

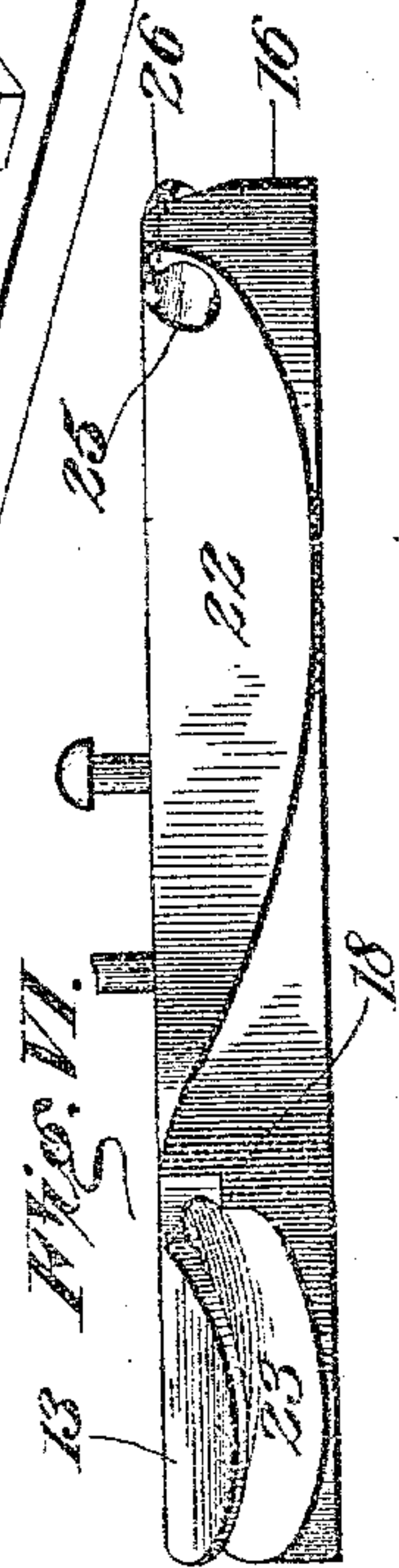
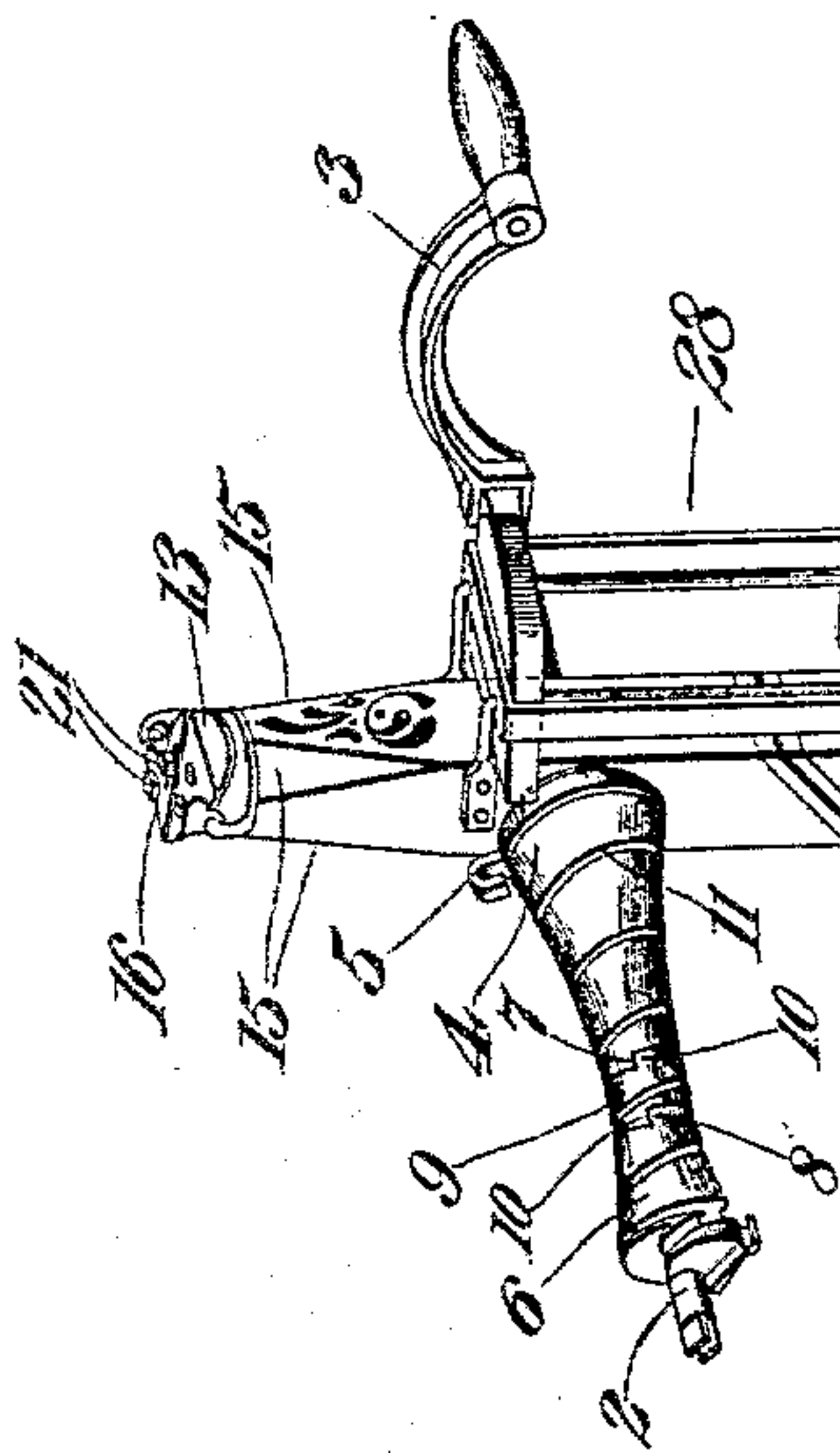
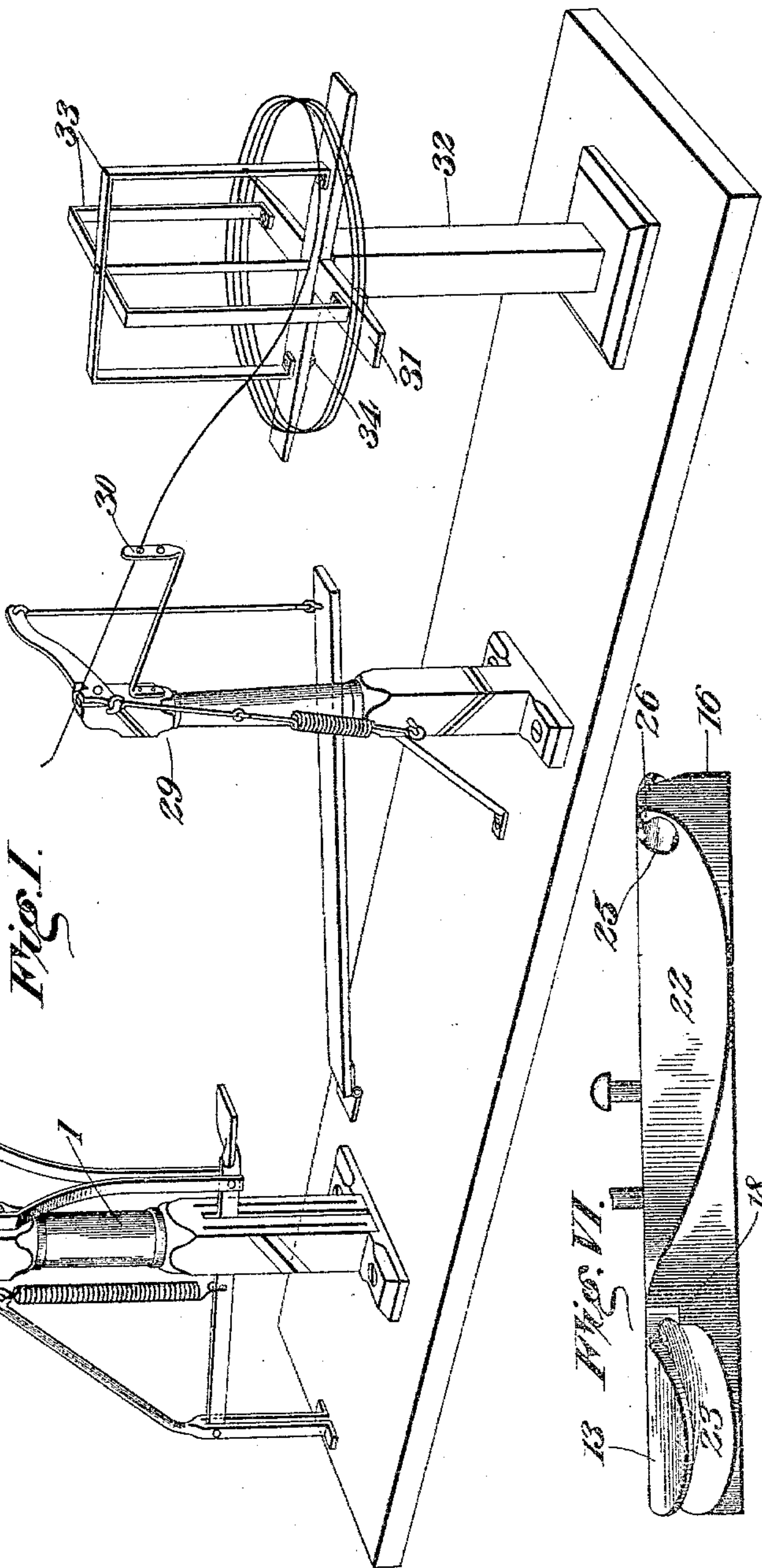
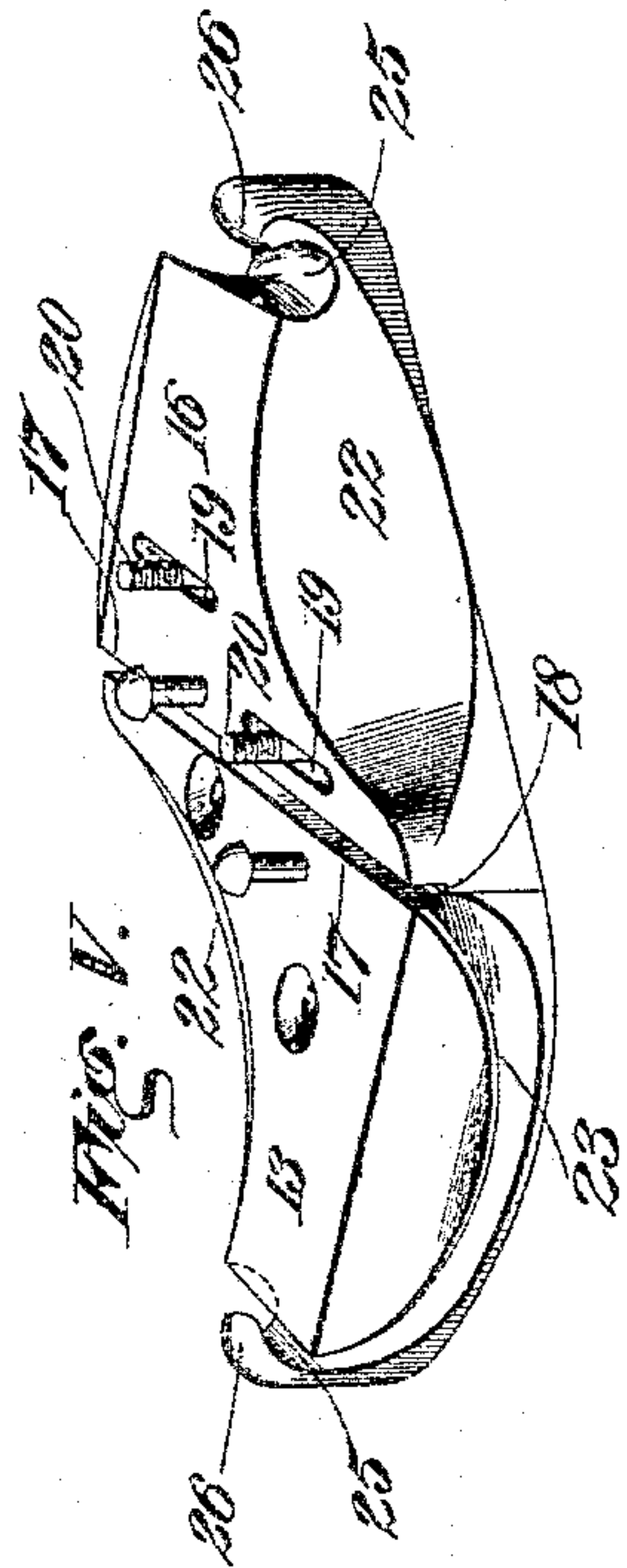
(No Model.)

2 Sheets—Sheet 1.

LA FAYETTE WILDERMUTH.
WIRE COILING MACHINE.

No. 545,144.

Patented Aug. 27, 1895.



Witnesses

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Inventor

La Fayette Wildermuth

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Attorney

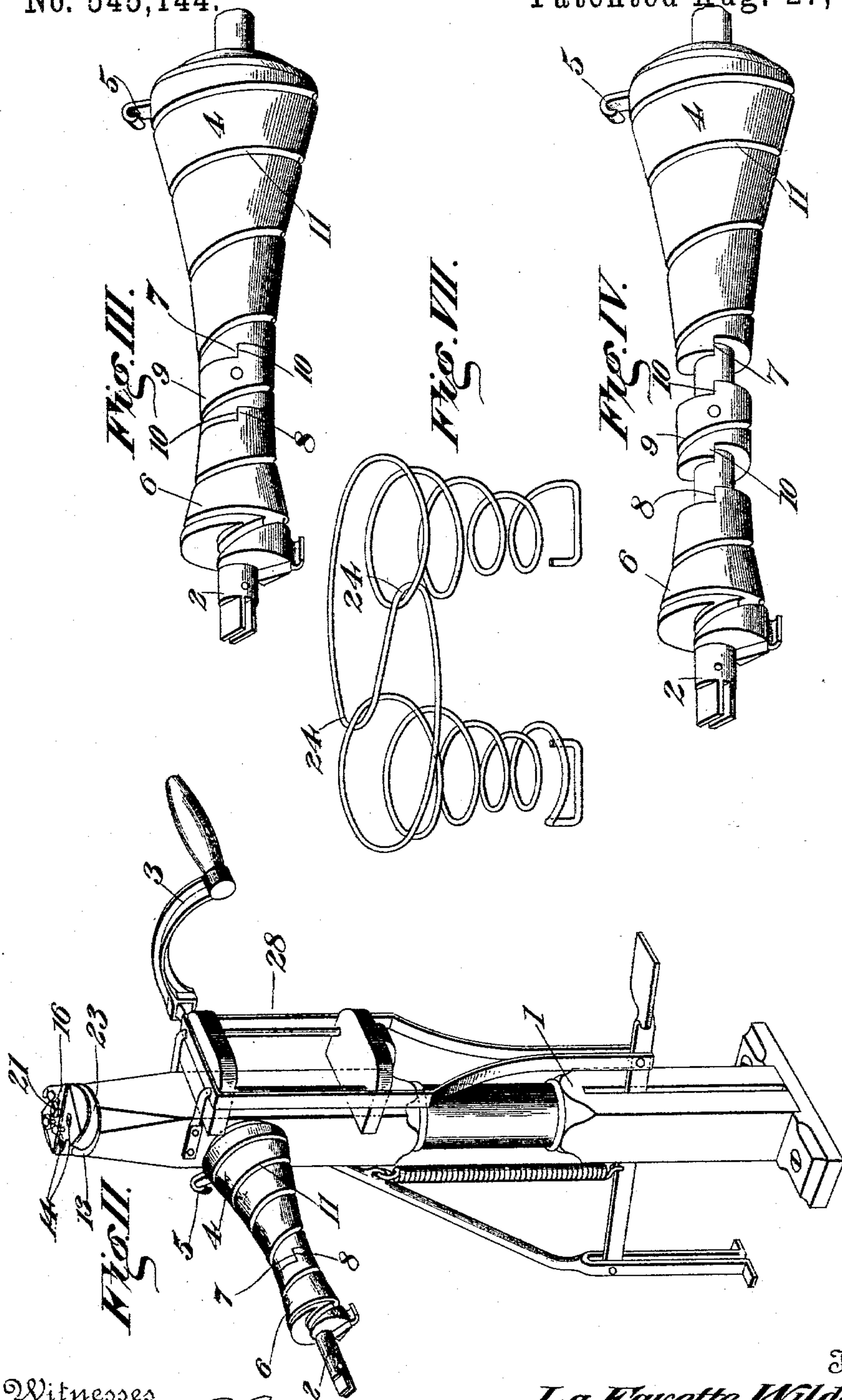
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LA FAYETTE WILDERMUTH.
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UNITED STATES PATENT OFFICE.

LA FAYETTE WILDERMUTH, OF COLUMBUS, OHIO.

WIRE-COILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 545,144, dated August 27, 1895.

Application filed April 26, 1895. Serial No. 547,217. (No model.)

To all whom it may concern:

Be it known that I, LA FAYETTE WILDERMUTH, of Columbus, county of Franklin, State of Ohio, have invented certain new and useful Improvements in Wire-Coiling Machines, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce an improved machine for the manufacture of double truncated springs for bed-bottoms and the like whereby the work of making the springs may be more readily performed and by which springs of different sizes of the kind described in my Patent No. 520,383, dated May 22, 1894, may be manufactured.

My invention may be regarded in many respects as embodying improvements upon the subject-matter of my previous patents, No. 213,482, dated March 18, 1879; No. 245,683, dated August 16, 1881, and No. 296,806, dated April 15, 1884. I shall therefore in the following specification describe, briefly, those parts which are known in the art through these patents and describe in detail only those features which constitute the embodiment of my present invention.

In the accompanying drawings, Figure I is a perspective view of my machine complete in all its details. Fig. II is a perspective view of the forming-machine, showing the mandrel without the extension-piece. Fig. III is a view of the mandrel and its shaft detached, showing the extension-piece in position. Fig. IV is a similar view showing the parts of the mandrel separated upon their shaft. Fig. V is an enlarged perspective view of my former. Fig. VI is a side elevation of the same. Fig. VII is a view of the kind of spring adapted to be made by my former.

Referring to the figures on the drawings, 1 indicates a post which forms a suitable support for a smooth shaft 2, that rotates in suitable bearings therein by means of the crank 3. 4 indicates the base of the mandrel, that is secured to the shaft 3 and is provided with a hook 5, cast integral therewith or otherwise secured thereto, instead of the spring-hook described and claimed in my said Patent No. 245,683.

6 indicates the terminal section of my man-

drel, that corresponds in all respects with that shown in Patent No. 245,683, and which does not, therefore, require further description. The abutting ends of the base of the mandrel and of the terminal section thereof are provided with steps or ledges 7 and 8, which engage and operatively unite the base and terminal section of the mandrel. My invention in this connection consists in the employment of an intermediate mandrel-section 9, provided with steps or ledges 10, which are designed to engage with ledges 7 and 8 of the base and terminal section of the mandrel, and thereby to constitute an elongated mandrel for giving additional length to the coiled part of the springs. A spiral groove 11 extends continuously around the mandrel from the base to terminal section, as is usual in that class of devices.

13 indicates one section of my former, which may be secured, as by screws 14, to the top of the post as a support, the post being preferably cut away at its four corners, as indicated at 15, in order to properly accommodate the former-sections. Both sections of the former are similarly constructed, but the second section 16 is secured adjustably to the top of the post. Each section is made with an edge 17, oblique with respect to the general longitudinal direction of the section, and with correlative ledges 18, so that one section may be adjusted with respect to the other without disturbing their horizontal alignment. As a means of adjustably securing the section 16 to the post I provide slots 19 in the section 16, extending parallel to its oblique edge 18. Stud-bolts 20, extending from the top of the post through these slots, are provided with nuts 21, by which the section 16 may be secured in required positions. Each of the sections is preferably provided with a depression 22, which are located diagonally to each other. On their ends are downwardly-curved grooves 23, which confine the overlapping bends 24 of the completed spring and impart to them proper shape. The groove 23 merges at one end into a channel 25, which is bounded on the outside by an inwardly-hooked lug 26, which is adapted to catch the strand of the wire and to hold it in engagement with the former while it is being bent into the groove

23. Through the adjustability of the former sections 16 the distance between the loops 24 may be regulated, as required.

28 indicates a device for pressing and finishing the spring after it is taken from the mandrel, and corresponds to the similar mechanism shown and described in my Patent No. 296,806.

29 indicates the cutting machine and is substantially the same as that shown in my Patent No. 245,683, but is provided with a horizontal guide-arm 30, which carries the wire from a horizontal reel-base 31, that is revolvably carried upon a pedestal 32. The reel-base 31 consists of a plurality of arms—for example, four—which carry a cage composed of rectangular metallic frame-pieces 33, having their respective ends secured to the arms, as by bolts 34.

20 What I claim is—

1. In a wire coiling machine, the combination with a support, of a plurality of relatively adjustable forming sections designed to form the wire between the coils formed on the mandrel, substantially as specified.

2. In a wire coiling machine, the combination with a support, of a plurality of relatively adjustable forming sections provided, respectively, upon their opposite sides with curved grooves, said forming sections being adapted to form the wire between the coils previously formed upon the mandrel, substantially as specified.

3. In a wire coiling machine, the combination with a support, of forming sections provided at opposite ends with curved grooves, a wire retaining lug, and means for adjusting the sections to increase or diminish the distance between the grooves, substantially as set forth.

4. In a wire coiling machine, the combina-

tion with a support, of forming sections provided at opposite ends with curved grooves, a wire retaining lug, diagonal abutting edges upon the sections, and means for relatively adjusting the sections in the direction of the diagonal abutting edges, substantially as set forth.

5. In a wire coiling machine, the combination with a forming head, of curved grooves at opposite ends thereof, and wire retaining lugs at the end of each groove, substantially as set forth.

6. In a wire coiling machine of the character described, the combination with a post and its adjustable forming sections thereon, of a mandrel, a cutter, a horizontal guide arm, and a horizontal wire reel, substantially as set forth.

7. The combination with a support, smooth shaft and shaft actuating mechanism, of a base mandrel section secured upon the shaft, a terminal mandrel section, and an intermediate mandrel section longitudinally movable upon the smooth shaft, and co-operating steps or ledges upon the adjacent faces of the intermediate, base, and terminal mandrel sections, said steps or ledges being so disposed with respect to each other that the intermediate and terminal sections are secured to and movable with the base section when the latter is operated but may be readily slipped upon or from the smooth shaft for the purpose of using or dispensing with the intermediate section, substantially as specified.

In testimony of all which I have hereunto subscribed my name.

LA FAYETTE WILDERMUTH.

Witnesses:

IRA S. READ,
D. SINGLETON.