C. S. CRANE & W. H. LAVINIA.

Screw-Cutting Machines.

No. 136,818. Patented March 18, 1873.

Fig 1

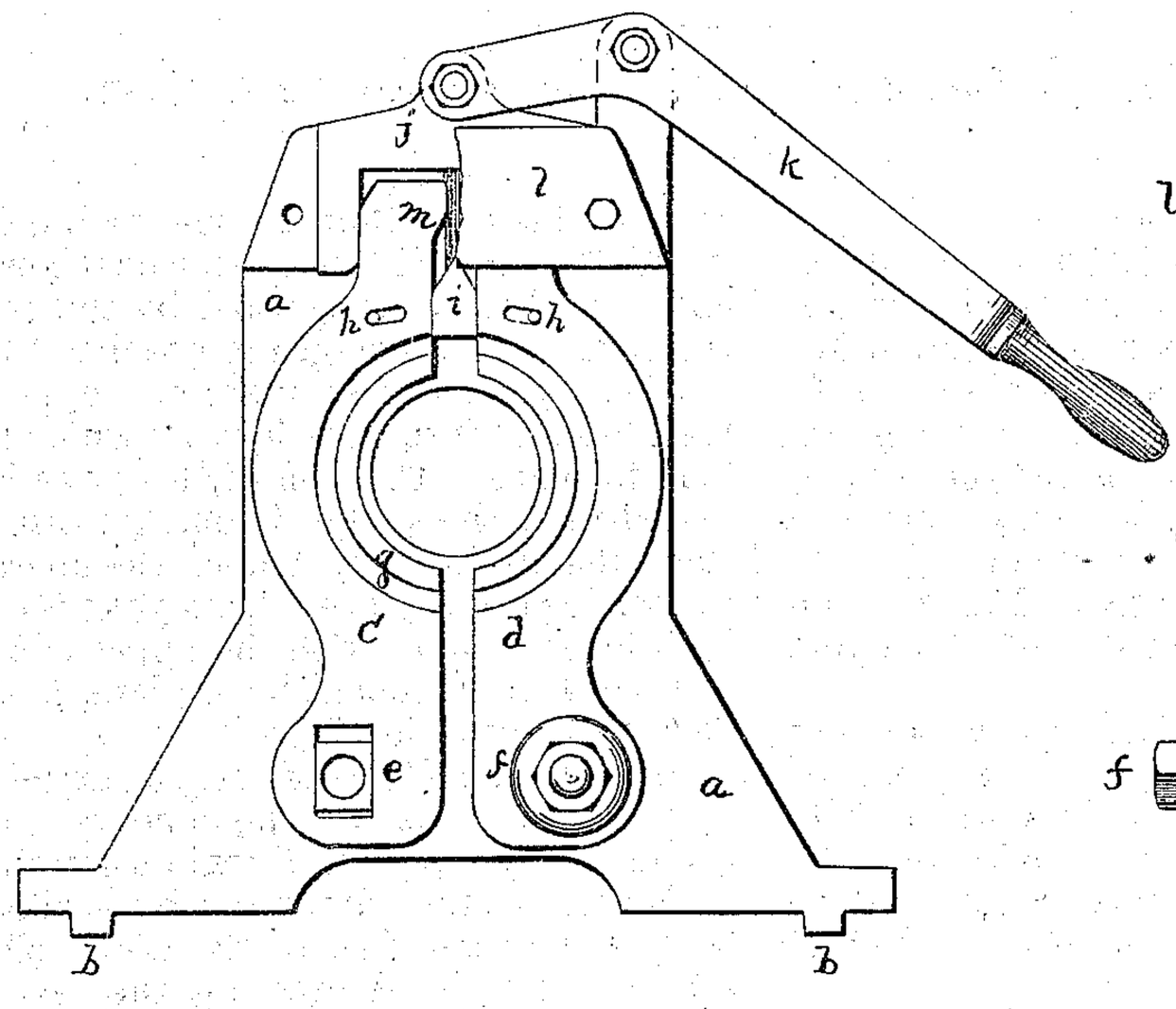


Fig 2.

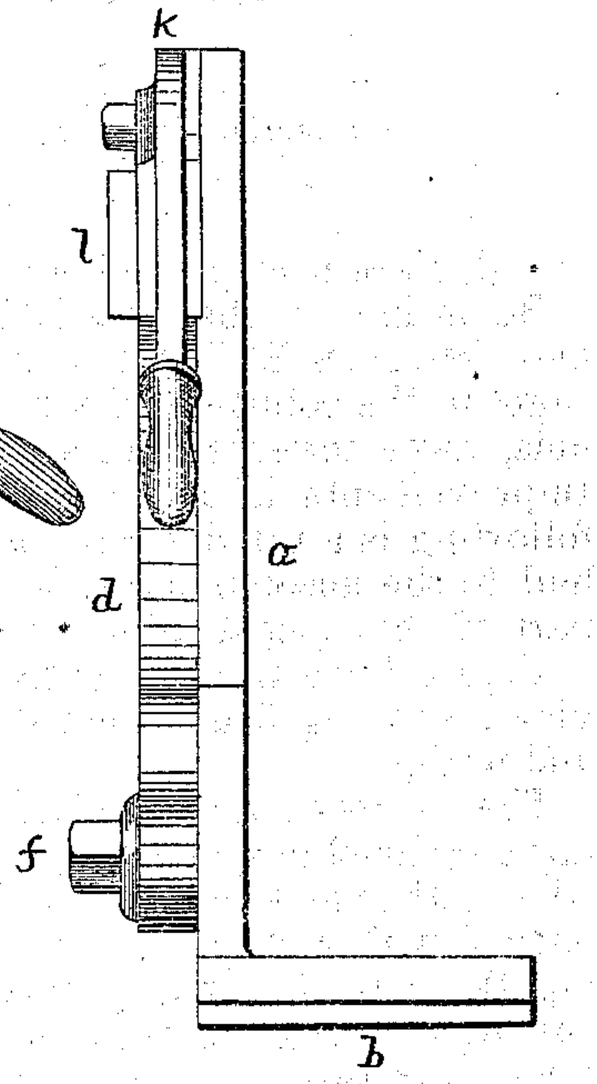
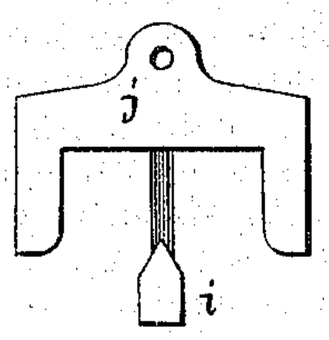


Fig 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES S. CRANE AND WILLIAM H. LAVINIA, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SCREW-CUTTING MACHINES.

Specification forming part of Letters Patent No. **136,818,** dated March 18, 1873.

To all whom it may concern:

Be it known that we, CHARLES S. CRANE and WILLIAM H. LAVINIA, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Die-Chucks, of which the following is a full description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a front elevation; Fig. 2, a side view; and Fig. 3, a detached view of the yoke and wedge.

The nature of our invention consists in making our die-chuck in two sections so connected together and hinged that the die may be opened with a short movement without injuring the thread. It is primarily designed for cutting screws on pipes, but may be used for other purposes.

In the drawing, *a* represents the frame or plate to which the chuck is attached; *b*, lugs or guides by which the frame is set and held in a lathe; *c* and *d*, jaws in which the dies are secured; *e*, collar and slot in the jaw *c*, by means of which a vertical or partly-vertical and partly-rotary movement can be given to the jaw *c*; *f*, screw-nut by which the jaws are held in place, said nut and bolt being removed at *e*; *g*, groove in which the die is placed and held in the jaws; *h*, slots in the upper ends of the jaws through which small pins pass to limit the movement of the jaws at their upper ends; *i*, wedge; *j*, yoke; *k*, lever; *m*, inclines by which the wedge acts upon the jaws. The slots *h* are placed at an angle, as shown, so that as the jaws are opened they also pass down to prevent the lower corners of the die, which move in an arc of a smaller circle than the upper ends, from cutting the threads. The dies, which are not shown, are made in sections or halves to correspond with the jaws. At the upper ends of the jaws inclined projections *m* are provided, so that, as the wedge *i* is elevated, the jaws will be opened or thrown apart and also thrown downward by the incline of the slots *h*. The wedge *i* is attached to a yoke, *j*, which yoke passes over the upper ends of the jaws and forms the lock by which they are held in place. The arm of this yoke is so adjusted with the wedge *i* that it passes above the ends of the jaws before the operation of the wedge takes place. This yoke is operated by a lever, *k*, and, with the upper ends of the jaws, is held in place by a plate, *l*, which is partly cut away in Fig. 1.

In operation, dies suitable to cut the thread of the desired size on the pipe are placed in the groove *g*, a pipe is placed on suitable rests to center it, and advanced, by ordinary machinery or otherwise, to the die. When the screw is cut, by depressing the lever *k* the jaws are opened, when the pipe is withdrawn without being unscrewed.

The yoke *j* is heavy enough to hold the lever *k* in position when the jaws are closed.

The jaw *d* may be made stationary, but we prefer to make both movable, as shown, as then no side movement of the pipe is required in order to withdraw it from the dies.

What we claim as new is as follows:

1. The combination of the jaws *c* and *d*, slotted at *e* and *h* and pivoted to the frame *a* provided with pins *h*, substantially as and for the purposes specified.

2. The combination of the jaws *c* and *d*, constructed and operating as described, with the wedge *i*, yoke *j*, and lever *k*, substantially as described.

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Witnesses:
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