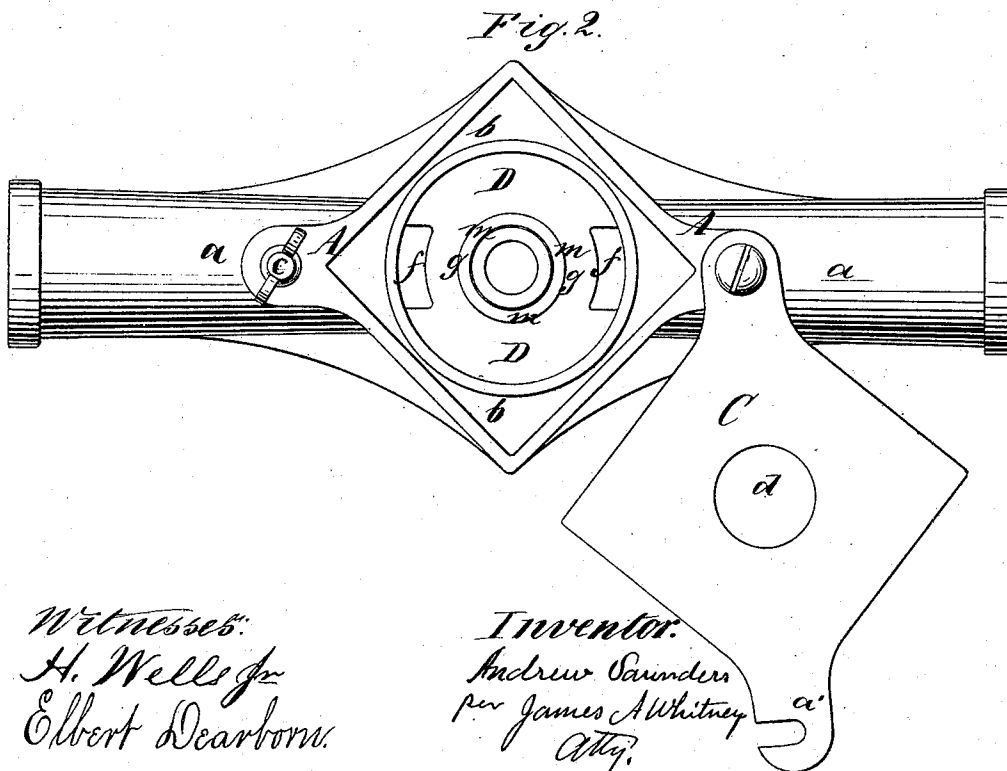
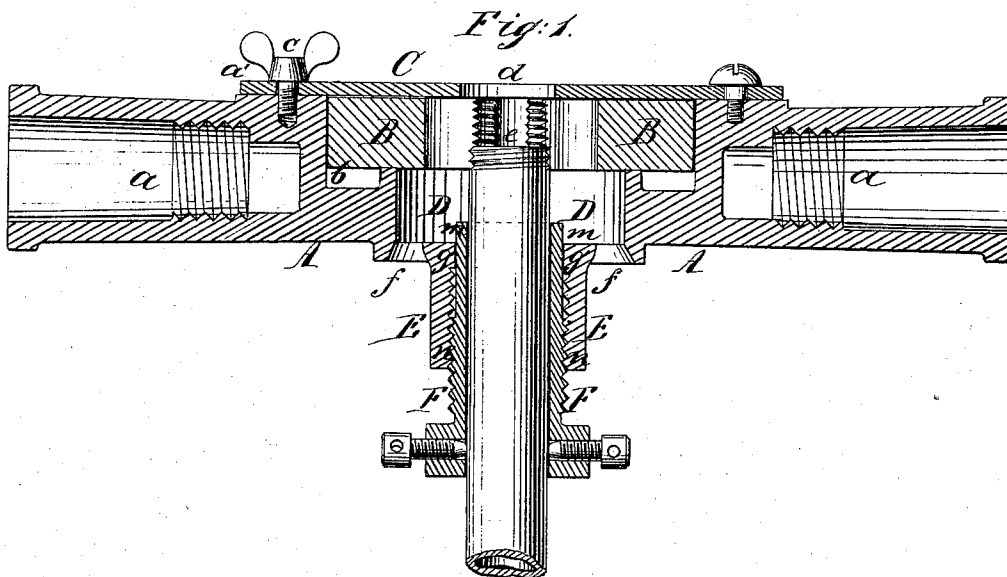


A. SAUNDERS.
THREADING DIE STOCK.

No. 170,119.

Patented Nov. 16, 1875.



Witnesses:
H. Wells Jr.
Elbert Dearborn.

Inventor:
Andrew Saunders
per James A. Whitney
Atty.

UNITED STATES PATENT OFFICE.

ANDREW SAUNDERS, OF YONKERS, NEW YORK, ASSIGNOR TO D. SAUNDERS' SONS, OF SAME PLACE.

IMPROVEMENT IN THREADING DIE-STOCKS.

Specification forming part of Letters Patent No. **170,119**, dated November 16, 1875; application filed September 2, 1875.

To all whom it may concern:

Be it known that I, ANDREW SAUNDERS, of Yonkers, in the county of Westchester and State of New York, have invented an Improvement in Threading Die-Stocks, of which the following is a specification:

This invention relates to that class of die-stocks used principally for cutting screw-threads on gas and steam pipes, and in which the pitch of the screw-thread cut on the pipe is controlled by a feed-screw attached to and around the pipe during the operation of cutting the screw-thread thereon.

The invention consists of a plain cylindric sleeve or extension provided upon the feed-screw, in combination with a plain cylindric and close-fitting bearing, provided as an extension of the threaded socket of the aforesaid feeding-screw, the whole arranged for use and operation in connection with the stock and cutting-die of the apparatus, in such manner that the fine metallic particles or grit produced in the operation of threading or forming screw-threads is effectually prevented from getting between the feeding-screw and its threaded socket aforesaid, and the rapid wear and deterioration of the feeding-screw ordinarily experienced with this class of threading die-stocks are wholly obviated.

Figure 1 is a central longitudinal sectional view of a threading-die embracing my invention; and Fig. 2 is a plan or top view of the same, with the top plate turned aside and the cutting-die removed.

A is the stock, constructed with the sockets *a*, for the reception of handles or end pieces, and with a central squared recess, *b*, for the reception of the cutting-die B, this recess, together with the cutting-die B therein, being covered by the pivoted top plate C, the free or swinging end *a'* of which is confined by the set-screw *c*. In the plate C is an opening, *d*, coincident with the bore or orifice *e* of the cutting-die B. Below or at the inner side of the cutting-die is a chamber, D, into which fall the chips, fine particles, grit, &c., occasioned by the removal of metal from the pipe in forming a screw-thread thereon. In the bottom of the chamber D are one or more

holes, *f*, through which the aforesaid chips, grit, &c., may fall out and away from the apparatus, the parts hereinbefore enumerated being constructed and arranged in a manner well known in the trade, and hence requiring, in this connection, no further or specific description. E is a tubular socket, formed on the lower side of the stock A, and in one piece therewith. The upper or inner part of this socket is smooth and plain, as shown at *g*, forming a cylindric bore or bearing, while the lower or outer portion *n* of said socket is internally threaded, the pitch of the screw formed by said portion *n* being identical with that of the cutting-teeth on the cutting-die. F is the tubular feed-screw of the apparatus, the central bore of which is slightly greater than the diameter of the pipe or tube to be threaded, in order that it may receive the latter. This screw F, instead of terminating with its external screw-thread, which works in the internal screw-thread of the socket E, is constructed with a tubular extension, *m*, which fits into and through the bearing *g* snugly and closely, providing a close joint between said bearing and extension, and yet permitting the usual movement or feeding of the screw.

In the use of the apparatus, the pipe end to be threaded is thrust through the bore of the tubular feed-screw and its hereinbefore-described extension until the said end is brought into the requisite and usual contact with the cutting-die B, the feed-screw having been previously brought outward to, or nearly to, the limit of its outward adjustment. This done, the set-screws *r* are tightened to clamp the pipe immovably in the feed-screw, and the latter is then fixed in a vise, and the operation of threading is proceeded with in the usual manner, the chips, particles, grit, &c., produced falling into the chamber D, and thence, with more or less facility, through the holes *f*; but instead of a portion of the aforesaid particles, grit, &c., getting into the socket E, and cutting, grinding, and destroying the threads of the said socket, and of the feed-screw working therein, such particles, grit, &c., are effectually excluded by the interposition of the close joint formed by the extension

m and bearing *g* between the said threads and the chamber D, the said joint being formed by two concentric surfaces in close contact, and hence much closer than that afforded by the contact of the threads of the feeding-screw with the threaded interior of the socket through which it works.

What I claim as my invention is—

The plain cylindric extension *m*, provided upon the tubular feed-screw F, in combination

with the cylindric bearing *g*, provided at the inner end of the socket E, carrying the said feed-screw, the whole arranged in relation with the essential working parts of the threading die-stock, substantially as and for the purpose set forth.

ANDREW SAUNDERS.

Witnesses:

ALEX. SAUNDERS,
JAMES S. FITCH.