(No Model.)

A. J. PEAVEY.

SCREW CUTTER.

No. 295,422. Patented Mar. 18, 1884.

FIG. 1.

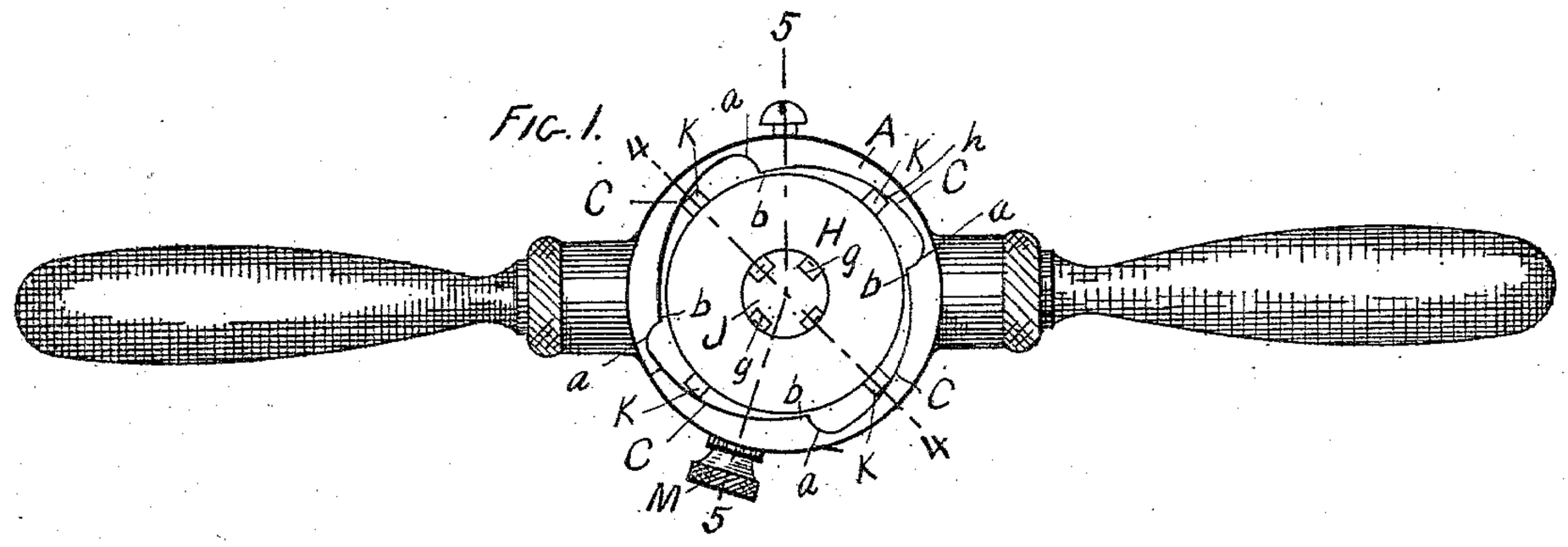


FIG. 2.

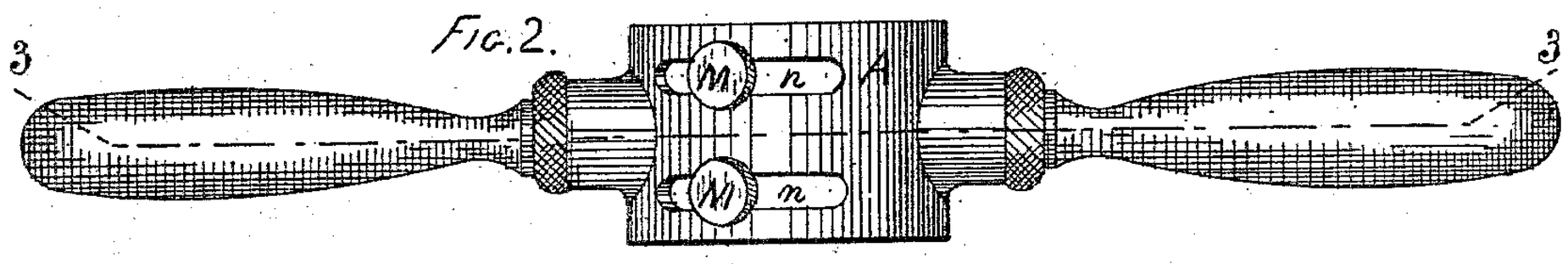


FIG. 3.

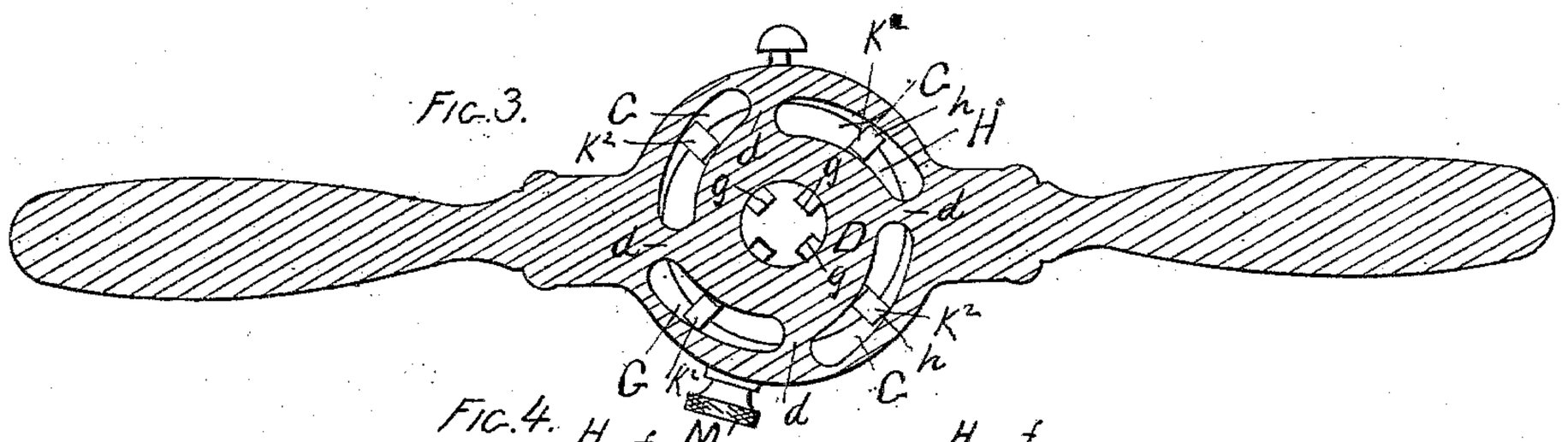


FIG. 4.

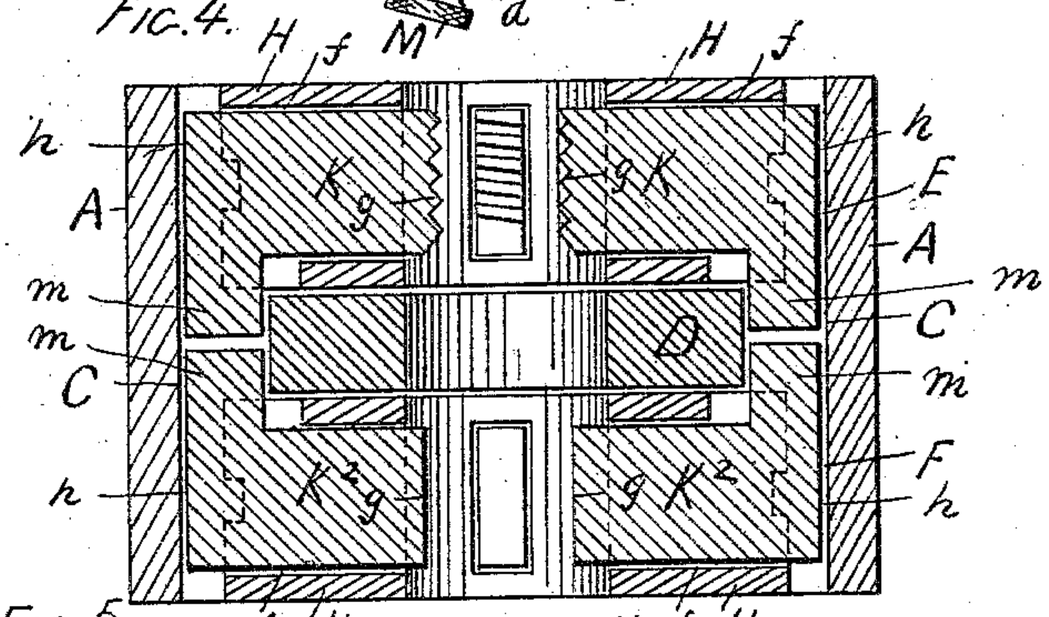
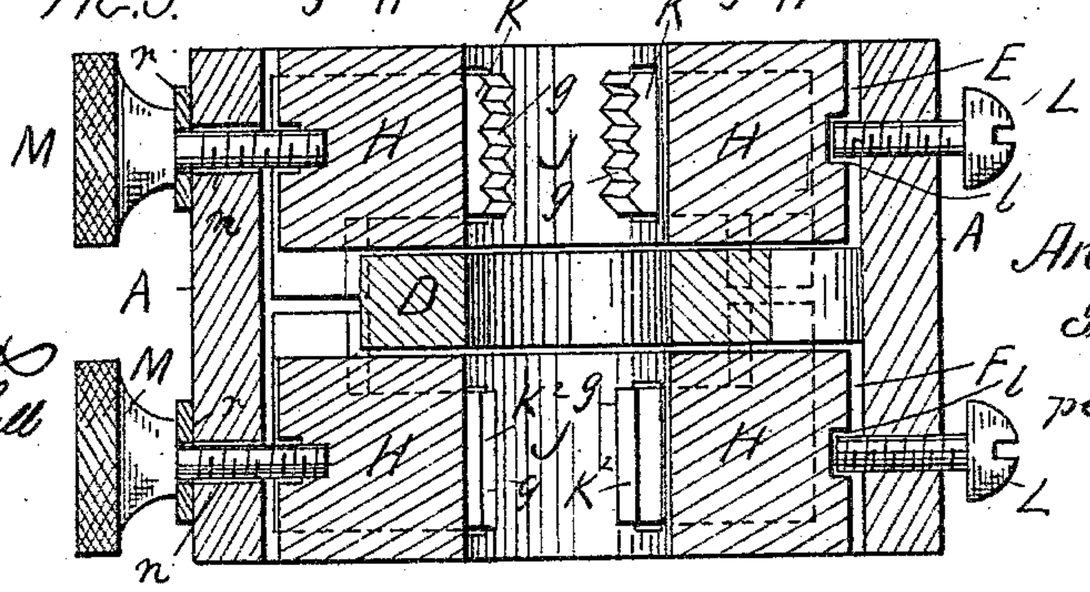


FIG. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

ANDREW J. PEAVEY, OF SOMERVILLE, ASSIGNOR TO HIMSELF AND EDWIN B. BUCKINGHAM, OF BROOKLINE, MASSACHUSETTS.

SCREW-CUTTER.

SPECIFICATION forming part of Letters Patent No. 295,422, dated March 18, 1884.

Application filed May 1, 1883. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. PEAVEY, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Screw-Cutters, of which the following is a full, clear, and exact description.

This improved screw-cutter in substance is composed of a stock of screw-cutting die-blocks, either within or without a steadying die-block separate and distinct therefrom, and cams or scrolls in said stock for forcing the dies inward and toward, and again for forcing them outward and from, the center of the die-block, and of other features, all substantially as hereinafter described.

In the accompanying plate of drawings, the present improved screw-cutter is illustrated as a hand-tool.

Figure 1 is a face view; Fig. 2, an edge view; Fig. 3, a section on line 3 3, Fig. 2; Figs. 4 and 5, sections on lines 4 4 and 5 5, Fig. 1.

In the drawings, A represents a cylindrical shell or hollow tubular stock open at both ends. This stock A, from end to end, has four separate interior peripheral scrolls or cam or eccentric surfaces C, all of equal length and eccentricity relative to the axis of the shell, and arranged in regular order, giving a series of shoulders or abutments, *a*, between the innermost end, *b*, of one scroll C and the outermost and next adjoining end of another and the next scroll in the order of arrangement.

D is a partition dividing stock A into two equal chambers, E and F. This partition D has four scroll or eccentric or cam slots, G, of equal length and width, corresponding to the scrolls C of the stock, and which scrolls C make the outer walls or edges of the slots in each instance. The slots are separated from each other by the parts *d* of the central partition-plate, D. Each of the chambers E F contains a similar cylindrical die head or block, H, both of equal diameter. Each die-block has a central opening, J, through its thickness, a series of four radial dies or cutters, K K^2, and an exterior circumferential groove, L. The central openings, J, are of the same diameter, and in line with them both is an opening, M, through the shell-partition. The radial dies or cutters K K^2 of each die-head H are arranged in radial guideways *f* thereof at equal distances apart, and they are constructed, as also said guideways, for the dies or cutters to be moved in toward and out from the center of the die-block, and for each to be projected at its inner and working face or edge, *g*, into the central opening of the die-block, and at its outer edge, *h*, beyond the outer periphery of the die-head, by simply sliding them in the proper directions therefor in their guideways. Each die-head in its chamber (of the common stock) is centered by its bearing against the innermost ends of the scrolls C around said chamber, and it is free to be turned around within said scrolls C when its dies or cutters are not projected beyond its periphery sufficiently to abut against the shoulders *a* of the scrolls; and, again, it is held against escape from its chamber by means of a screw, L, which is screwed through the sides of the stock or shell A and entered into its peripheral groove *l*. Each die or cutter K K^2 has a lug, *m*, of suitable length to enter a cam-slot, G, of the partition D, dividing the stock into two chambers and separating the two die-heads; and the lugs of each set of dies or cutters K K^2 are also of such a length that the two lugs—one of each of the two sets of dies or cutters in the one and the same cam-slot G—will not interfere with each other. The dies K of the one die-head, at their inner edges, *g*, are each suitably formed to act as cutters to cut a thread upon the bolt, &c., over which the screw-cutting tool herein described is placed, and the dies K^2 of the other die-head, H, have their inner edges smooth, so as simply to bear upon the surface of said bolt, &c., so inserted without cutting into the same, and thus steady the tool in its operation of cutting a screw-thread upon the bolt, &c., by the action of the screw-cutting dies of the head as the tool is swung around the bolt, &c., in the usual way of threading a bolt with screw-cutting tools.

The scrolls C of the chambers in which the die-heads are placed act, in the use of the tool, to force the screw-cutting dies K, as also the steadying-dies K^2, into close contact with the bolt, and to feed the screw-cutting dies forward so as to cut a screw-thread of the depth de-

sired, which in any event cannot be a depth greater than the extreme length of throw inward of the screw-cutting dies by the eccentricity of the scrolls relative to the central axial line of the die-heads.

The tool to bring the cutting-dies into operation to cut a screw-thread upon a bolt, &c., is swung around upon the bolt, &c., from right to left, and to place the cutting-die out of such operation, from left to right. In the first movement the cutting-dies are forced inward toward and against the bolt, &c., to the limit of the eccentricity of the stock-scrolls C by running at their outer ends against said scrolls C, and in the latter movement the cutting-dies are drawn outward from the bolt, &c., by the action of the inner walls of the cam slots G in the partition-plate upon the lugs of the dies.

Each die-head K K^2 is adapted to be fastened to the common stock or shell, or both, by a separate mill-headed screw, M, each of which screws passes loosely through a separate peripheral slot, *n*, of the stock, and, screwing into the side of the die-head, is brought to a seat by its shoulder *r* against the outside of the shell. By these means the cutting-dies can be adjusted and fixed in position as to their action upon the bolt, &c., to be screw-cut—that is, as to the depth of screw-thread which the tool can cut, of course within the limits of the throw of the scrolls upon the steadying or cutting dies.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A screw-cutter composed of a stock having scrolls C, and two chambers separated by a partition, D, and of two die-blocks, H, one in each of said chambers, and each block provided with radial dies K K^2, that are arranged within said blocks, as also said die-blocks within said chambers, for the dies to be acted upon by said scrolls, substantially as described, for the purpose specified.

2. A screw-cutter composed of a stock, A, having scrolls C, and two chambers, E F, separated by a partition, D, having scroll-slots G, and of two die-blocks, H, one in each of said chambers, and each block provided with radial dies that are arranged within said blocks, as also said die-blocks within said chambers, for the dies to be acted upon by said scrolls and said slots, substantially as and for the purposes described.

3. A die-block having peripheral groove and radial dies, in combination with a pin which enters said groove and holds said die-block against escape from, and at the same time leaves it free to turn within, a shell or stock, A, having scrolls C, to act upon said radial dies, substantially as described, for the purpose specified.

4. A die-block confined within a shell or stock, A, having scrolls C, against escape therefrom, and free to turn therein, and provided with radial sliding dies, in combination with a slot, *n*, and set-screw M, by which said die-block can be secured against turning, substantially as described, for the purpose specified.

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

A. J. PEAVEY.

Witnesses:
EDWIN W. BROWN,
WM. S. BELLOWS.