(No Model.)

# W. TIMMINS & C. I. HUMPHREYS.

## GUIDE COLLAR FOR SCREW MACHINES.

No. 346,391. Patented July 27, 1886.

Fig. 1.

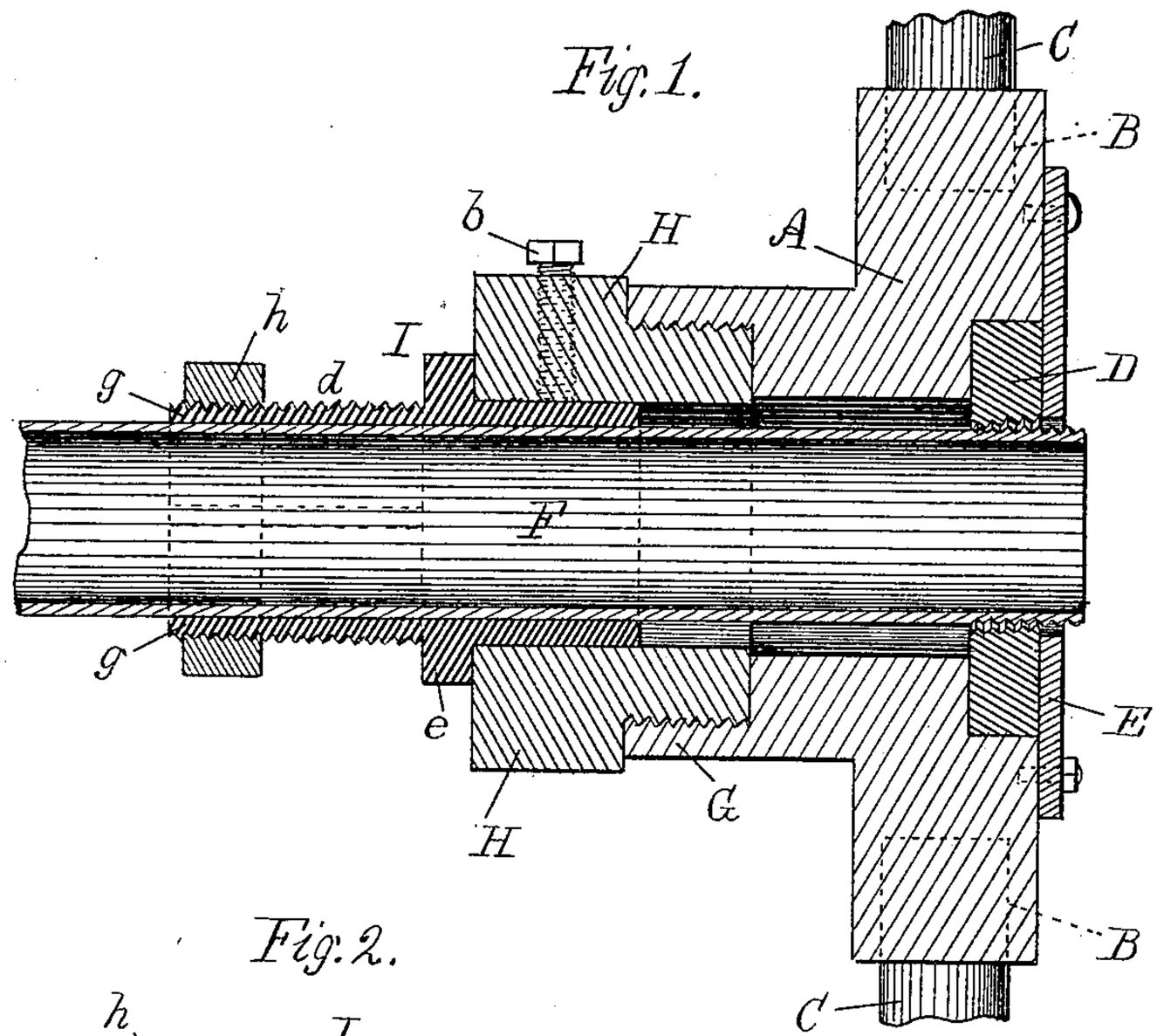



Fig. 2.

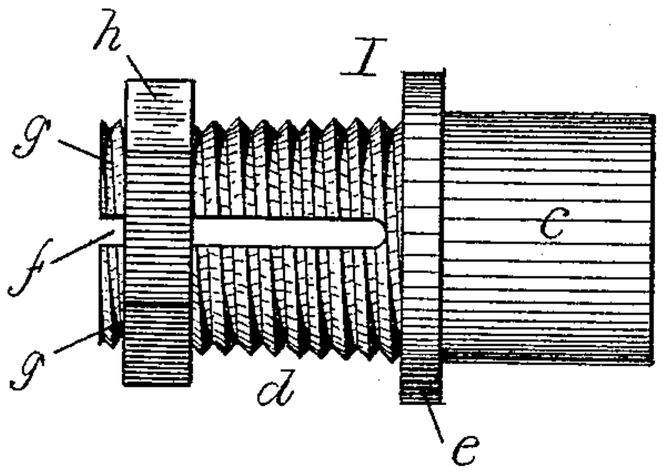



Fig. 4.

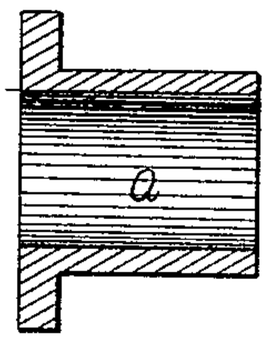
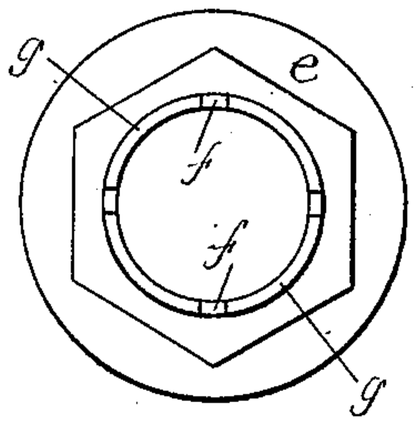



Fig. 3




Witnesses.
J. M. Foote
H. E. Lodge

Inventors.
Wm Timmins and Chas. I. Humphreys.
F. Curtis. Atty.

# UNITED STATES PATENT OFFICE.

WILLIAM TIMMINS AND CHARLES I. HUMPHREYS, OF BOSTON, MASSACHUSETTS, ASSIGNORS TO WILLIAM T. ANDREWS, OF SAME PLACE.

## GUIDE-COLLAR FOR SCREW-MACHINES.

SPECIFICATION forming part of Letters Patent No. 346,391, dated July 27, 1886.

Application filed March 6, 1886. Serial No. 194,218. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM TIMMINS and CHARLES I. HUMPHREYS, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Guide-Collars for Screw-Cutting Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Our invention relates to "guide-collars," so termed, for screw-cutting machines; and it consists, in the present instance, in providing a guide-collar which may be adjusted to snugly fit and inclose the varying sizes of pipes, and thereby insure the proper cutting of a screw-thread by the accurate and positive engagement of the stock with respect to the longitudinal axis or bore of the pipe.

The drawings accompanying this specification represent in Figure 1 a vertical central section through a screw-cutting machine containing our improvements, while Fig. 2 is a side elevation, and Fig. 3 an end view, of the adjustable bushing or guide-collar. Fig. 4 shows an old-style collar.

In the drawings, A represents the stock as usually constructed for screw-cutting machines, provided with two sockets, B B, adapted to receive arms or levers C C, radially disposed with respect to the pipe to be operated upon, and by means of which the stock is to be rotated.

D is the die-plate, fitted within the recess provided for it upon the front side of the stock, and retained therein by the usual pivoted plate, E. This stock is centrally bored to admit of the pipe F, upon which the screw-thread is to be cut.

Upon the rear side of the stock A is formed a short hub or hollow socket, G, interiorly screw-threaded, and adapted to receive a bushing, H, to which the guide-collar is to be attached. This bushing is made removable, to admit others of larger or smaller bore, to accommodate the varying sizes of pipes to be operated upon.

Hitherto, in the operation of screw-threading pipes, bolts, or other articles, the bushing H has been provided with a guide-collar, *a*, (see Fig. 4,) secured thereto by a set-screw, *b*. Moreover, this collar is non-adjustable—that is, an ordinary casting is employed, which is to fit approximately the exterior diameter of the pipe; but since the latter varies individually in diameter for the same size of pipe, some will be found too large, while others are too small to fit the guide-collar. In the latter case the stock A will be permitted movement, and will frequently stand oblique with the longitudinal axis of the pipe, in lieu of at right angles, and hence a crooked thread will be formed upon the pipe. Heretofore the pipe-fitter has been supplied with a series of thin cylindrical shives of metal, which may be introduced within the guide-collar, and exteriorly of the pipe, to firmly engage the stock upon the pipe.

Now, the purpose of our invention is to obviate the difficulties and objections in operating screw-forming machines, and we have endeavored to construct an accurately-adjustable guide-collar, which is shown at I as formed with a tubular flanged head, *c*, which is adapted to fit within and be secured to the bushing H by the set-screw *b*. This guide-collar is further provided with a tubular extension, *d*, which is exteriorly tapered from the flange *c* toward its rear extremity, and also screw-threaded. To render this guide-collar adjustable with respect to the diameters of the various pipes to be introduced therein, we have cut a series of longitudinally-disposed peripheral slots, *f f*, and since the metal composing the screw-threaded portion *d* is somewhat reduced, a series of concentric spring arms or fingers, *g g*, are formed, while their number may be varied, and consequently their elasticity. To contract said arms snugly about the pipe, we provide a nut, *h*, which engages with the screw-thread cut exteriorly upon them.

One very advantageous feature in the employment and construction of this guide-collar will be seen in the fact that the bearing of the stock A upon the pipe is materially increased,

and thereby steadied, while the tendency to cant or rock and alter the path of the thread is diminished.

In the operation of this machine, after securing the pipe, the stock is inserted over the end of the pipe, bolt, or other article to be screw-threaded, presuming that the proper bushing H and guide-collar I have been put in place to suit the size of pipe to be operated upon. The nut is now actuated upon the tapered extension *d*. In the case of an unusually large pipe for a given size, the arms *g g* are released and allowed to open, while in case of the opposite extreme the nut is turned, to cause the fingers to converge upon and snugly grasp the pipe.

This guide-collar is equally applicable in a pipe-cutting machine where it is necessary that the end of the pipe, bolt, or other article should be cut square instead of obliquely, as now frequently occurs.

We claim—

1. The combination, with the die-stock and screw-threaded bushing, of the flanged tubular guide-collar provided with concentric adjustable spring-arms forming a portion of its periphery, as and for purposes set forth.

2. The combination, with the flanged tubular guide-collar, composed of the head *c* and the adjustable spring-arms, of an inclosing-nut for actuating said spring-arms, whereby the bore of the guide-collar is caused to vary with the pipe introduced therein, substantially as described.

3. The combination, with the flanged tubular guide-collar I, formed with the portion *c* and the tapered exteriorly screw-threaded spring-arms *f f*, of the screw-threaded nut adapted to control the position of the arms, for purposes herein stated.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM TIMMINS.
CHARLES I. HUMPHREYS.

Witnesses:
H. E. LODGE,
WM. T. ANDREWS.