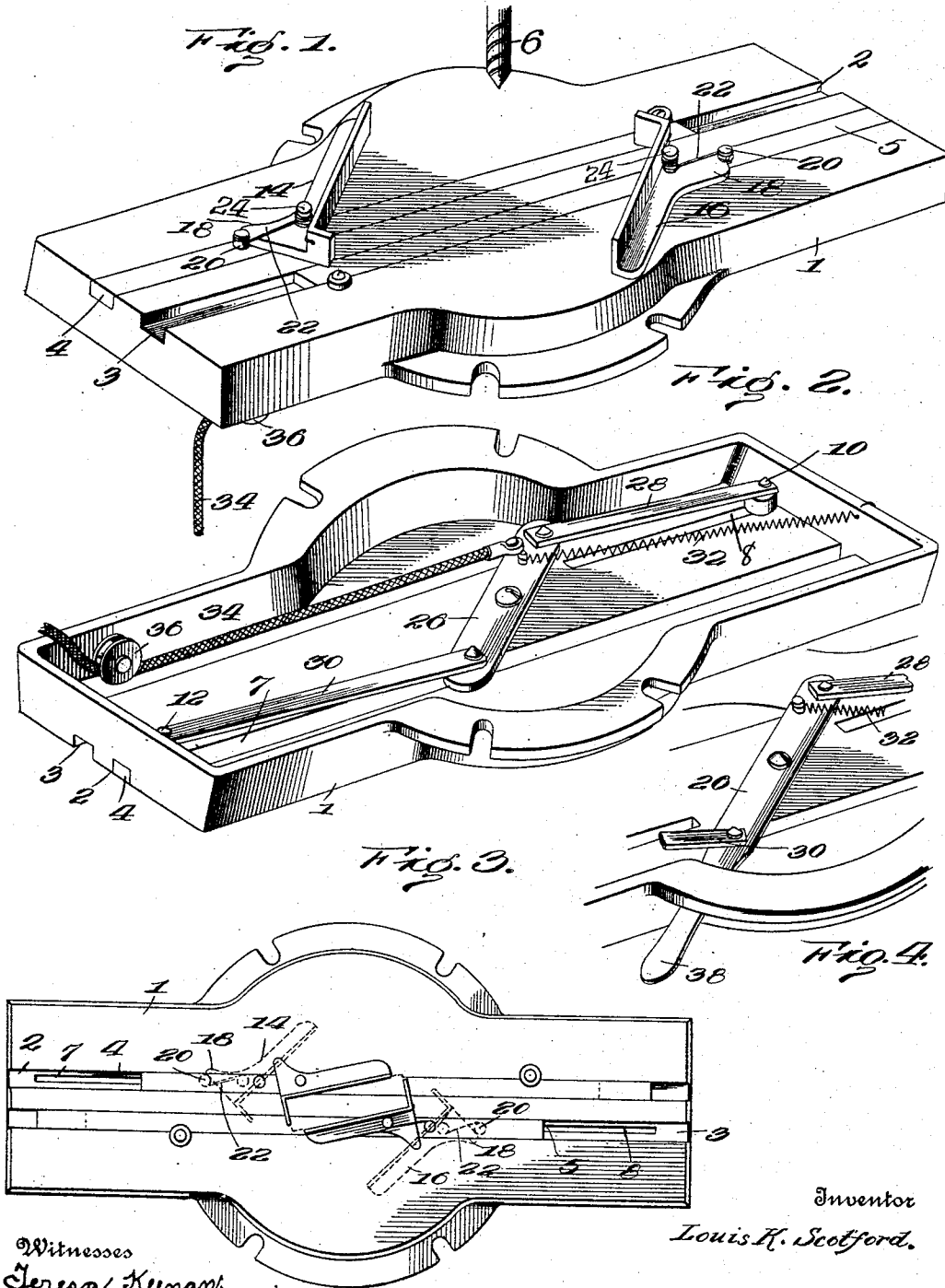


L. K. SCOTFORD.
CENTERING DEVICE.
APPLICATION FILED MAR. 10, 1914.

1,189,004.

Patented June 27, 1916.



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UNITED STATES PATENT OFFICE.

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CENTERING DEVICE.

1,189,004.

Specification of Letters Patent.

Patented June 27, 1916.

Application filed March 10, 1914. Serial No. 823,750.

To all whom it may concern:

Be it known that I, LOUIS K. SCOTFORD, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Centering Devices, of which the following is a specification.

This invention relates to improvements in centering devices for use in drilling and other machines.

The object of the invention is to produce a centering device formed of few parts, simple in construction, which may be used to readily center the device in which a hole is to be drilled.

The invention consists in the construction and arrangement of parts hereinafter described and then definitely claimed.

In the drawings accompanying and forming part hereof and which represent the preferable, though not necessary, embodiment of my invention: Figure 1 is a perspective view of a centering device made in accordance with my invention. Fig. 2 is an inverted perspective view of the same. Fig. 3 is a top plan view showing in dotted lines the centering members just before they act upon the block and in full lines in the position where they center the block. Fig. 4 shows a modified form.

Referring now to the details of the drawings by numerals: 1 designates a base preferably of the form indicated in the drawings. This base has upon its upper side two parallel grooves 2 and 3 in which work bars or slides 4 and 5. A drill or other similar tool 6, shown in Fig. 1, is so located that it will center directly between said slides 4 and 5. The bottom walls of the grooves 2 and 3 have slots 7 and 8 and the bars or slides have depending pins or studs 10 and 12 which project through the slots 7 and 8 for a purpose to be hereinafter explained. The upper faces of the bars or slides 4 and 5 have pivotally secured to them corner members 14 and 16, these corner members having right angles which face each other as clearly illustrated in the drawings. Each

of the corner members 14 and 16 has an extension 18 which is arranged to contact with a stop 20. A spring 22 is coiled around the pivot 24 of each corner member, one arm of the spring contacting with a wall of the corner member and the other arm co-acting with the stop 20 so that the spring will normally hold the extension 18 in contact with the stop but will yet permit the corner member to be moved against the tension of the spring. The construction is such that when the bars or slides 4 and 5 are moved in opposite directions, as will be hereinafter explained, the corner members 14 and 16 will approach each other and center any device which is between the two so that the aforesaid drill 6 will make a hole in the exact center of the device. In order to move the bars or slides 4 and 5 in opposite directions as before suggested, I pivot to the under side of the base 1 a cross head 26 and connect the outer ends of this cross head with the pins or studs 10 and 12 projecting from the slides 4 and 5 by means of links 28 and 30. A coiled spring 32 is employed connecting one member of the cross head 26 with any fixed part of the base 1 so that the spring will normally tend to hold the cross head in such a position that the slides 4 and 5 will be held in the position shown in Fig. 1 with the corner members 14 and 16 separated to their farthest extent. In order to give motion to the parts the cross head may have connected to it a cord or chain 34 which passes over a pulley 36 and may be operated either by the hand or the foot of the operator. Instead of using a cord or chain, one arm of the cross head 26 may be extended through a slot in the base and formed into a handle 38 by which the cross head may be operated when necessary.

The operation of my device is so simple that it is believed that any one skilled in the art will readily understand the same; yet it may be advisable to state that when it is desired to drill a hole in any object the latter is placed on the base in approximately

the center thereof. Then the operator pulls upon the cord or chain 34 which, acting upon the cross head 26, moves said cross head on its pivot and draws upon the links 5 28 and 30, causing the pins or studs 10 and 12 to move toward each other through said slots 7 and 8. This action necessarily causes the slides 4 and 5 to move toward each other in the direction of the block, thereby also 10 moving the corner members 14 and 16. These corner members in approaching each other will strike against the opposite ends of the object to be drilled and will move the same to such a position that the exact center 15 of the block will be immediately over the center of the base. It makes no difference whether the block is square or oblong, nor how long and narrow the block may be, if its length does not exceed the distance between the corner members 14 and 16. 20

It is obvious that changes and modifications may be made in my invention without departing from the spirit thereof, the scope of the invention being clearly set forth by 25 the appended claims.

What I claim as my invention is:

1. In a device of the character described and in combination with a drill, a pair of members simultaneously movable to and 30 from each other, and means permitting said members to have independent movement as they move against the object being centered to center the object with reference to said drill.

2. In a device of the character described and in combination with a drill, a pair of members simultaneously movable to and 35 from each other, each member having a pivotal movement to adjust itself as said members move against the object to be centered to center the object with reference to said drill. 40

3. In a device of the character described and in combination with a drill, a pair of corner members simultaneously movable toward and from each other, each of said corner members having independent movement as they move against the object being centered to center the object with reference to 50 said drill.

4. In a device of the character described and in combination with a drill, a pair of bars simultaneously movable in opposite directions, and a pair of corner members supported by and movable with said bars, each of said members having independent pivotal movement with respect to said bars as they move against the object being centered to center the object with reference to said drill. 55

5. In a device of the character described and in combination with a drill, a pair of bars movable in opposite directions, a pair of members supported by and movable with said bars, each of said members having inde-

pendent pivotal movement with respect to 65 said bars as they move against the object being centered, and means for simultaneously moving said bars in opposite directions to center the object with reference to said drill.

6. In a device of the character described, 70 a pair of bars movable in opposite directions, a pair of members supported by and movable with said bars, a cross head having said bars connected at opposite ends thereof, and means for moving said cross head whereby 75 the bars are simultaneously moved so that the members approach or recede from each other.

7. In a device of the character described, a pair of bars movable in opposite direc- 80 tions, a pair of members supported by and movable with said bars, each of said members having independent pivotal movement with respect to said bars, a cross head having said bars connected at opposite ends 85 thereof, and means for moving said cross head whereby the bars are simultaneously moved so that the members approach or recede from each other.

8. In a device of the character described, 90 a suitable base, a pair of bars supported by said base in parallel relation to each other and arranged to slide in opposite directions, a pair of members supported by and movable with said bars, a cross head pivoted to 95 said base, links connecting the opposite ends of said base with said bars whereby when the cross head is moved the bars will move to and from each other, and means for moving said cross head whereby the bars are 100 simultaneously moved so that the aforesaid members approach or recede from each other.

9. In a device of the character described, a suitable base, a pair of bars supported by 105 said base in parallel relation to each other and arranged to slide in opposite directions, a pair of members supported by and movable with said bars, each of said members having independent pivotal movement with 110 respect to said bars, a cross head pivoted to said base, links connecting the opposite ends of said base with said bars whereby when the cross head is moved the bars will move to and from each other, and means for moving 115 said cross head whereby the bars are simultaneously moved so that the aforesaid members approach or recede from each other.

10. In a device of the character described, 120 a suitable base, a pair of bars supported by said base in parallel relation to each other and arranged to slide in opposite directions, a pair of members supported by and movable with said bars, a cross head pivoted to 125 said base, links connecting the opposite ends of said base with said bars whereby when the cross head is moved the bars will move

to and from each other, means for moving said cross head whereby the bars are simultaneously moved so that the aforesaid members approach or recede from each other, said means comprising a cord or chain for moving the cross head in one direction, and a spring for moving the cross head in the opposite direction.

11. In a device of the character described, a suitable base, a pair of bars supported by said base in parallel relation to each other and arranged to slide in opposite directions, a pair of members supported by and movable with said bars, each of said members having independent pivotal movement with respect to said bars, a cross head pivoted to said base, links connecting the opposite ends of said base with said bars whereby when the cross head is moved the bars will move to and from each other, means for moving said cross head whereby the bars are simultaneously moved so that the aforesaid members approach or recede from each other, said means comprising a cord or chain for moving the cross head in one direction, and a spring for moving the cross head in the opposite direction.

12. In a device of the character described, a pair of bars movable in opposite directions, a pair of members supported by and movable with said bars, a cross head having said bars connected at opposite ends thereof, a spring for holding said cross head and bars in their normal position, and means for moving said cross head and bars in opposition to said spring whereby the members are simultaneously moved toward the object being centered.

13. In a device of the character described, a pair of bars movable in opposite directions, a pair of members supported by and movable with said bars, each of said members having independent pivotal movement with respect to said bars, a cross head having said bars connected at opposite ends thereof, a spring for holding said cross head and bars in their normal position, and means for moving said cross head and bars in opposition to said spring whereby the members are simultaneously moved toward the object being centered.

14. In a device of the character described, a suitable base having parallel grooves therein, a pair of bars located in said grooves and arranged to slide in opposite directions, a pair of members supported by and movable with said bars, a cross head pivoted to said base and having its ends connected with said sliding bars, and means for moving said cross head whereby the bars and the aforesaid members are simultaneously caused to approach or recede from each other.

15. In a device of the character described,

a suitable base having parallel grooves therein, a pair of bars located in said grooves and arranged to slide in opposite directions, a pair of members supported by and movable with said bars, each of said members having independent pivotal movement with respect to said bars, a cross head pivoted to said base and having its ends connected with said sliding bars, and means for moving said cross head whereby the bars and the aforesaid members are simultaneously caused to approach or recede from each other.

16. In a device of the character described, a suitable base having parallel grooves therein, a pair of bars supported in said grooves and arranged to slide back and forth, a pair of members supported by and movable with said bars, a cross head pivoted to said base, links connecting the ends of said cross head with said sliding bars, and means for moving said cross head whereby the bars are simultaneously moved.

17. In a device of the character described, a suitable base having parallel grooves therein, a pair of bars supported in said grooves and arranged to slide back and forth, a pair of members supported by and movable with said bars, a cross head pivoted to said base, links connecting the ends of said cross head with said sliding bars, a spring for holding said cross head, its bars and said members in their normal position, and means for moving said cross head and connected parts in opposition to said spring whereby said members are caused to approach the object being centered.

18. In a device of the character described, a pair of corner members movable toward and from each other, each of said corner members being pivoted, and springs for holding said members in their normal positions but permitting them to move on their pivots as they may move against the object being centered.

19. In a device of the character described, a pair of bars arranged to move in opposite directions, a pair of corner members supported by and movable with said bars, each of said members being pivoted to said bars, and springs normally holding said corner members in one position and permitting them to move on their pivots as they are moved against the object being centered.

20. In a device of the character described, a suitable base having a pair of grooves therein, a pair of bars sliding back and forth in said grooves in opposite directions, a pair of corner members movable with said bars and pivotally supported thereon, springs holding said bars in one position and permitting them to move on their pivots as they move against the object being centered.

tered, a cross head supported by said members, and pivotal connections between the ends of said cross head and said bars.

21. In a device of the character described,
5 a suitable base, a pair of bars slidable thereon, corner members supported by and movable with said bars, said corner members being pivoted to said bars, stops for limiting the motion of said corner members on their

pivots, and springs for normally holding 10 said corner members against their stops.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS K. SCOTFORD.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."