(No Model.)

M. G. LEWIS.

BENCH VISE.

No. 514,012. Patented Feb. 6, 1894.

Fig. 1.

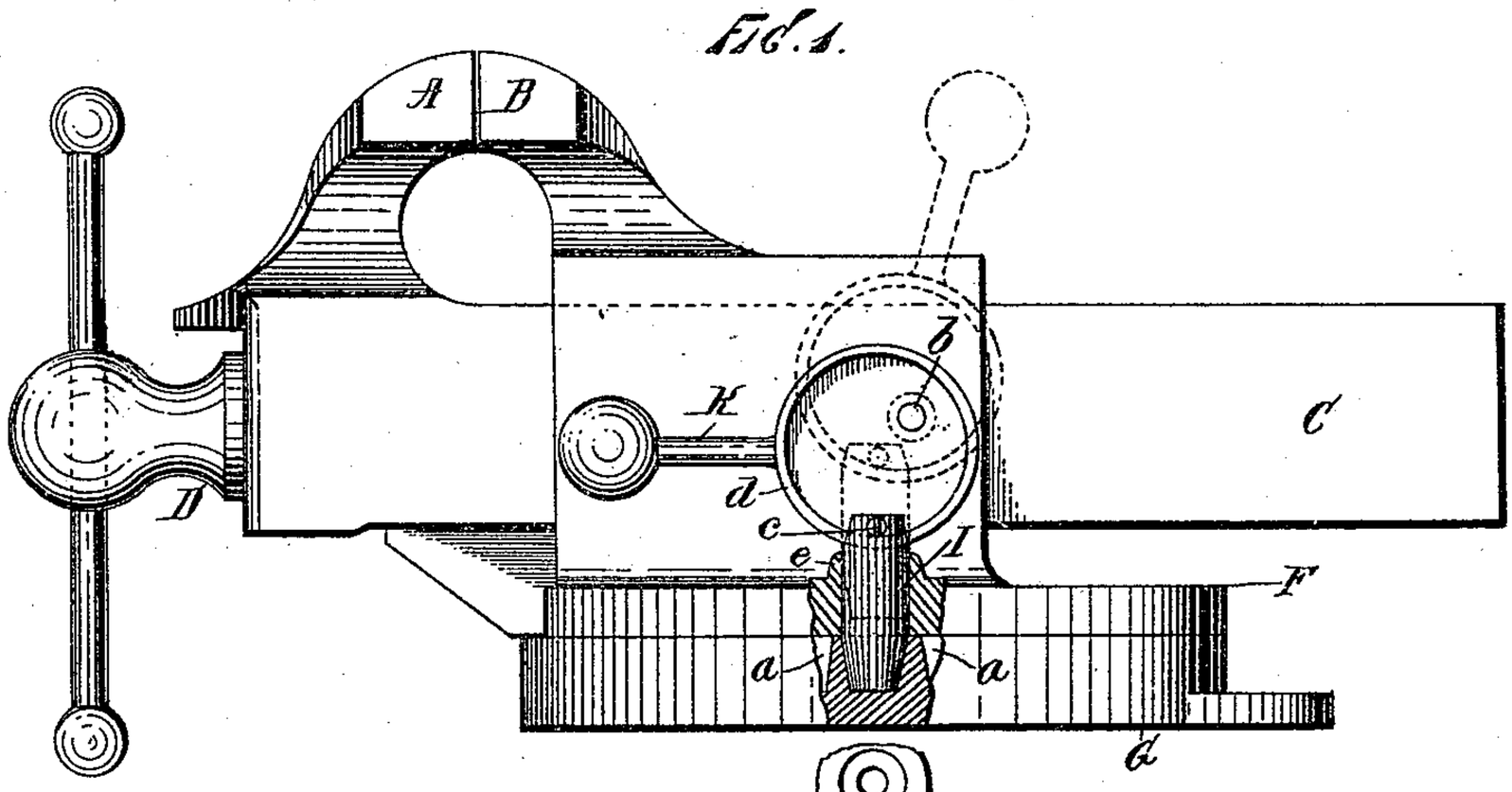


Fig. 2.

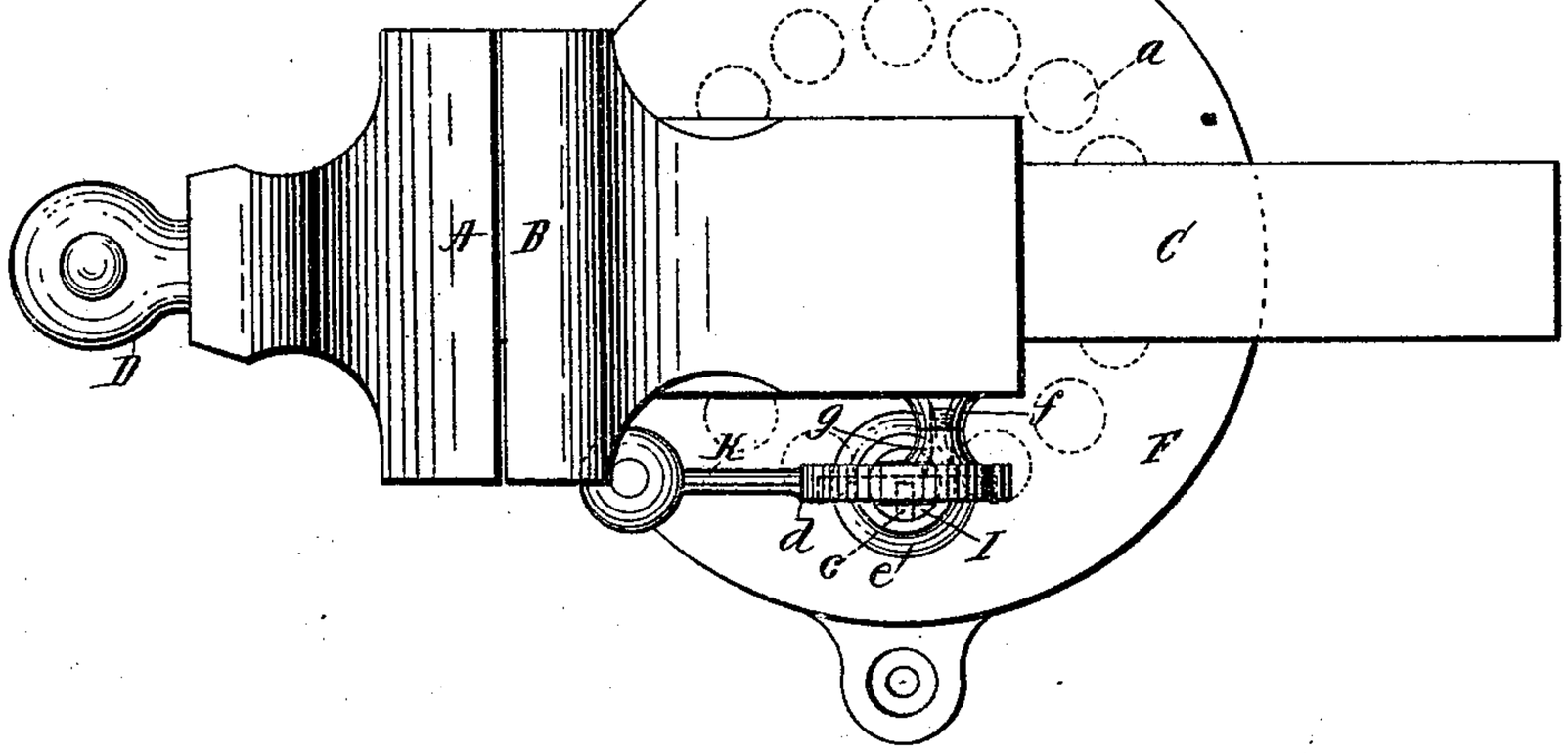
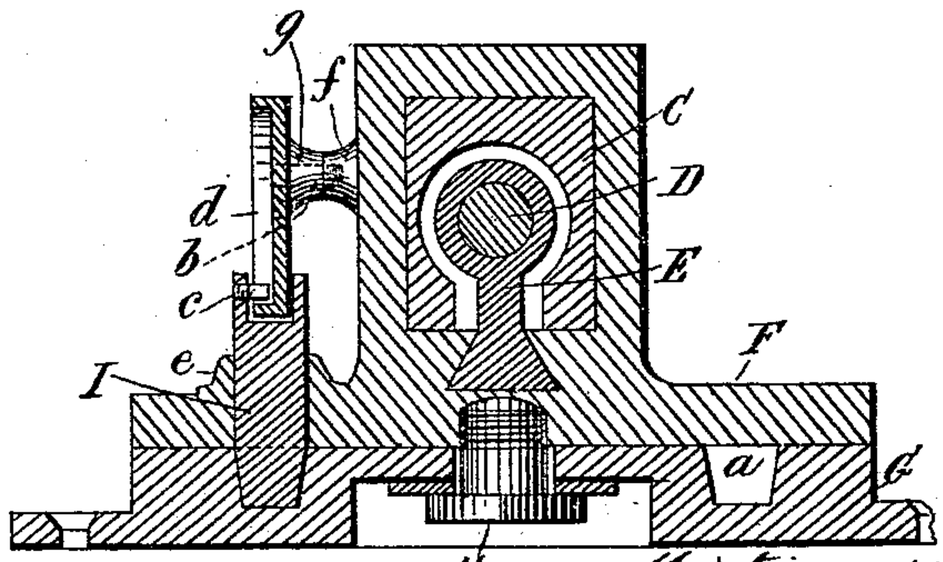


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

MORTIMER G. LEWIS, OF NEW YORK, N. Y.

BENCH-VISE.

SPECIFICATION forming part of Letters Patent No. 514,012, dated February 6, 1894.

Application filed October 30, 1893. Serial No. 489,557. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER G. LEWIS, of New York city, county and State of New York, have invented certain new and useful Improvements in Bench-Vises, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has relation to bench vises wherein the jaws or vise proper are swiveled so as to turn upon the bed plate, which class is commonly known as swiveled bottom vises, and particularly does the invention relate to that variety of swiveled bottom vises wherein the locking of the vise to the bed plate is positively accomplished by use of a locking pin adjustably mounted on the vise and calculated to enter perforations or cavities provided for it in the bed plate.

Heretofore the locking pin has generally been mounted in a case and provided with a spring to hold it in place. The spring is necessarily short and consequently liable to become set at a point where its holding effect is destroyed, and it is always more or less difficult to raise the pin against the action of the spring, and with it the vise cannot be left free to turn without becoming automatically locked the instant the pin reaches a holding cavity. To overcome these objections and to secure simplicity, durability and cheapness of construction and other advantages in operation and use of the locking contrivance are the objects of my invention; and to accomplish all of this my improvements involve certain new and useful arrangements or combinations of parts as will be herein first fully described and then pointed out in the claims.

In the drawings Figure 1. is a side view of a swiveled bottom vise having one form of my improved locking device applied thereto, a portion of the base of the vise and the bed plate being shown in section. Fig. 2 is a plan or top view of the vise shown in Fig. 1, and Fig. 3 is a cross section and partial elevation thereof on a plane cutting through the locking pin.

In all the figures, like letters of reference, wherever they occur, indicate corresponding parts.

A and B are the front and back vise-jaws, C the sliding arm, D the vise screw and E the nut with which the screw engages. All of these may be of any form.

F. is the base upon which the upper parts of the vise are mounted and G the bed plate which is intended to be secured to the bench or other support. The base and bed plate are swiveled together as by a swivel bolt H and calculated to turn or revolve one upon the other. The bed plate is provided with any number of cavities as at *a a* into which the locking pin I may enter. The pin passes through the base and enters one of the cavities, when the two parts are positively locked together, holding the vise at any desired angle with the front of the bench. To move this locking pin I propose to supply some form of lever for engagement with it, by which lever it may be forcibly raised or lowered with very little effort on the part of the operator, and when in locking position held against accidental disarrangement. K is such a lever. In the form shown it is pivoted on the side of the vise as at *b* and engages with pin I through the medium of a removable screw bolt *c* which rides upon a rim *d* with which the lever is provided, the rim being eccentric with respect to the pivot on which the lever is fulcrumed.

The manner of mounting and connecting the lever may be variously modified though the special form shown has peculiar advantages as will hereinafter appear.

The cavities *a* are slightly tapering and the locking pin I correspondingly fashioned at its lower part, so that the pin wedges to its seat. It may be forcibly wedged by the action of the lever. With the spring and thumb piece heretofore supplied, the pin sometimes becomes set so that it cannot be withdrawn by hand. The lever affords a powerful advantage in moving the pin, as must be apparent. When seated, the weight of the overhanging part of the lever is sufficient to maintain the pin against any accidental jumping or crowding out of place. The lever K is shown as specially weighted at the extremity, but in many cases a plain or straight form will answer the desired purposes. The upper part of pin I is straight or cylindrical and it moves through a casing *e* fixed upon the base, so that, throughout the extent of its movements it is guided in a true line and prevented

from wabbling as would otherwise likely occur. When the lever is turned up far enough, it carries the pin clear of the bed plate and holds it in that position so that the vise may be revolved to the desired point, when a tap on the lever will throw it down and effect the desired locking. If the lever be thrown back of the vertical line through the pin it will hold the pin free of the bed plate and in such manner that the vise may be used without being locked and without danger of becoming so through any jars or shocks likely to be received; and when the lever is left forward of the vertical line referred to the pin will engage automatically. In all the positions the lever is out of the way of the workman but in convenient position to be grasped or struck whenever required. To pivot the lever in place, I pass the screw bolt *b* (which is the fulcrum) into a hub *f* provided for it on the side of the vise, and against this rides a slight hub *g* on the back of the lever. The purpose of thus pivoting the lever away from the side of the vise is to enable the pin and lever to be easily removed or detached for separate packing in shipping the vise. (The vises are shipped uncovered and the less solid parts are liable to damage in transit.) But this special pivoting may be omitted in certain cases when desired.

The appliance is strong, durable, and convenient and well adapted to answer all the purposes or objects of the invention herein previously alluded to.

Having now fully described my invention, what I claim as new herein, and desire to secure by Letters Patent, is—

1. In a swiveled bottom bench vise, the locking pin, the lever provided with a rim connected with the pin and pivoted on the side of the vise, the pivot being located eccentrically with respect to the rim, substantially as shown and described.

2. In a swiveled bottom bench vise, the combination with the locking pin, of a weighted lever arranged to move the same and to automatically hold it in or out of locking position, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

MORTIMER G. LEWIS.

Witnesses:
W. J. MORGAN,
WORTH OSGOOD.