

H. S. LANSDELL.
 Extractor for Metal-Screw Machines.
 No. 222,059. Patented Nov. 25, 1879.

Fig. 1.

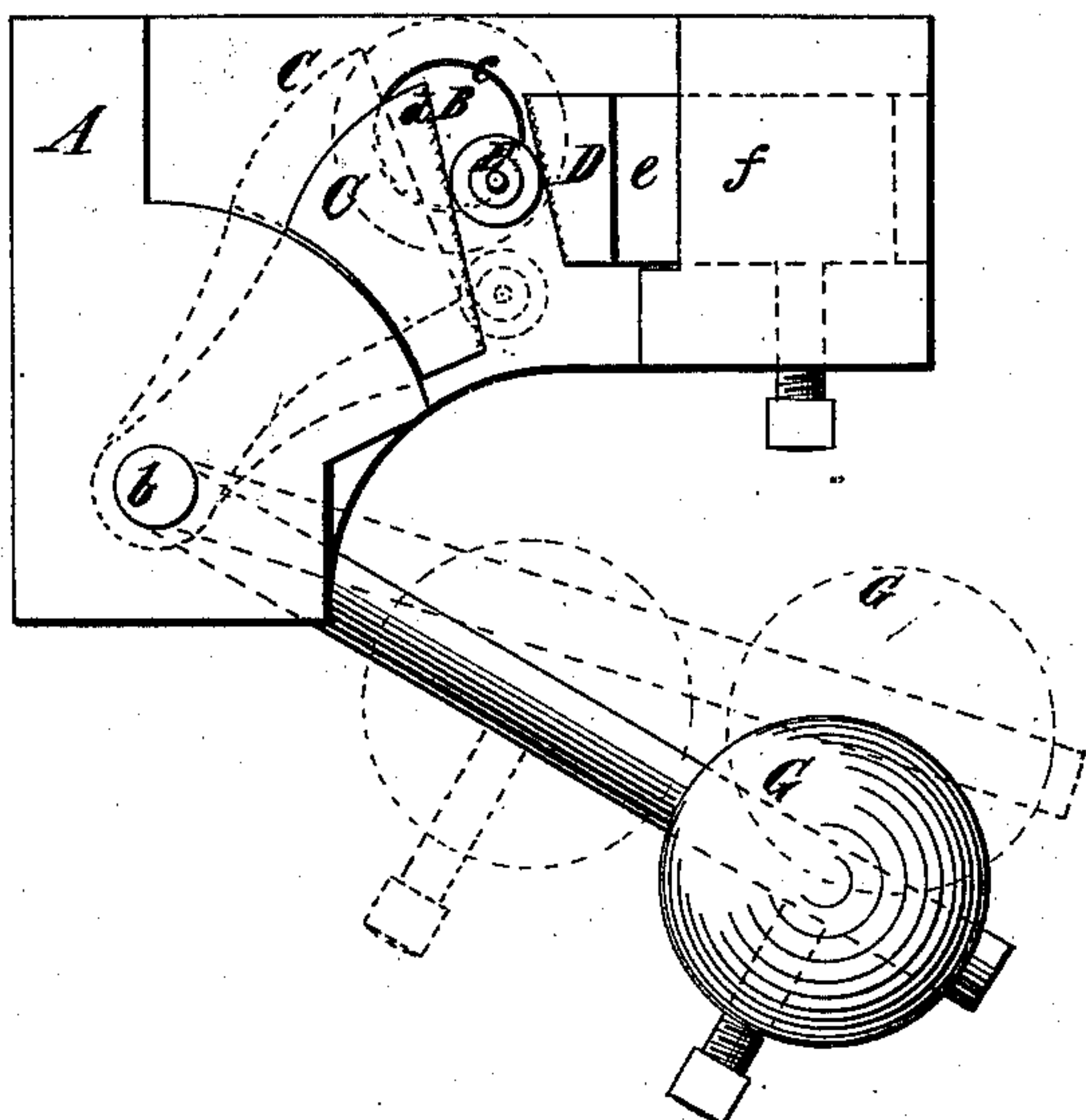
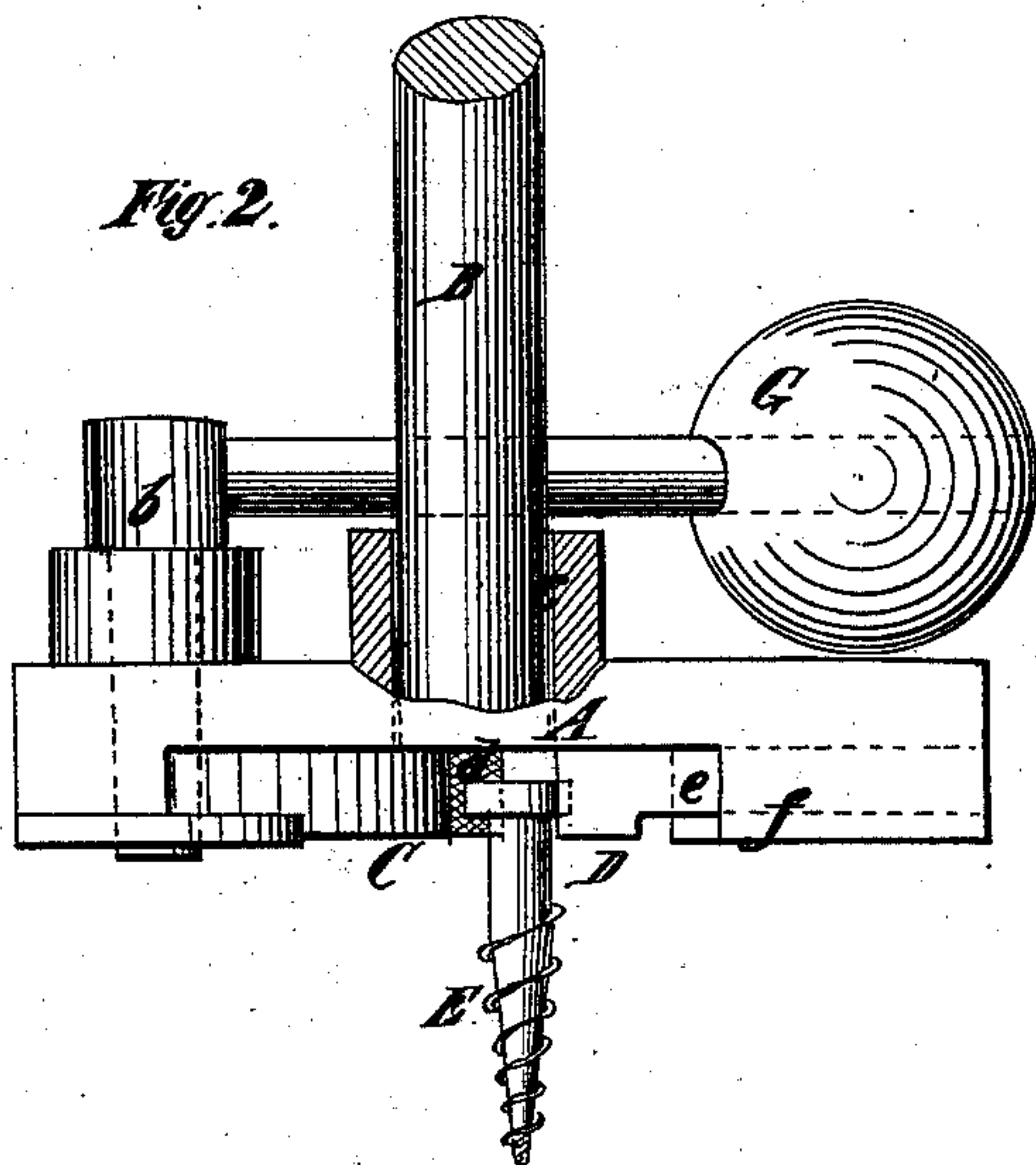


Fig. 2.



Witnesses:

*Fred. Haynes
 L. Allen*

*Henry S. Lansdell
 by his Attorneys
 Brown & Allen*

UNITED STATES PATENT OFFICE.

HENRY S. LANSDELL, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN EXTRACTORS FOR METAL-SCREW MACHINES.

Specification forming part of Letters Patent No. **222,059**, dated November 25, 1879; application filed September 18, 1877.

To all whom it may concern:

Be it known that I, HENRY S. LANSDELL, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Devices for Extracting or Removing Screws in Screw-Cutting Machines, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to machines of various kinds for making metal screws, but is more particularly designed to be applied to screw-cutting machines in which an intermittently-revolving head having dies in its opposite sides arranged to rotate in reverse directions is used, so that while a screw-thread is being cut upon one blank at one side of the head a finished screw, ready for removal, is presented on the other side of the head. In such, as in other machines for a like purpose, the head of the screw has been nicked while in the machine, whereby a mere sliding screw-driver might be used in connection with the rotating die to extract the screw from the machine. This nicking of the head of the screw, however, in the same machine as cuts the thread racks the screw-cutting mechanism, and is otherwise objectionable.

My invention provides for the extraction of the screw from the die by which its thread has been cut without nicking the head of the screw while the latter is in the machine which cuts the thread or before introducing it thereto.

The invention is especially designed to be applied to the machine for making metal screws patented to N. C. Hubbell, No. 143,412, dated October 7, 1873.

To this end the invention consists in a screw-extractor of novel construction, in which the head of the screw is automatically clamped between jaws or grippers having a wedging action, and carried by a holder which is fitted to slide longitudinally in direction of the length of the screw, to remove the latter from the die as the latter is rotated in a suitable direction, or when the die is stationary, as said extractor is rotated as well as slid away from the die.

Figure 1 represents a front elevation of a screw-extractor constructed according to my invention, and Fig. 2 a top view of the same.

A is the holder or frame of the extractor, attached to a longitudinally-sliding bar or shaft, B, the center of which is in line with the center of the screw in the thread-cutting die when the latter is brought into position for removing the screw from said die—as, for instance, by the intermittent rotation of a duplicate or many die holding head. This holder or frame A is provided on its face with a griper or jaw, C, pivoted, as at *b*, below and to one side of the shaft B or working center of the holder, (represented by the aperture *c*,) by which the holder or frame A is secured on said shaft. Said griper or jaw is straight on its acting surface or face *d*, which, in the swinging of said griper, crosses the aperture *c* with a wedge-like action relatively to a stationary jaw or griper, D, on the opposite side of said aperture. This stationary jaw or griper D is formed with a shank, *e*, adjustable in a socket, *f*, on the face of the holder, to regulate the biting or bearing surface of said jaw D relatively to the center of the aperture *c* or shaft B, to provide for the extractor's operation on screw-heads of different diameters, in order that the screw E, being extracted, may be concentric with the longitudinally-sliding center of the holder A.

A weight or weighted lever, G, attached to the pivot *b* of the movable jaw C, serves to close with a wedge-like action the jaw or griper C on the head of the screw E, and to hold the latter between the jaws C and D from turning while the holder A is sliding backward and the die is unscrewing itself from off the screw, in or during which the gripe of the jaws is increased by the rotation of the die relatively to the closing action of the jaw or griper C.

To enter the screw E between the jaws C and D, its head, in coming round, strikes the lower portion of the face *d* of the movable jaw C, and, lifting the weighted lever G, which may be adjustable to give a variable effect, liberates the screw previously held by the extractor, and causes the new screw to be entered between the jaws C and D, and to be firmly held

by the wedging or closing action of the jaw C while the holder A is run back to extract the screw from the die.

When the screwing-die is stationary and the holder or frame A is rotated as well as slid longitudinally in direction of the length of the screw to extract the latter, then, instead of the weighted lever G, a spring may be used to close the movable griper.

I claim—

1. The screw-extractor composed of a holder or frame, A, a pivoted or movable self-closing jaw or griper, B, controlled by a spring or weight, and arranged on one side of said holder's working center, and a stationary jaw or griper, D, on the opposite side of said center, for operation in relation with a screwing die or dies, substantially as specified.

2. The stationary jaw or griper D, made ad-

justable relatively to the working center of the holder or frame A, which carries said jaw, in combination with the pivoted or movable self-closing jaw C and the holder or frame A, essentially as and for the purpose herein set forth.

3. The combination, for use with a movable die-holder carrying one or more dies adapted to cut a thread upon the screw, of jaws with serrated faces for gripping the head of a screw and holding the same stationary while the die containing it is unscrewing or reversing, the said jaws being carried by a sliding head, which moves back as the screw is gradually projected from the die.

HENRY S. LANSDELL.

Witnesses:

FRED. HAYNES,

BENJAMIN W. HOFFMAN.