

(No Model.)

2 Sheets—Sheet 1.

S. P. COOKE.
SWAGING OR WELDING MACHINE.

No. 564,972.

Patented Aug. 4, 1896.

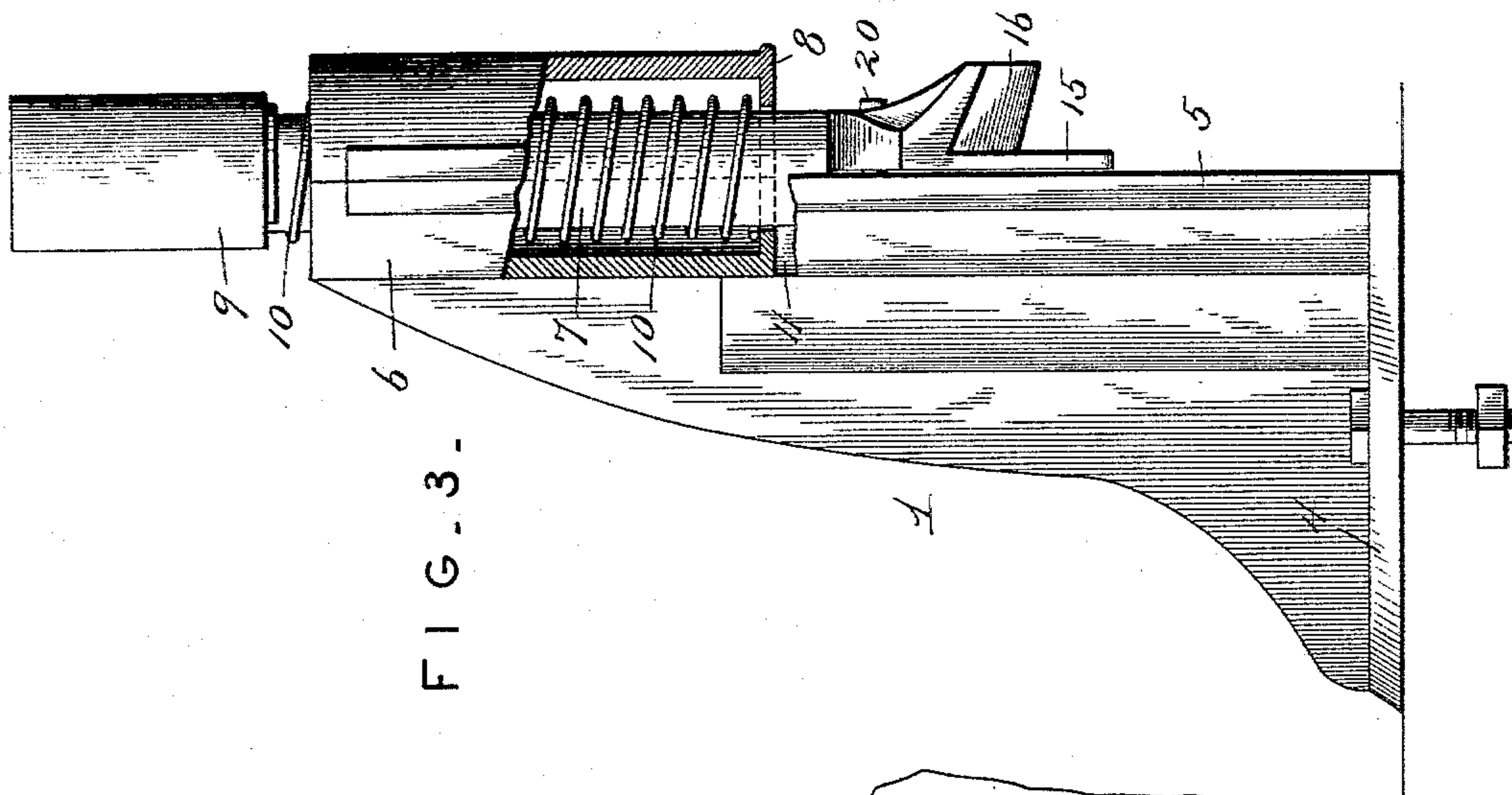


FIG. 3.

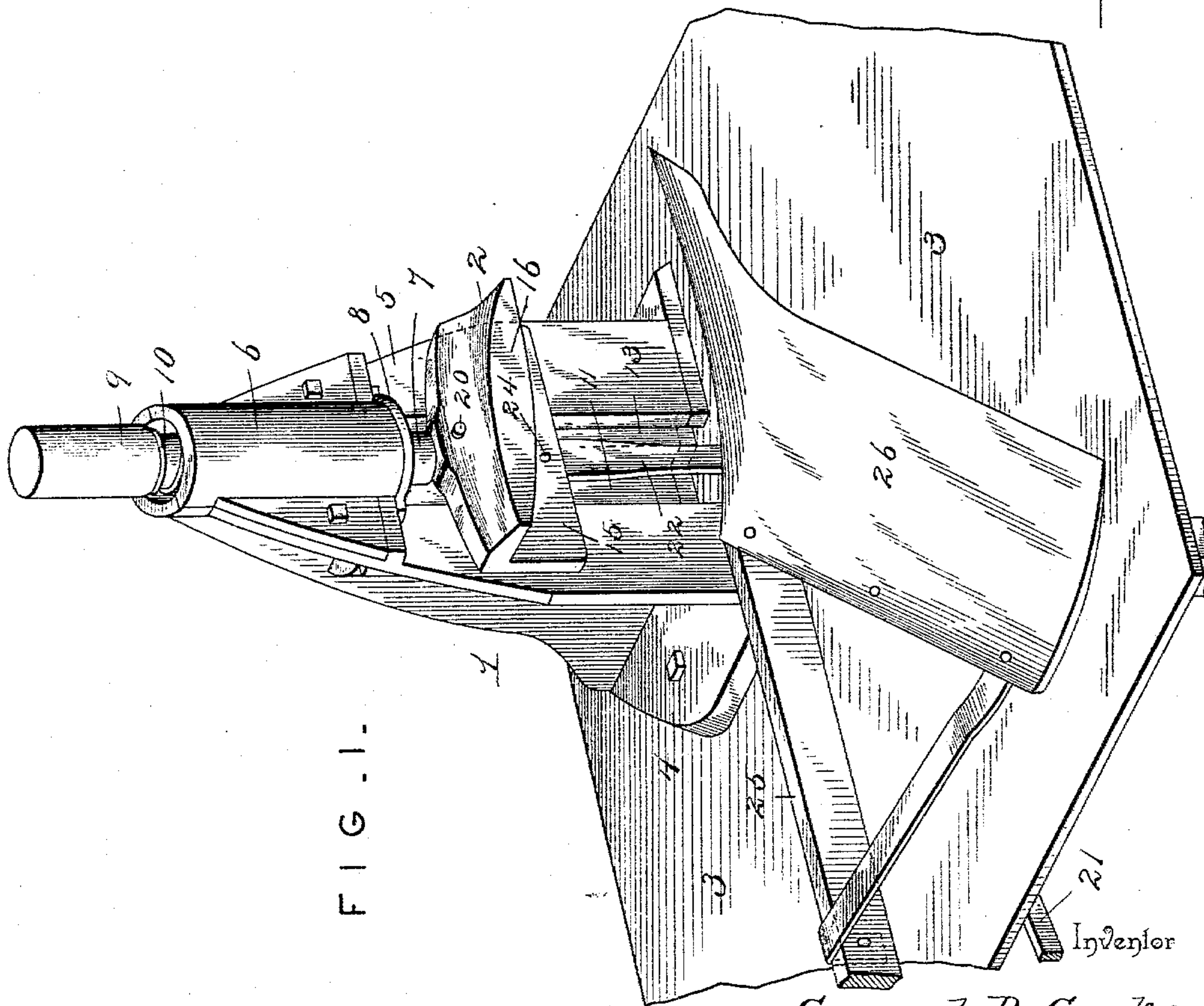


FIG. 1.

Witnesses

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By his Attorneys,

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C. A. Snow & Co.

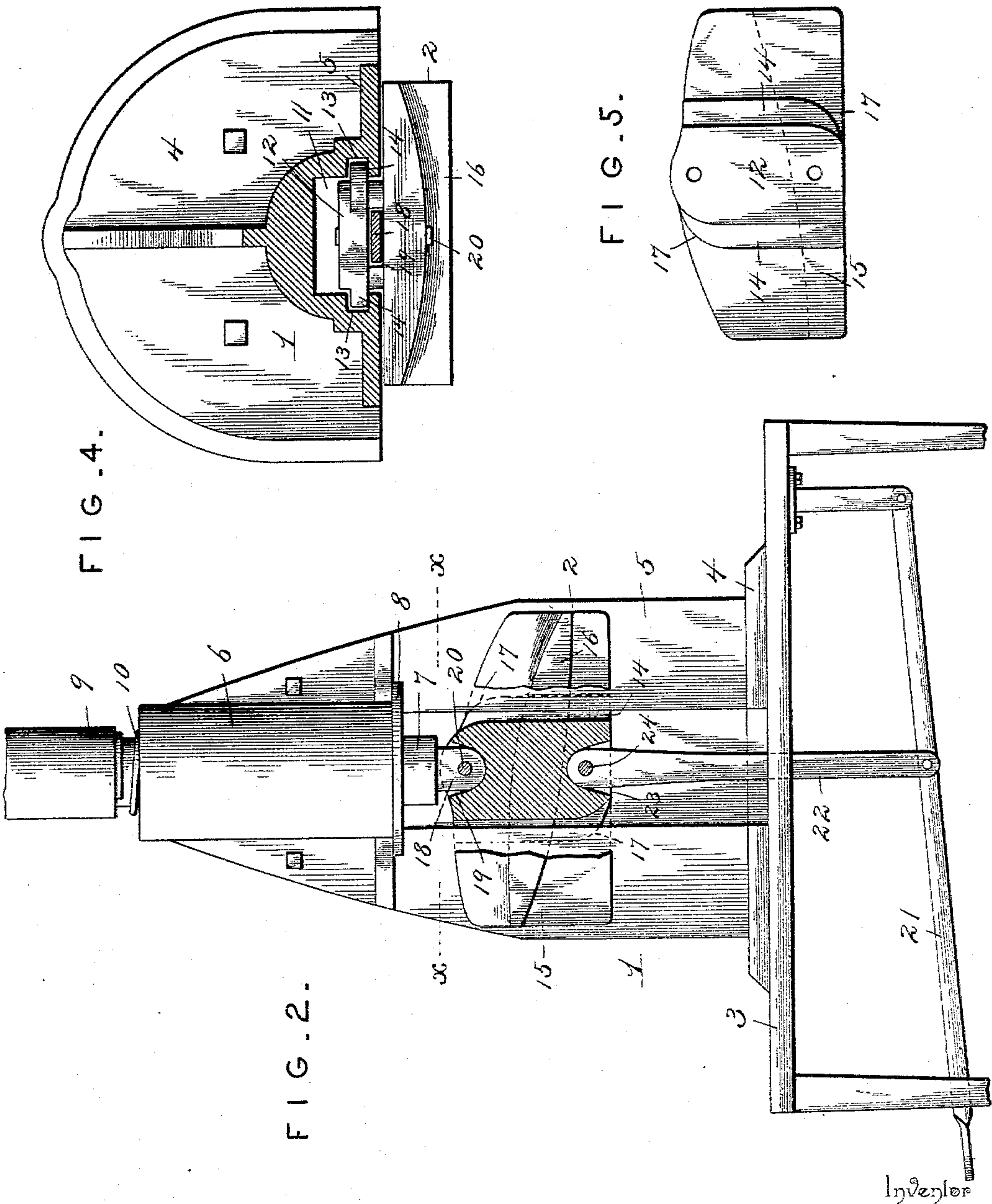
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Inventor

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UNITED STATES PATENT OFFICE.

SAMUEL P. COOKE, OF INDEPENDENCE, WISCONSIN.

SWAGING OR WELDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 564,972, dated August 4, 1896.

Application filed March 28, 1896. Serial No. 585,254. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL P. COOKE, a citizen of the United States, residing at Independence, in the county of Trempealeau and State of Wisconsin, have invented a new and useful Swaging or Welding Machine, of which the following is a specification.

This invention relates to means for welding plowshares to landsides, and aims to obviate flying sparks, prevent hammer-marks, expedite the work, insure a perfect and accurate fit between the parts to be welded, whereby the bottom of the plow is leveled and made square, and to enable the weld being made in a comparatively short time.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view showing the invention as it will appear when set up for use. Fig. 2 is a front elevation thereof, partly in section. Fig. 3 is a side elevation of the head or frame, parts being broken away. Fig. 4 is a plan section about on the line X X of Fig. 2. Fig. 5 is a rear view of the swaging-die.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference-characters.

The machine proper comprises a head or frame 1 and a swaging-die 2, the head being bolted or otherwise secured to a bed or support 3 and having the swaging-die 2 movably related thereto. The head comprises a base 4 and a vertical portion 5, surmounted by a barrel 6, in which operates a stem 7, carrying the swaging-die 2. The barrel is preferably formed of two parts, which are secured together in any convenient way, and is formed at its lower end with an inner shoulder 8. The stem has an outer shoulder 9 near its upper end, and a coil-spring 10 is mounted upon the lower portion of the stem and is confined

between the shoulders 8 and 9, and serves to support the stem and the swaging-die and return these parts to a normal position when released after being depressed. The barrel overhangs the vertical portion 5, and the latter is formed in its outer or front face with a vertical channel 11, in which operates a projection 12 at the rear side of the swaging-die 2, the side walls of the channel having vertical grooves 13, in which travel ribs 14 at the edges of the projection 12, thereby maintaining the swaging-die in working relation.

The swaging-die 2 is oblong and comprises a vertical part 15, forming a shield and gage, and a laterally-extending portion 16, which is designed to project over the portion of the plowshare to be welded to the landside. The lower face of the projecting portion 16 curves in the direction of its length to correspond to the curvature or profile of the plowshare, and declines to the horizontal as it recedes from the face of the vertical portion 15 to correspond to the declination or pitch of the plowshare.

The parts 12, 15, and 16 are preferably formed together, although, if preferred, they may be separate pieces and secured together in any desired way. The diagonally-disposed corners of the projection 12 and the adjacent ends of the ribs 14 are rounded, as shown at 17, to admit of the swaging-die tilting or rocking to adapt itself to the parts to be welded, so as to distribute the force of the blow uniformly throughout the length of the swaging-die when effecting the weld. The connection between the swaging-die and the stem 7 is of such character as to admit of the tilting or rocking movements of the swaging-die and yet insure a positive attachment, so that the stem and swaging-die will move vertically together. The lower end of the stem is reduced, forming a tang 18, which enters a socket 19 in the upper end of the projection 12, and a pin 20, passing through registering openings in the tang and adjacent parts of the swaging-die, pivotally connects the said parts. The socket 19 is sufficiently widened at its upper end to admit of the rocking or tilting movements of the swaging-die.

A treadle or lever 21 is suitably fulcrumed to the bed or support 3 and has connection with the swaging-die, so that when pressed

upon at its free end the swaging-die will be lowered into working position upon the parts to be welded. A link 22, having pivotal connection at its lower end with the treadle or lever 21, has its upper end entering a socket 23 in the lower end of the projection 12 and pivotally secured therein by means of a pin 24.

In the drawings, 25 represents an ordinary landside and 26 a plowshare to be welded thereto. The parts of these elements to be welded are placed in a forge and heated to a welding-point, after which they are placed upon the bed or support 3 and properly fitted together, and the swaging-die is lowered by means of depressing the outer end of the treadle or lever 21, the vertical part 15 engaging with the vertical side of the landside, and the lateral portion 16 projecting over the front portion of the landside, and upon delivering a smart blow upon the stem 7 the weld is effected. The part 15 extends over the joint between the plowshare and landside, thereby preventing the flying of sparks when effecting the weld, and at the same time it forms a gage to limit the inward movement of the plowshare and insures the bottom of the landside and plowshare being in the same plane and the edge of the plowshare coming flush with the landside. When the swaging-die first descends, the weld is partially effected and is completed by delivering one or more blows upon the upper end of the stem 7, as will be readily understood. Upon removing the pressure from the treadle or lever 21 the spring 10, previously compressed, will expand and lift the stem and swaging-die, thereby releasing the plowshare and landside after being welded.

Having thus described the invention, what is claimed as new is—

1. In a welding-machine, the combination with a bed, a head or frame, and a spring-actuated stem, of a swaging-die guided in its movements by the head or frame and having pivotal connection with the said stem, and comprising a vertical part forming a shield and gage and a laterally-extending portion, the latter curving in its length and declining to the horizontal from the said vertical part, substantially as and for the purpose set forth.

2. In a welding-machine, the combination of a head having a vertical portion channeled in one face, a swaging-die having a projec-

tion operating in the said channel and interlocking therewith to admit of the swaging-die having a tilting or rocking movement, and a spring-actuated stem having pivotal connection with the swaging-die, substantially in the manner set forth for the purpose described.

3. In a welding-machine, the combination of a head channeled in one side, a swaging-die having a lateral projection to operate in the said channel and guided in its movements thereby, and having the diagonally-disposed corners cut away or made rounding to admit of the tilting or rocking movements of the swaging-die, and a spring-actuated stem having pivotal connection with the swaging-die, substantially as set forth.

4. In combination, a head comprising a vertical portion having a channel in one face, and a superposed barrel overhanging the channeled portion of the head, a swaging-die having a lateral projection operating in the said channel to direct the swaging-die in its vertical movements and admit of it having a tilting or rocking motion, a spring-actuated stem having pivotal connection with the swaging-die and operating in the said barrel, and a treadle or lever operatively connected with the swaging-die to lower the same, substantially as and for the purpose set forth.

5. In combination, a bed or support, a head secured thereto and comprising a vertical portion and a superposed barrel, the latter overhanging the said vertical portion, which is formed in its side with a vertical channel, a swaging-die comprising a vertical portion and a laterally-extending part and having a rear projection which interlocks with the sides of the said vertical channel and has its diagonally-disposed corners cut away to admit of the swaging-die having a rocking or tilting movement, a spring-actuated stem having pivotal connection with the swaging-die and operating in the said barrel, and a treadle or lever operatively connected with the swaging-die, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL P. COOKE.

Witnesses:

D. J. PRATT,

GEO. A. MARKHAM.