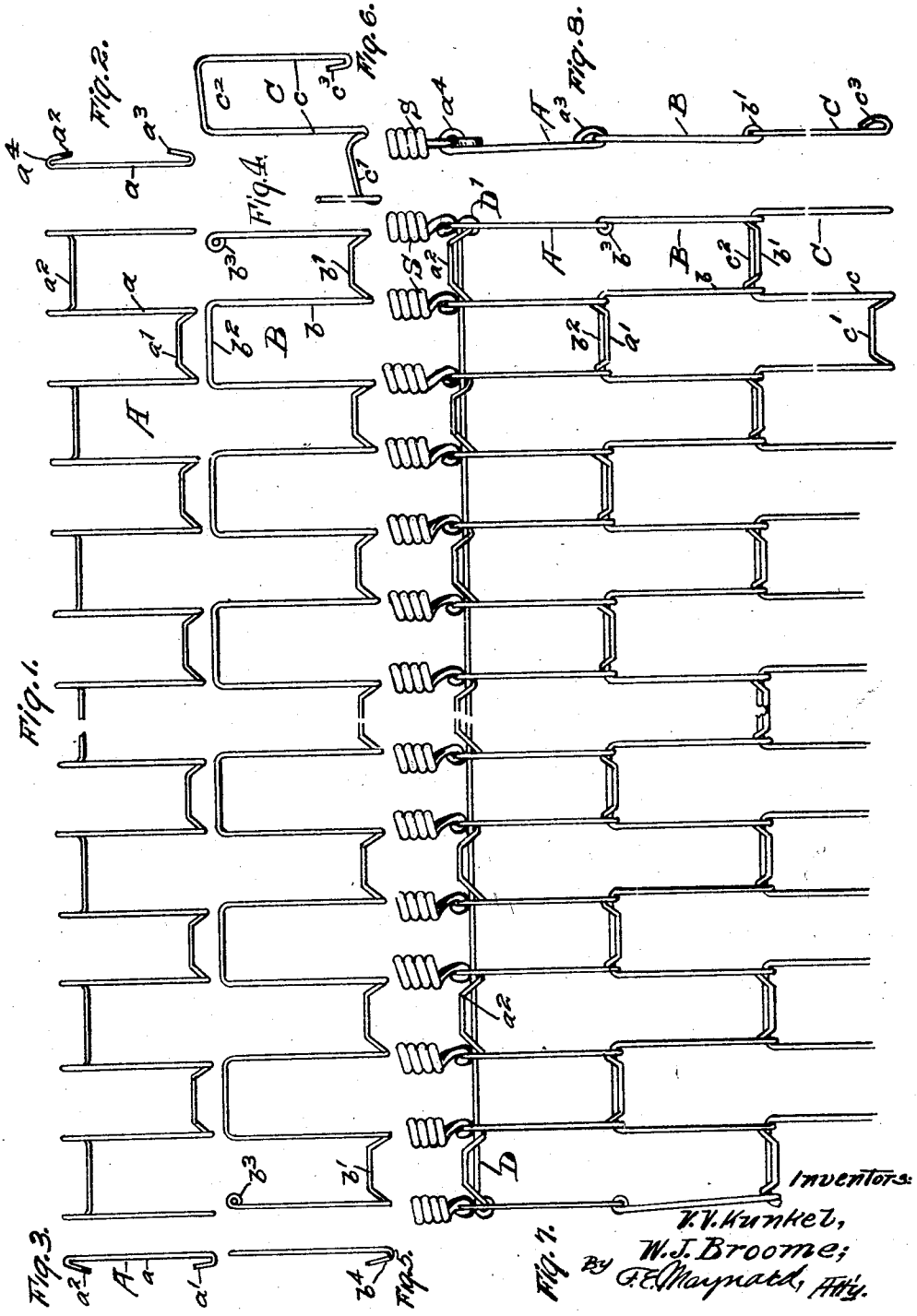
Nov. 23, 1926. 1,608,068

V. V. KUNKEL ET AL

MEANS FOR MAKING BEDSPRINGS

Filed June 20, 1925 4 Sheets-Sheet 1




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Filed June 20, 1925 4 Sheets-Sheet 2

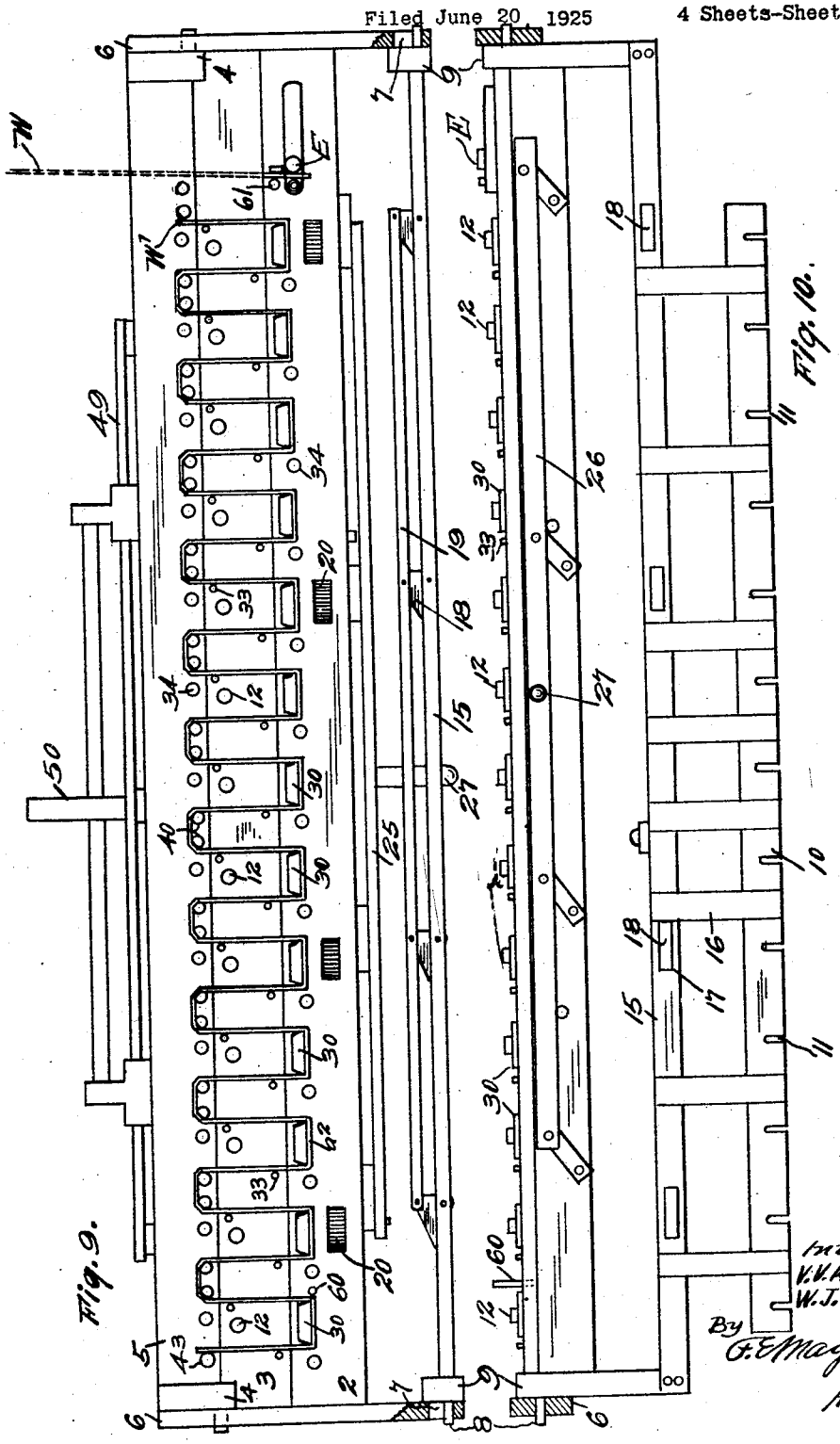


Fig. 9.

Fig. 10.

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MEANS FOR MAKING BEDSPRINGS

Filed June 20, 1925 4 Sheets-Sheet 3

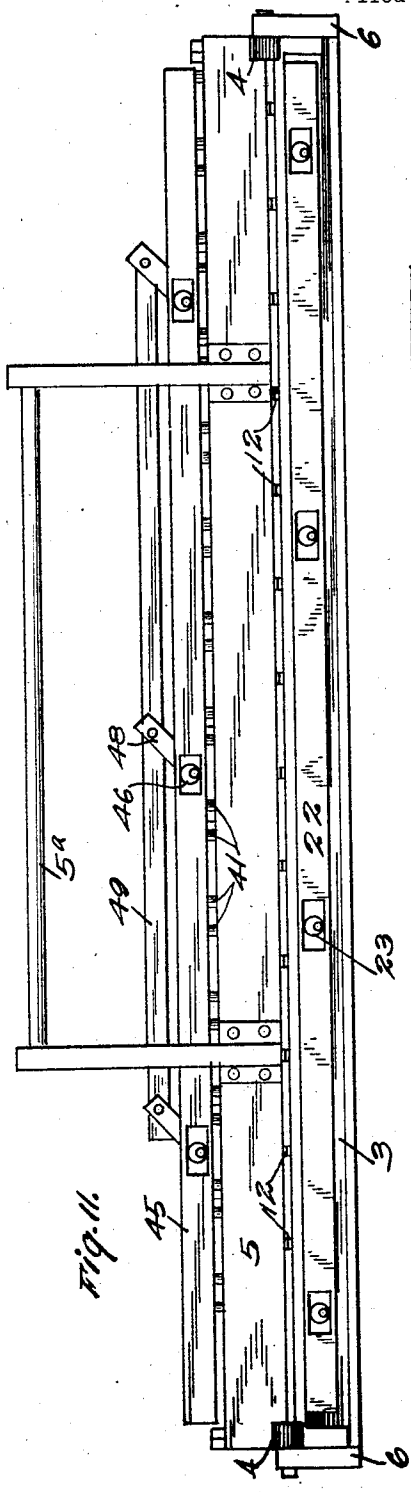


Fig. 11.

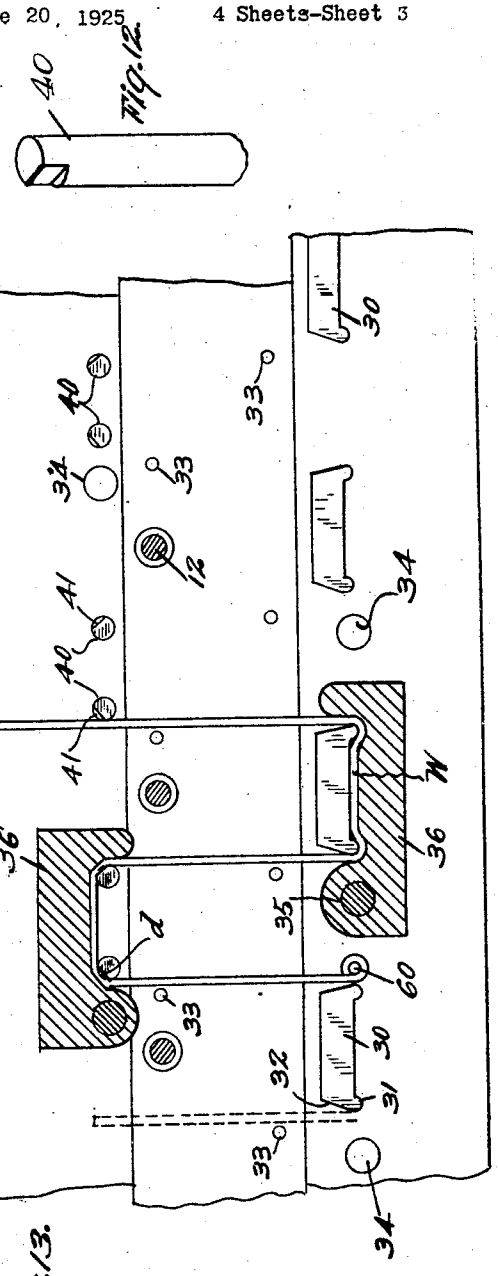


Fig. 13.

Fig. 12.



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MEANS FOR MAKING BEDSPRINGS

Filed June 20, 1925 4 Sheets-Sheet 4

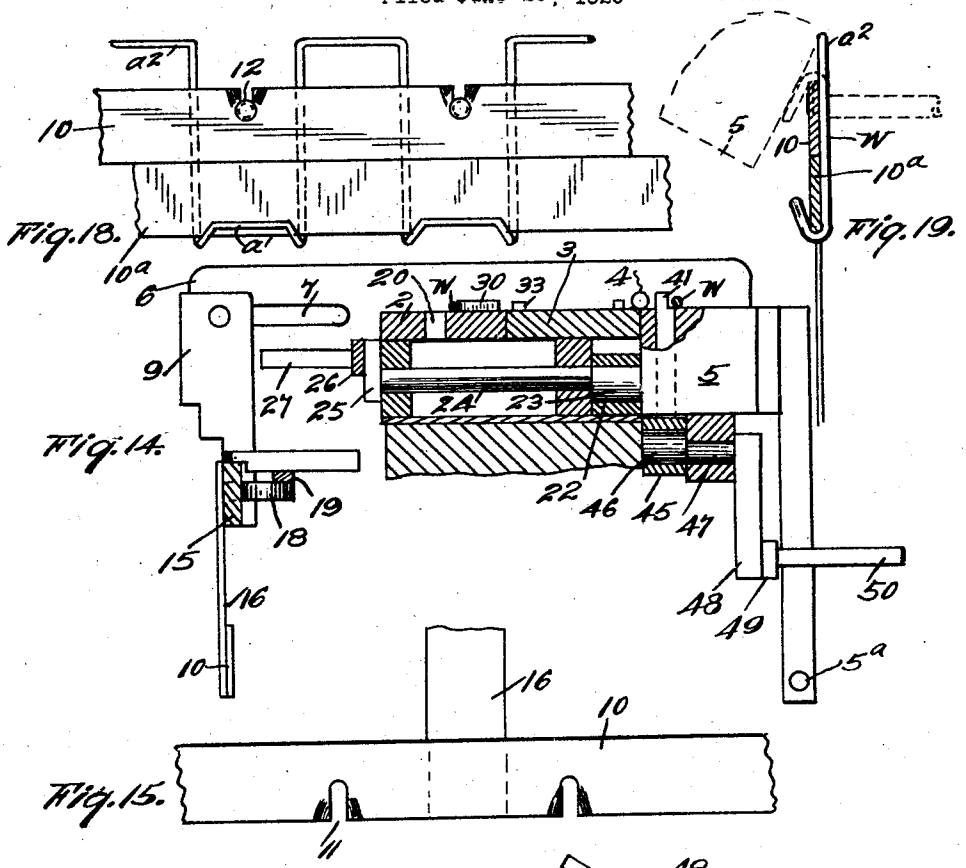



Fig. 18.

Fig. 19.

Fig. 14.




Fig. 15.

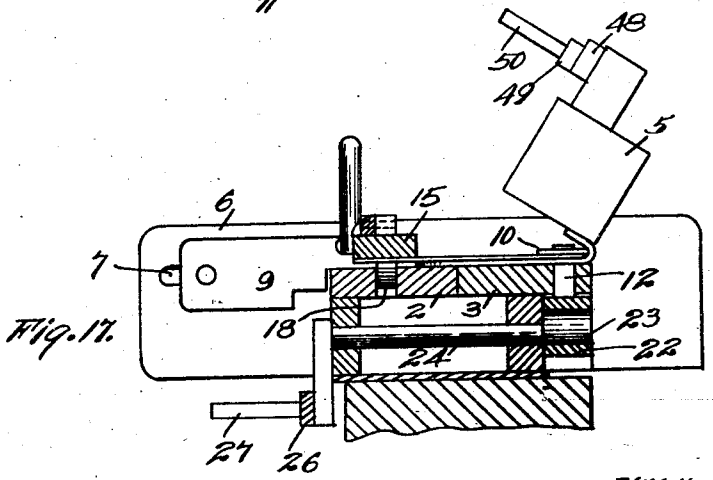



Fig. 17.

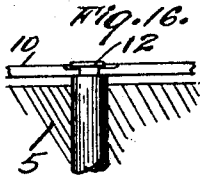



Fig. 16.

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Patented Nov. 23, 1926.

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# UNITED STATES PATENT OFFICE.

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## MEANS FOR MAKING BEDSPRINGS.

Application filed June 20, 1925. Serial No. 38,490.

This invention relates to bed springs and more particularly to a system including a method and apparatus for manufacturing an improved mattress supporting fabric and spring device.

An object is to provide a method of and for fabricating a wire fabric which will result in a very strong and inelastic fabric. An object is to provide a method and means for the facile manufacture of the improved fabric with a minimum of labor, time and material.

An object is to provide a method for interhooking meeting bights in a clinch having an overlocking bend to obtain a non-unwrapping interlock of the ends of the bights.

An object is to provide for the ready production of a series of fabric units and to provide for the easy interconnection of the requisite units and their respective permanent interhooking.

The method and apparatus of the present invention are designed to produce, first a double hooked end selvage unit; second, an intermediate or second unit to connect with the selvage unit; and third, a central fabric unit which differs but slightly from the second unit. The method and means of the present invention further provide for the interhooking of the several units, each transversely extending from side to side of the spring fabric; bights of each unit being combined with coordinate bights of the next unit.

Other objects and advantages of the present invention will be made manifest in the following specification of an embodiment of the invention, it being understood that modifications and variations may be resorted to within the scope and spirit of the invention as it is here claimed.

Figure 1 is a plan of the first or end selvage unit, and Figures 2 and 3 are end views thereof. Figure 4 is a plan of the second or intermediate unit, and Figure 5 is an end view thereof. Figure 6 is a perspective of a portion of the third type or central unit. Figure 7 is a plan of a portion of one end of the fabric showing attached springs. Figure 8 is an edge view of the first, second and third types of units connected up in the fabric.

Figure 9 is a plan showing one step in the system of making a unit; apparatus therefor being in open position and shown in plan preparatory to over folding selvage hooks. Figure 10 is a left hand front elevation, showing the suspended bend-fulcrum strip. Figure 11 is a right hand elevation showing the folding bar over turned to fold the bars. Figure 13 is a plan (about ½ size) showing bight bending operations; bow and bight tools being in horizontal section.

Figure 14 is a vertical cross-section, showing the anvil posts projected. Figure 15 is a plan of a portion of the fulcrum strip and Figure 16 is an edge view showing the strip locked by a locking bolt. Figure 17 shows the strip locked and the folding bar turned over to bend the bow. Figures 18 and 19 show means for making the second or bar-end fold.

The fabric comprises an end selvage member or unit A, an intermediate unit B connected to the selvage A, and a body unit C, all made of the same size wire.

As shown in Fig. 1 the unit A has parallel limbs $a$ which are alternately connected by "bows" $a^1$ and cross-bars $a^2$. The endmost limbs $a$ are provided with back hooks $a^3$ perpendicular to the plane of the series of limbs $a$. The bows $a^1$ are all folded over so as to form open hook bights to hook onto introduced cross-bars $b^2$ of unit B. The cross-bars $a^2$ are also folded at $a^4$ to form cross-hooks to receive a truing rod D, Fig. 7 around which each bar $a^2$ is tightly wrapped. The ends of the rod D are clinched around the wrap at $D^1$. Before the bars $a^2$ are wrapped on rod D the eyes of springs S are hooked into the folds $a^4$. This forms end selvages (along each end). It will be seen that unit A has staggered bights $a^1$—$a^2$ and each of these is overfolded, and on the same side of the unit A.

Unit B has straight cross-bars $b^2$, not overfolded, to hook into the bows $a^1$. Alternating with the bars $b^2$ are bows $b^1$ connected thereto by limbs $b$, the endmost of which have closed eyes $b^3$, lying in the plane of the unit. The bows $b^1$ are overfolded at $b^4$ to form hook bights. The units C are generally similar to units B but differ in having end bars $c^2$ with limbs $c$ having back turned hooks $c^3$. The limbs $c$ are alternately connected by overfolded bows $c^1$. Any number of the central or body C units are connected

squarely against the inner or bottom wall of the said socket. The operator then uses a hammer, striking the outer plug in the direction of the length of the axle whereby the wheel is jarred loose from the axle and the key thereof and may be quickly removed.

Having described the invention what is claimed is—

A device adapted to be used for removing a wheel from an axle upon which it is keyed comprising a body provided at its opposite ends with alined sockets of different sizes, and anvil plugs fitting in the sockets.

In testimony whereof I affix my signature.

CASH A. CLEMONS.

An object is to provide disappearing anvil posts to release the bights of the wire before the folding bar is thrown over to bend the loops over to hook form.

It will be seen that each unit is of a continuous piece of wire from one side to the other of the fabric and that the only wire ends are at the extreme sides of the fabric and these wire ends are disposed under the fabric. The advantage of this is that the applied mattress is protected from raw ends hooking into the mattress. There are no open links to cut the mattress. The fabrication of the method enables each unit to fold in zig-zagged relation as to the next.

We claim:

1. Apparatus, for fabricating bed spring fabric, including a plane bed device having a row of anvil blocks and an offset row of pairs of anvil posts between which a wire is rove to form alternate bights in a fabric unit, and forming dollies for bending the wire around respective anvils and anvil posts progressively from one to the other wire hold-down means, and bight overfolding means.

2. Apparatus, for fabricating bed spring fabric, including a plane bed device having a row of anvil blocks and an offset row of pairs of anvil posts between which a wire is rove to form alternate bights in a fabric unit, and forming dollies for bending the wire around respective anvils and anvil posts progressively from one to the other and means for overfolding terminals and a row of the bights in the wire to form hooks.

3. Apparatus, for fabricating bed spring fabric, including a plane bed device having a row of anvil blocks and an offset row of pairs of anvil posts between which a wire is rove to form alternate bights in a fabric unit, and forming dollies for bending the wire around respective anvils and anvil posts progressively from one to the other, means for holding down all projecting bight portions of the wire, and means for overfolding the projecting portions to form hooked bights.

4. Apparatus, for fabricating bed spring fabric, including a plane bed device having a row of anvil blocks and an offset row of pairs of anvil posts between which a wire is rove to form alternate bights in a fabric unit, and forming dollies for bending the wire around respective anvils and anvil posts progressively from one to the other, means for holding down all but projecting bight portions of the wire, means for overfolding the projecting portions to form hooked bights, and means for retracting the anvil posts before the bights are overfolded.

5. Apparatus, for making wire bed fabric units, including a plane bed device having anvils in a row, a dolly to bend wire around the anvils progressively, a folding bar attached to the bed part and having a row of pairs of anvil-posts alternated with the anvils and a dolly for bending the wire around the post-pairs progressively, and means for holding down the wire on the bed device while the bights on the said bar are overfolded thereby.

6. Apparatus, for making wire bed fabric units, including a plane bed device having anvils in a row, a dolly to bend wire around the anvils progressively, a folding bar attached to the bed part and having a row of pairs of anvil-posts alternated with the anvils and a dolly for bending the wire around the post-pairs progressively, means for holding down the wire on the bed device while the bights on the said bar are overfolded thereby, and a gang of locking bolts for the holding means.

7. Apparatus, for making wire bed fabric units, including a plane bed device having anvils in a row, a dolly to bend wire around the anvils progressively, a folding bar attached to the bed part and having a row of pairs of anvil-posts alternated with the anvils and a dolly for bending the wire around the post pairs progressively, means for holding down the wire on the bed device while the bights on the said bar are overfolded thereby, and means in the said bar for retracting the anvil posts before the bar is swung to overfold the near bights.

8. Apparatus, for making wire bed fabric units, including a plane bed device having anvils in a row, a dolly to bend wire around the anvils progressively, a folding bar attached to the bed part and having a row of pairs of anvil-posts alternated with the anvils and a dolly for bending the wire around the post pairs progressively, means for holding down the wire on the bed device while the bights on the said bar are over folded thereby, and means in the said bar for retracting the anvil posts before the bar is swung to overfold the near bights and wire ends.

9. Apparatus, for making wire bed fabric units, including a plane bed device having anvils in a row, a dolly to bend wire around the anvils progressively, a folding bar attached to the bed part and having a row of pairs of anvil-posts alternated with the anvils and a dolly for bending the wire around the post pairs progressively, means for holding down the wire on the bed device while the bights on the said bar are overfolded thereby, and locking dogs for the holding means.

10. Apparatus, for making wire bed fabric units, including a plane bed device having anvils in a row, a dolly to bend wire around the anvils progressively, a folding bar attached to the bed part and having a row of pairs of anvil-posts alternated with the anvils and a dolly for bending the wire