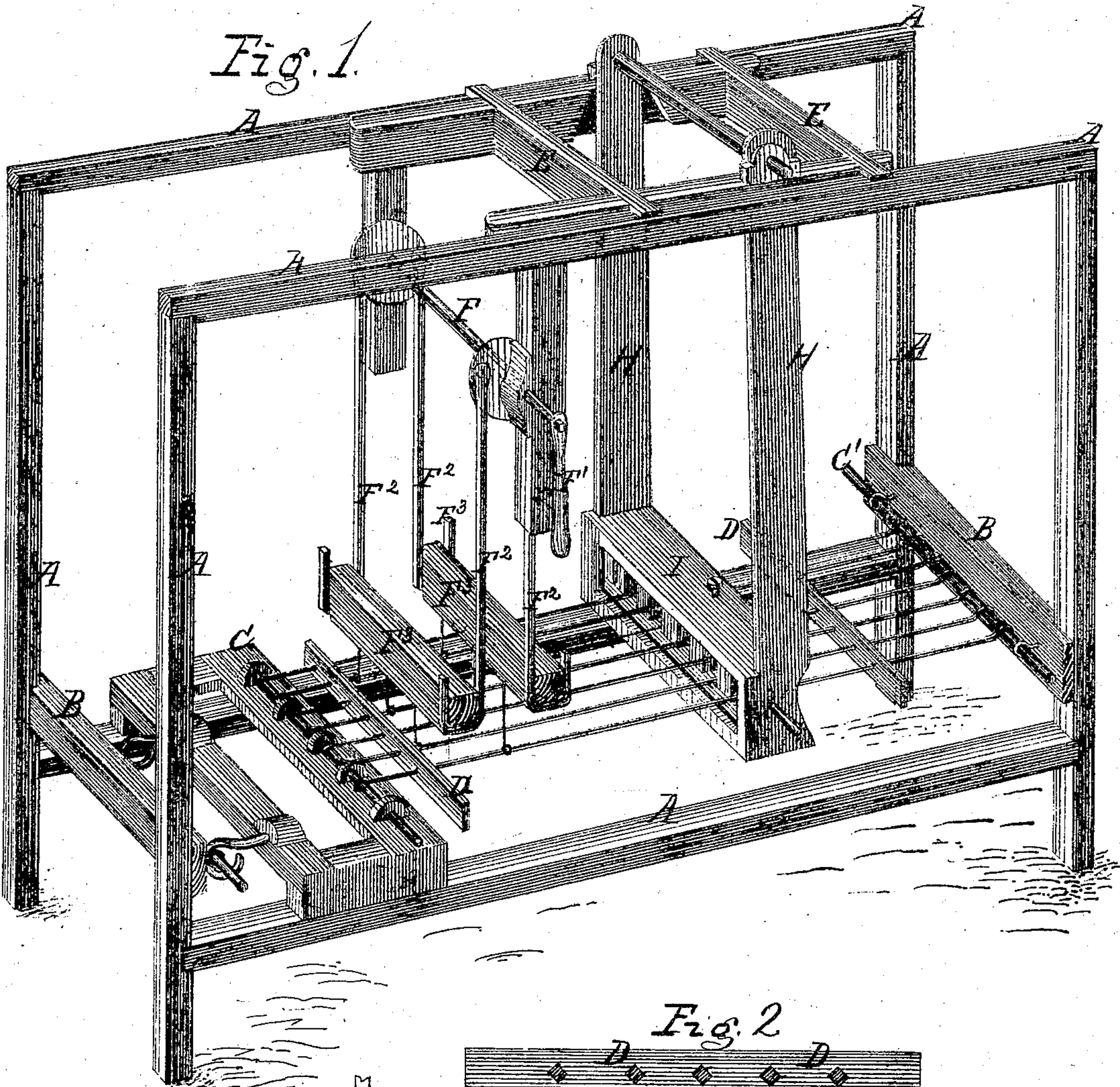


Fig. 2.



Fig. 4.

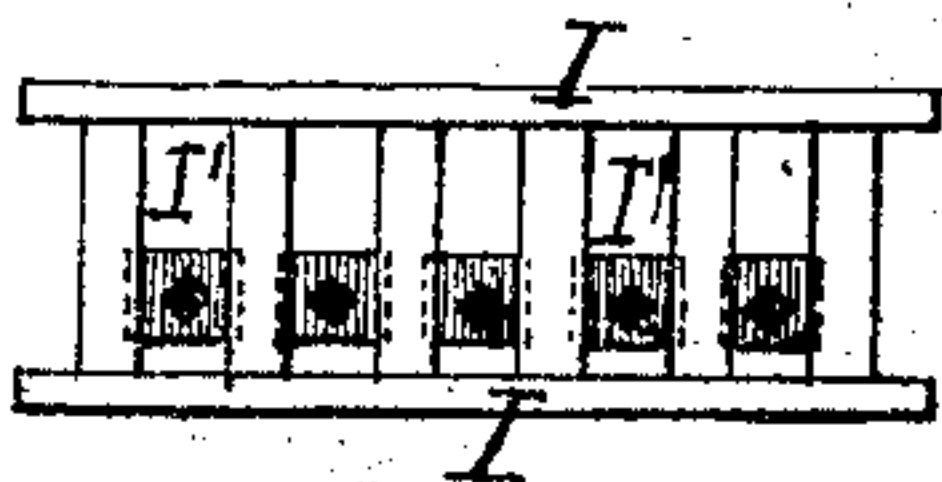
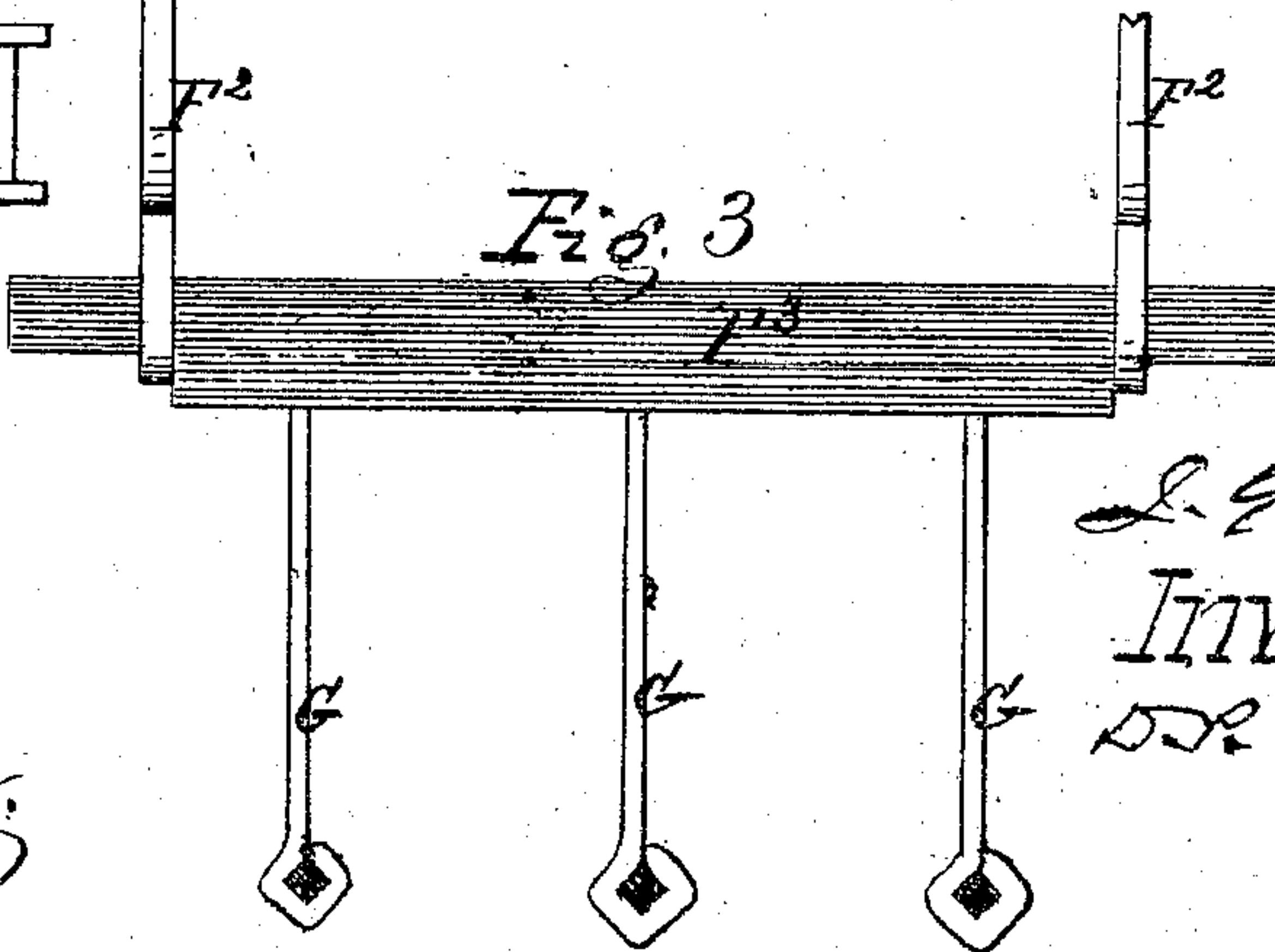


Fig. 3.



Attest

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN LOOMS.

Specification forming part of Letters Patent No. 117,616, dated August 1, 1871.

*To all whom it may concern:*

Be it known that I, JACOB G. FRICK, of Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented certain Improvements in Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 is a perspective view of my improved loom, showing the lathe which carries the reed, the device for crimping the wire, the warp of the web in position, and the rods and frame which hold the same. Fig. 2 is a side view of one of the bars which is used upon the rods constituting the warp for regulating the distance between such wires and for keeping them in position. Fig. 3 is an end elevation of one of the crimping-bars and its rods. Fig. 4 is an elevation of the reed and the dies which hold the wires in position, the position of the reed within the box being shown.

Corresponding letters refer to corresponding parts in the several figures.

This invention is designed as an improvement upon that class of looms which is used in weaving wire-cloth for use in screening coal and other substances; and it consists in the means employed for holding the warp in position while the cloth is being woven, and in the combination and arrangement of some of the parts of which the loom is composed, as will be more fully set forth hereinafter.

A A in the drawing refer to the frame-work of the loom, which may be of any desired form and dimensions, the only requirement being that it should be such as to adapt it to receive the other parts and hold them in position. B B refer to cross-beams which are secured to the posts of the frame and are provided with eyebolts to which to fasten the rods which hold the ends of the warp. C refers to a frame, the rear cross-beam of which is provided with eyebolts through which a rod, C', passes and connects it to the bolts in the bar B. The front bar of this frame is provided with projections upon its upper surface through which a rod passes, and to which the ends of the wires constituting the warp are secured. The object of the above-described arrangement of the frame C is to permit it to rise and fall as the lathe is swung back and forth to carry the wires which are used as the filling of the web to their places, and to enable the oper-

ator to tighten the warp, nuts being placed upon the inner ends of the eyebolts for that purpose. D D refer to plates of metal, which are of sufficient length to reach across the web, and are provided with holes at intervals, such as will keep the wires of the warp at the required distance from each other, while they, at the same time, serve the purpose of aiding to keep the wires in position. E E refer to a frame-work, which is made to slide upon the upper portion of the frame A, it being provided with hangers near one of its ends for supporting the shaft F, soon to be described. This frame is so arranged that it will slide the whole length of the frame A, so that the crimping device which it carries, and the lathe which is also attached to it, may be moved forward as the length of the web increases. F refers to a shaft, which has its bearings in the hangers which depend from the frame E. Upon this shaft are screwed two flanges or disks; they being placed in this instance just within the hangers, while upon one or both of its ends there is placed a crank or lever for the purpose of partially rotating it. To each of the disks above referred to there are attached two rods, F<sup>2</sup> F<sup>2</sup>, which extend downward for the required distance, their lower ends being bent to receive and carry the levers F<sup>3</sup> F<sup>3</sup>, from the lower sides of which rods G extend downward for a distance sufficient to enable their lower ends to receive the wires of the warp. The above-described arrangement of parts is clearly shown in Fig. 1 of the drawing, and its object is to provide the means for crimping the wires constituting the warp while they are in the loom, and when the finer kinds of cloth are being woven, and, consequently, when the wires are comparatively small, it being readily effected by turning the shaft F through a portion of a revolution, which will have the effect to carry down one of the levers F<sup>3</sup> with its rods G, and, at the same time, and by the same movement, to carry up the other, which will give the required crimp or bend to the wires. H refers to the lathe of the loom, which is hinged or pivoted to the sliding frame E and extends downward so as to carry in its lower portion I a reed, which consists of a frame-work of metal, in which are formed as many vertical grooves or slots as there are to be rods in the warp of the web to be woven. In each of these slots or grooves there are fitted dies or plates of metal, I', which have an aperture through



them of the form and size of the wire to be woven. These dies or plates are so placed that one of the corners of the square wire will be held upward and another downward; or, in other words, so that the two upper surfaces of the aperture shall form an acute angle to a line drawn through the center of the same.

It will be seen that, as a consequence of the arrangement of the dies in the reed, all of the wires will be held in the desired position, there being no possibility of them being turned into a wrong position in any part of the web.

The general features of this loom are not regarded or claimed as novel, but such parts as are set forth and particularized hereafter are believed to be novel and of great utility.

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

1. The plates D provided with apertures, as

shown, and adapted to retain the warp wires, substantially as and for the purpose set forth.

2. The combination, in a loom for weaving wire-cloth, of a lathe and a reed having in it plates or dies in which are formed apertures adapted for the reception of square wires, said apertures being so arranged as to cause the wires to be held in such a position that one of the corners shall be upon the top thereof and one upon the bottom, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB G. FRICK.

Witnesses:

JNO. P. MCGINNES,  
A. J. DERR.