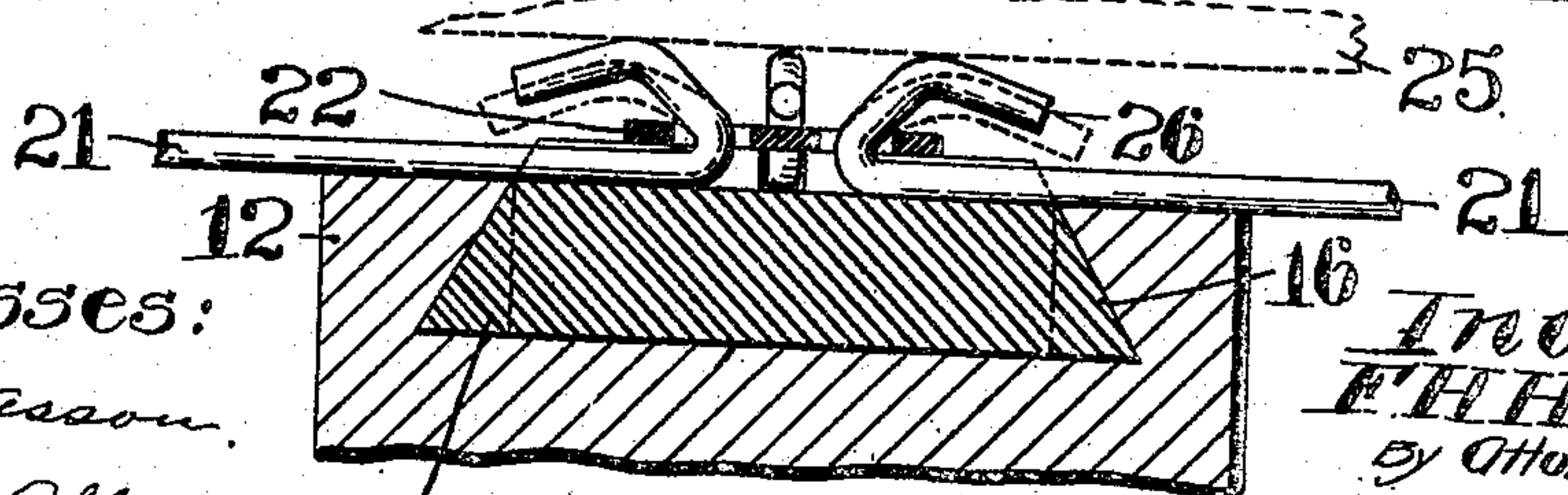
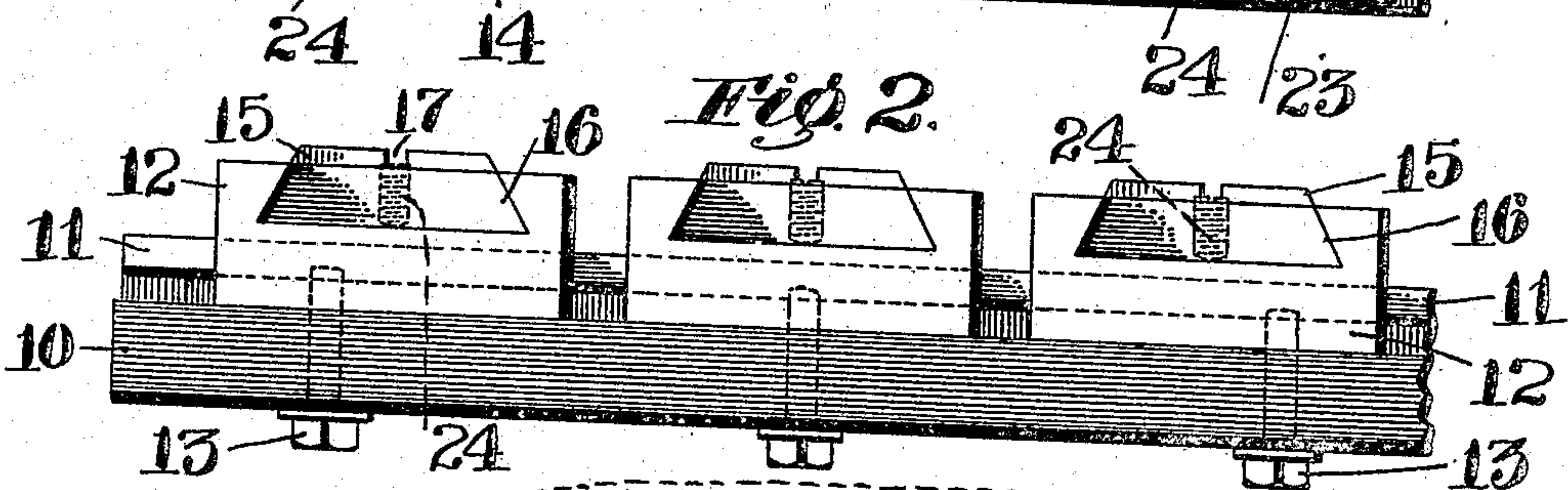
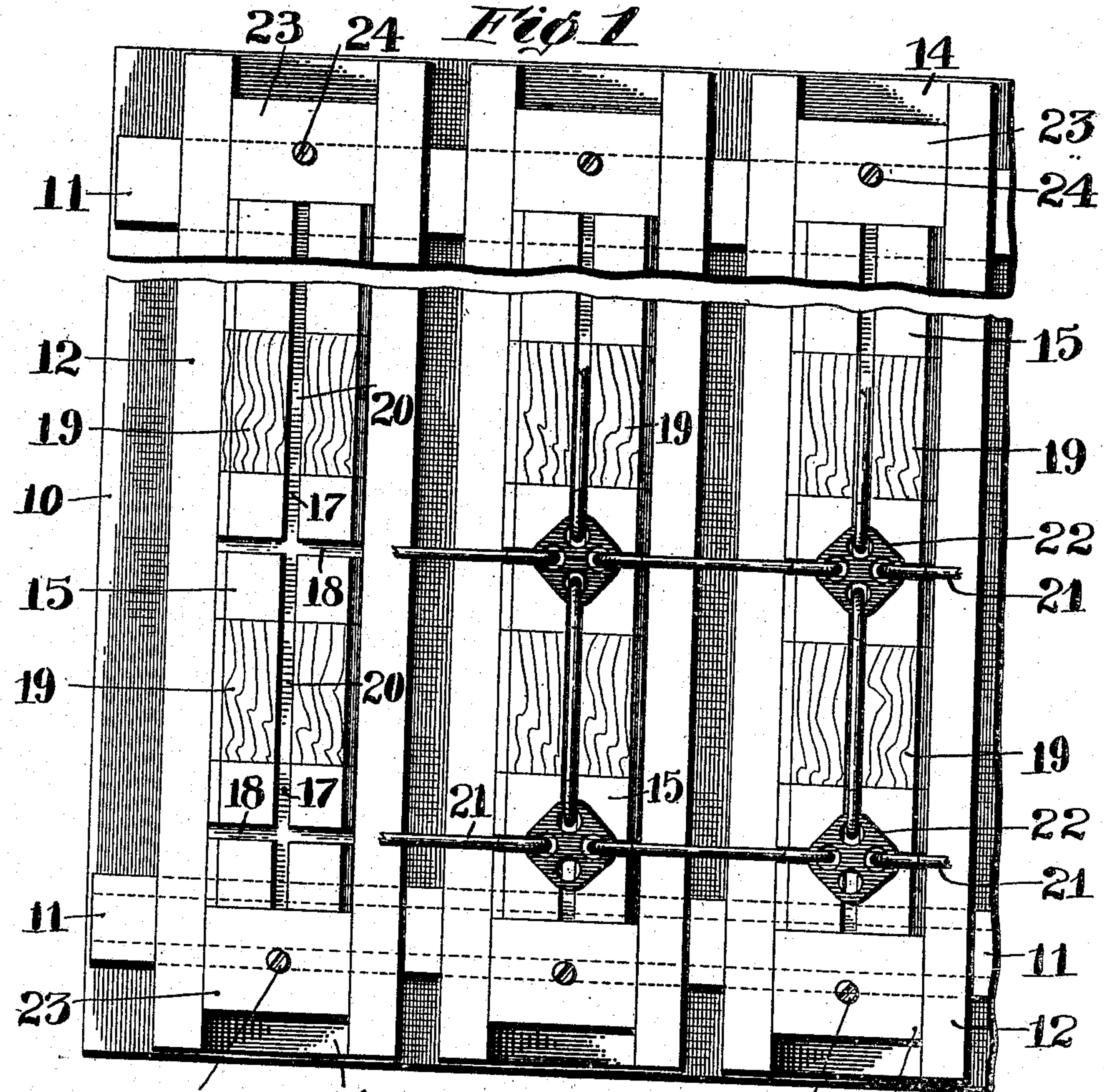


F. H. HAMBLIN.
 DEVICE FOR MAKING WIRE FABRICS.
 APPLICATION FILED APR. 6, 1908.

936,625.

Patented Oct. 12, 1909.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR MAKING WIRE FABRICS.

936,625.

Specification of Letters Patent.

Patented Oct. 12, 1909.

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To all whom it may concern:

Be it known that I, FRANK H. HAMBLIN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Device for Making Wire Fabrics, of which the following is a specification.

This invention relates to a device for wire working purposes and while capable of general use, it is especially designed for the purpose of making wire bed fabrics and similar structures. Ordinarily, a certain type of wire bed fabrics are made by placing short pieces of wire having bends in their ends in position with each of said bends extending through one of the four eyes or perforations of the square connecting pieces with which the fabric is supplied. These bent ends of the wires are then bent over.

The invention also involves means whereby fabrics may be made in which the length of the wire varies both longitudinally and transversely with respect to the fabric and means for bending down a plurality of hook-shaped ends of the wire at one operation. It also involves the provision of a series of die-holders each transversely adjustable and adapted to be fixed in adjusted positions and each carrying a series of dies for receiving said wires, said dies being longitudinally adjustable in the die-holders and having spacing blocks between them which are readily removable so that spacing blocks of other lengths may be inserted when the mesh of the fabric is to be varied, these dies also being capable of being secured in adjusted positions.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing which shows one form in which the invention may be carried out, and in which,

Figure 1 is a plan thereof. Fig. 2 is an end elevation, and Fig. 3 is a sectional view of a portion of the device on an enlarged scale.

The device is shown as mounted on a bed 10 which ordinarily is of considerable extent and is provided with one or more guides or ways 11, on which fit a plurality of die-holders 12. In the form shown there are two of these guides, one near each end, each of a T-shape and the die-holders are provided with correspondingly shaped and located

grooves at their opposite ends which receive the guides and along which the die-holders are adapted to slide transversely. The die-holders are fixed in their adjusted positions in any convenient way, as for example, by screws or bolts 13 screwed into the base plate from below. Each of the die-holders is also provided with a guide shown in the drawings in the form of a dove-tailed groove 14. This groove in each die-holder receives a plurality of dies 15 which are provided with means for engaging the guide or dove-tailed groove 14 of a shape similar thereto so that the dies may be slid along or adjusted longitudinally in the die-holder. This means is shown in the form of projections 16 on each die.

By having the dies fit the guide, it will be seen that if either the edge of the die or the guide overhangs the other, the dies cannot be lifted directly upwardly but can be adjusted along the die-holder so as to place them at any desired distance apart. These dies it will be observed are provided with longitudinal grooves 17 and with transverse grooves 18.

Between the dies are located spacing blocks 19 having longitudinal grooves 20 registering with the grooves 17 and loosely fitting the guides of the die-holders but not provided with projections similar to the projections 16 of the dies. On account of this construction, the spacing blocks may be lifted vertically from the die-holders while the dies are movable longitudinally therein only. This provides a convenient way in which the dies may be adjusted and the spacing blocks removed and replaced by others either longer or shorter in accordance with the particular adjustment which it is desired to make.

It will be seen that the bottoms of the grooves 17, 18 and 20 are all in the same plane and are located not lower than the tops of the die-holders as indicated. Consequently, the unformed fabric can be placed in position on a device made up of a plurality of die holders each carrying a series of dies, as is clearly indicated in the drawings.

Another advantage of the invention when applied to the manufacture of bed fabrics, is that after the die-holders and dies are properly adjusted, part of the wires 21 may be placed in position and the connecting pieces 22 placed on them in a very simple

way as the dies hold the wires up in proper position for receiving the connecting pieces. After the dies and spacing blocks are properly adjusted, they are secured in adjusted position preferably by means of a pair of fastening blocks 23 at each end of each die-holder. These fastening blocks are of a shape similar to that of the dies but do not project as high and they are provided with fastening screws 24 for holding them in position. Then when all is ready a flat plate 25 is brought down by any desired means on the tops of the hook-shaped bends 26 of the wires 21 which are used to form the fabric. This plate bends the wires down into the position shown in dotted lines in Fig. 3 and securely locks them to the connecting pieces 22. Preferably this flat plate extends across the whole series of die-holders and covers two of the dies in each die-holder so that in operation the plate or bending device is brought down once to bend the wires held by two series of dies across the device and then the latter is fed forward or the plate is fed in the other direction a certain distance. Then the operation is repeated and the fabric is made in a very short time, as will be clearly understood.

While I have illustrated and described a preferred form of the invention, I am aware that many modifications may be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to the particular details and constructions shown, but

What I do claim is:—

1. In a press for making link fabrics, the combination with a series of die holders arranged side by side and laterally adjustable, and a series of dies longitudinally adjustable on each die-holder and having slots in their upper faces at right angles to each other with their bottoms all in the same plane to receive wire links, of a flat press head adapted to press the links in said slots.

2. In a press for making link fabrics, the combination with a plurality of parallel guides, a plurality of die-holders arranged to slide on said guides in a direction transverse to the length of the die-holders, and a plurality of dies mounted on said die-holders and having slots in their upper faces at right angles to each other to receive wire links, each of said dies being movable in a direction transverse to that in which the die-holders are adjustable, of a flat press head adapted to press the links in said slots.

3. In a device of the character described, the combination of a series of die-holders arranged side by side and laterally adjustable, a series of dies longitudinally adjustable on each die-holder, and spacing blocks removably mounted between said dies.

4. In a device of the character described,

the combination of a series of die-holders arranged side by side and laterally adjustable, a series of dies longitudinally adjustable on each die-holder, said die-holders having ways in which said dies are mounted to slide, and spacing blocks between said dies mounted in said ways and removable from between the dies when the dies are in position.

5. In a device of the character described, the combination of a series of die-holders arranged side by side and laterally adjustable, a series of dies longitudinally adjustable on each die-holder, said die-holders having ways in which said dies are mounted to slide, spacing blocks between said dies mounted in said ways and removable from between the dies when the dies are in position, each die having transverse grooves therein and each spacing block having a groove arranged longitudinally of the die-holder and registering with one of the grooves in each adjacent die.

6. In a device of the character described, the combination of a series of die-holders arranged side by side and laterally adjustable, a series of dies longitudinally adjustable on each die-holder, said die-holders having ways in which said dies are mounted to slide, spacing blocks between said dies mounted in said ways and removable from between the dies when the dies are in position, and blocks at both ends of each series of dies adapted to be fastened in position to hold the dies and spacing blocks in position.

7. In a device for making spring bed fabrics and the like, the combination of a series of laterally movable die-holders, means for fixing said die-holders in adjusted positions, each die-holder having a longitudinal dove-tailed groove, a series of dies fitting the groove in each die-holder, and adjustable therealong and removable only at the ends of said dove-tailed grooves, a series of spacing blocks removable upwardly from a position between the dies, said spacing blocks having grooves arranged longitudinally of the die-holders and said dies having crossing grooves, one of which registers with the grooves in the spacing blocks.

8. In a device for making spring bed fabrics and the like, the combination of a series of laterally movable die-holders, means for fixing said die-holders in adjusted positions, each die-holder having a longitudinal dove-tailed groove, a series of dies fitting the groove in each die-holder and adjustable therealong and removable only at the ends of said dove-tailed grooves, a series of spacing blocks removable upwardly from a position between the dies, said spacing blocks having grooves arranged longitudinally of the die-holders and said dies having crossing grooves, one of which registers with

the grooves in the spacing blocks, and means at the ends of the series of dies in each die-holder for fixing them in position thereon.

9. In a device for making spring-bed fabrics and the like, the combination of a die-holder having a longitudinal dove-tailed groove, a series of dies fitting the groove in the die-holder and adjustable therealong and removable only at the ends of said dove-tailed groove, a series of spacing blocks removable upwardly from a position between the dies, said spacing blocks having grooves arranged longitudinally of the die-holders and said dies having crossing grooves, one of which registers with the grooves in the spacing blocks, and means at the ends of the series of dies in each die-holder for fixing them in position thereon.

10. In a device for making spring-bed fabrics and the like, the combination of a die-holder having a longitudinal dove-tailed groove, a series of dies fitting the groove in the die-holder, and adjustable therealong and removable only at the ends of said dove-tailed groove, and a series of spacing blocks removable upwardly from a position between the dies.

11. In a device for making spring-bed fabrics and the like, the combination of a die-holder having a longitudinal dove-tailed groove, a series of dies fitting the groove in the die-holder, and adjustable therealong and removable only at the ends of said dove-tailed groove, a series of spacing blocks removable upwardly from a position between the dies, said spacing blocks having grooves arranged longitudinally of the die-holders and said dies having crossing grooves, one of which registers with the grooves in the spacing blocks.

12. In a device of the character described, the combination of a die-holder, a series of dies longitudinally adjustable on the die-holder, said die-holder having a way in which said dies are mounted to slide, spacing blocks between said dies mounted in said way, and blocks at both ends of the series of dies adapted to be fastened in position to hold the dies and spacing blocks in position.

13. In a device of the character described,

the combination of a die-holder, a series of dies longitudinally adjustable on the die-holder, and spacing blocks removably mounted between said dies.

14. In a device for making spring-bed fabrics and the like, the combination of a series of laterally adjustable die-holders, a plurality of dies adjustably mounted in each die-holder, each die having crossing grooves in alinement with each other longitudinally of the die holders for holding a plurality of wires which are to be bent to form a portion of the bed fabric, means for fixing said die-holders and dies in adjusted positions, and a flat plate extending across the series of die-holders and adapted to cover certain of said dies for bending the wires to fasten them in the fabric.

15. In a device for making spring-bed fabrics and the like, the combination of a series of longitudinally and laterally adjustable dies each having means for holding the ends of four wires in the same plane, means for holding said dies in adjusted positions, and a flat plate adapted to press down upon the top of said dies.

16. In a device for forming bed fabrics and the like, the combination of a plurality of parallel series of dies, each series being adjustable laterally and each die being adjustable longitudinally in the series, and removable spacing blocks between the dies in each series.

17. A device for forming bed fabrics and the like, comprising a plurality of series of dies, each series of dies being adjustable as a whole and each die being adjustable individually, each die having longitudinal and transverse grooves in the top surface thereof for holding the ends of four wires, the longitudinal grooves being in alinement in all positions of the dies.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

FRANK H. HAMBLIN.

Witnesses:

ALBERT E. FAY,
C. FORREST WESSON.