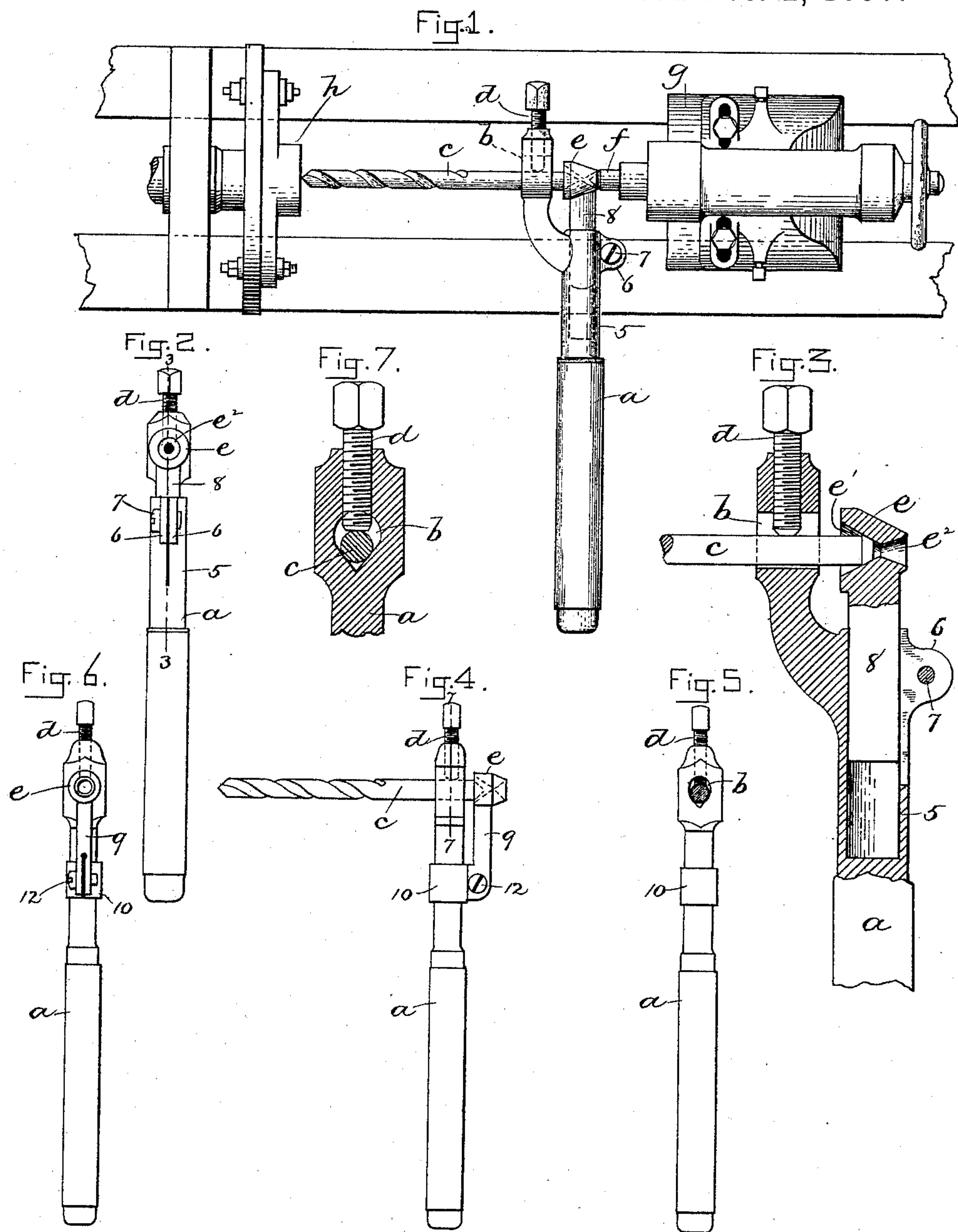


(No Model.)

J. F. FREEMAN.
TOOL HOLDER.

No. 441,834.

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WITNESSES
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JAMES F. FREEMAN, OF LAWRENCE, MASSACHUSETTS.

TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 441,834, dated December 2, 1890.

Application filed September 26, 1890. Serial No. 366,188. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. FREEMAN, of Lawrence, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Tool-Holders for Lathes, of which the following is a specification.

This invention has for its object to provide a simple and efficient device adapted to hold a twist-drill in place between the centers of a lathe; and it consists in a holder comprising an arm or handle, an adjustable clamp at one end of the arm adapted to grasp the shank of a drill of any of the sizes usually employed in lathes, and an adjustable center adapted to receive the outer end of the shank and hold it in line with the clamp, said center being adapted to engage the center on the tail-stock of the lathe, all of which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top view of a portion of a lathe, showing the head and tail stocks with my improved tool-holder in engagement with the tail-stock and presenting a drill to the head-stock. Fig. 2 represents a side view of the holder removed from the lathe. Fig. 3 represents a section on line 3 3, Fig. 2. Figs. 4, 5, and 6 are views of a slightly-different construction of the holder. Fig. 7 represents a section on line 7 7, Fig. 4.

The same letters of reference indicate the same parts in all of the figures.

In the drawings, *a* represents an arm or handle having at one end a socket or aperture *b*, formed to receive the shank of a drill *c*. Said socket has a set-screw *d* entering it at one side, and is made V-shaped at the opposite side, as shown in Figs. 5 and 7, the inclined sides of the V-shaped portion furnishing two bearings, against which the shank of the drill is firmly held by the set-screw, so that shanks of different sizes may be securely held by the socket.

e represents an adjustable center, which is supported by the arm *a*, and is provided in one side with a conical or tapering socket *e'*, adapted to receive the end of the drill-shank, and in the other side with a similarly-shaped socket *e''*, adapted to receive the usual center *f* on the tail-stock *g* of the lathe, the sockets *e'* and *e''* being on the same axial line.

The center *e* is adjustable on the arm *a* to bring its sockets *e'* *e''* into line with the center of any drill-shank that may be secured in the socket *b*, and is adapted to be secured in any position to which it may be adjusted, so that when the drill-shank is secured in the socket *b* and the center *e* is adjusted to the shank and secured the holder furnishes a ready means of properly engaging the drill to the tail-stock *g* and presenting it to the work on the head-stock *h*.

The construction of the arm *a* and center *e* and the means for securing the center may be variously modified. In Figs. 1, 2, and 3 I have shown the arm provided with a socket 5, which is split at one side and provided with ears 6 6 at opposite sides of the cut, which splits it. Said socket receives a shank 8, formed on the center *e*. The ears 6 6 are provided with a screw 7, whereby the socket may be compressed and caused to firmly hold the shank 8 in any position to which it may be moved. The socket *b* is in this construction formed in the offset end of the arm *a*. It will be seen that by loosening the screw 7 the center *e* is made free to be adjusted lengthwise of the arm *a*, so that when the drill-shank is being secured in the socket *b* the center *e* adjusts itself to the position of the shank, and when the center *e* has been thus adjusted it may be rigidly held by tightening the screw 7.

In the construction shown in Figs. 4, 5, and 6 the center *e* is formed on one end of a shank 9, which has at its other end a split sleeve or socket 10, inclosing the arm *a* below the drill-socket *b*. The sleeve 10 has a tightening and loosening screw 12, which when loosened permits the center to move freely endwise of the arm *a*, and when tightened holds the center *e* firmly at any position to which it may be adjusted, the operation of securing the drill to the holder being the same with each of the constructions described.

It will be seen that this improved holder is a marked advantage over the dog which is ordinarily attached to a drill-shank to connect the same with a lathe, the holder performing all the functions of an ordinary dog and being much more conveniently applied and adjusted.

I claim—

1. A drill-holder comprising an arm or han-

dle, a socket in said arm adapted to hold drills of different sizes, and a center adjustably mounted on said arm and adapted to be positively secured in any position to which it may
5 be adjusted, said center having sockets to engage the end of the drill-shank and the tail-stock of a lathe, as set forth.

2. The combination of the arm *a*, having a V-shaped socket *b* and set-screw *d*, the center
10 *e*, longitudinally adjustable on said arm and provided with the sockets *e'* *e*², and means for securing the center to the arm in various positions, as set forth.

3. The combination of the arm *a*, having an

offset end containing a socket *b* and a set- 15 screw *d*, and provided with a split socket 5, having ears 6 and a clamping-screw 7, and the center *e*, having the sockets *e'* *e*² and shank 8, the latter being adjustable in the socket 5, as set forth. 20

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 20th day of September, A. D. 1890.

JAMES F. FREEMAN.

Witnesses:

C. F. BROWN,
D. J. MURPHY.