(No Model.) 2 Sheets—Sheet 1.

H. C. BALSBAUGH.

TURNING LATHE.

No. 258,000. Patented May 16, 1882.

Fig. 1.

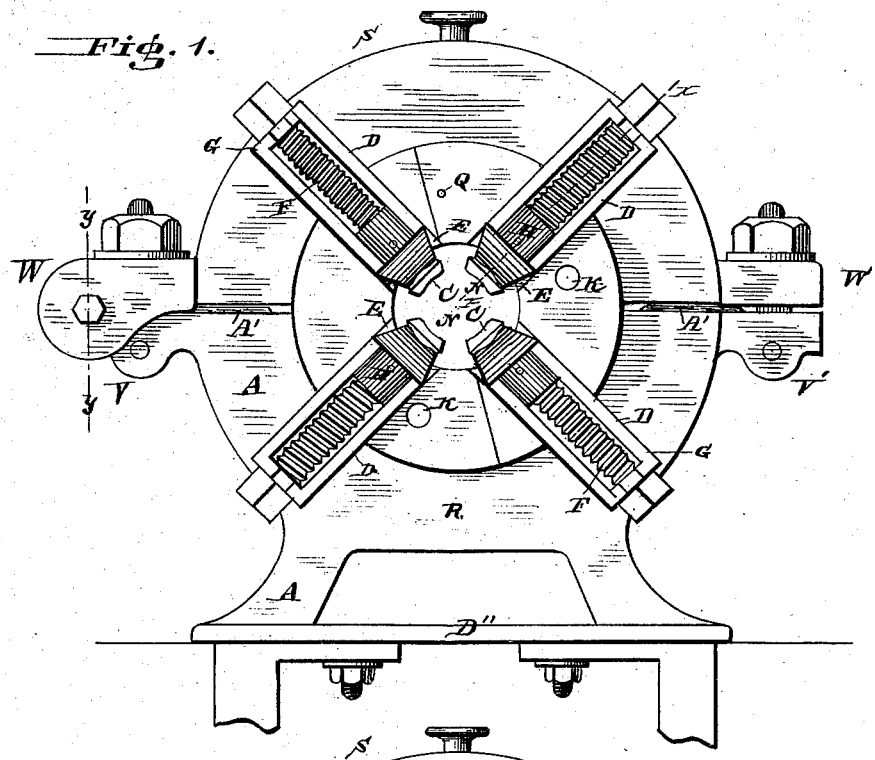
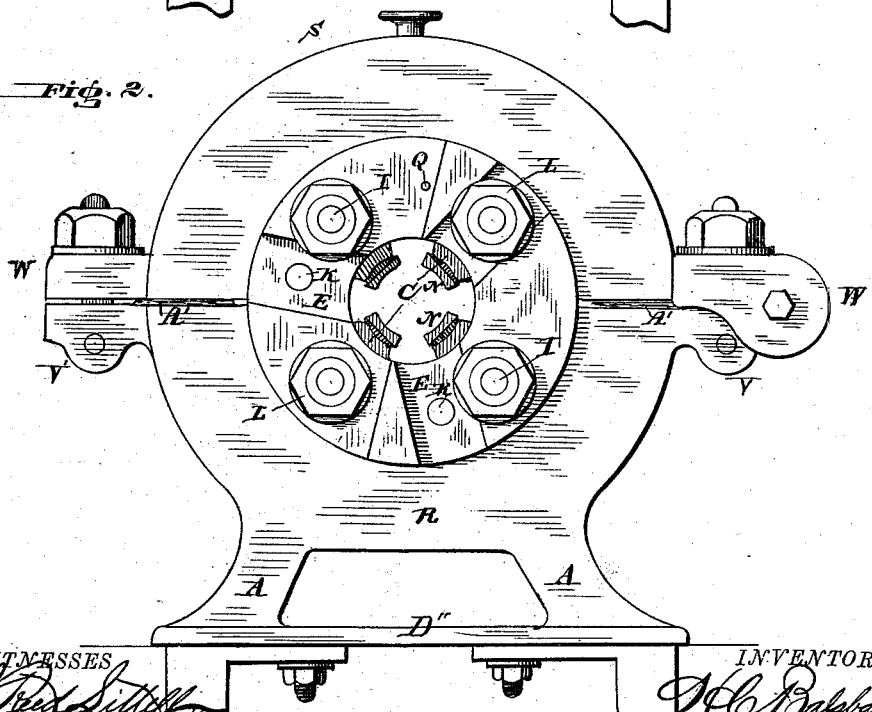


Fig. 2.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

H. C. BALSBAUGH.

TURNING LATHE.

No. 258,000. Patented May 16, 1882.

Fig. 3.

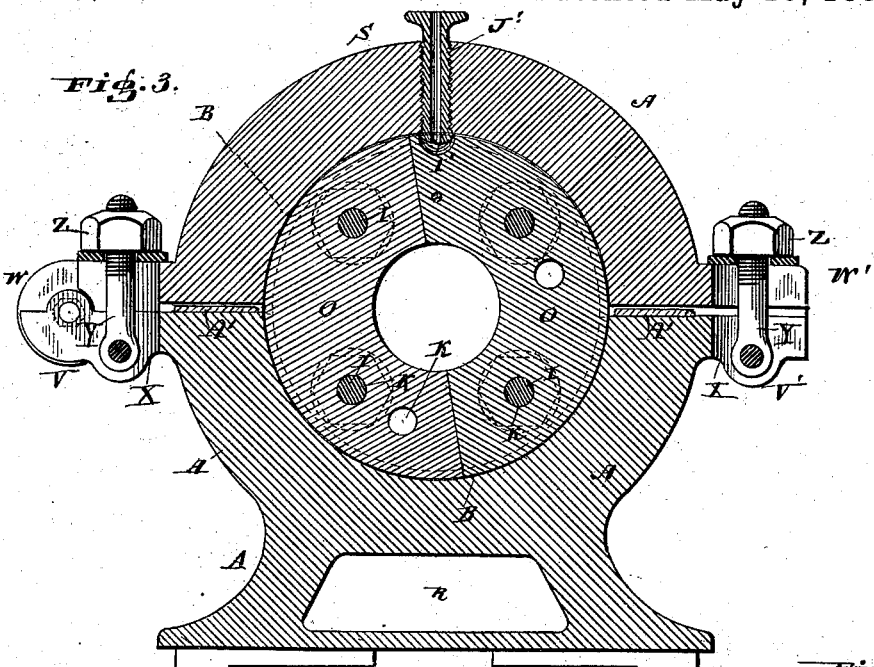


Fig. 4.

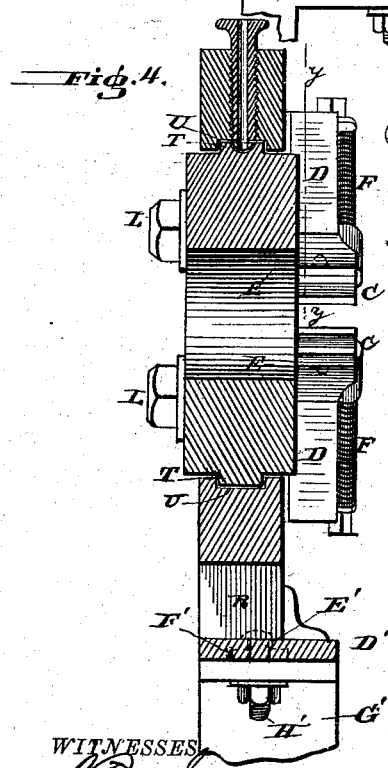


Fig. 5.

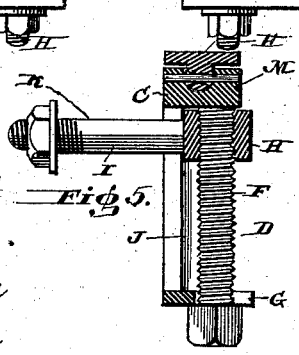


Fig. 6.

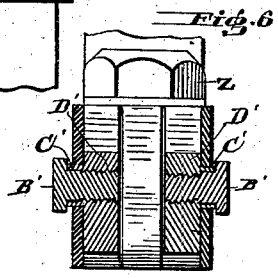


Fig. 8.

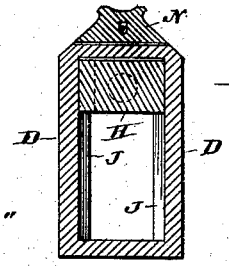
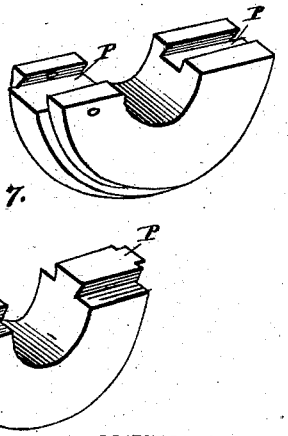


Fig. 7.



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UNITED STATES PATENT OFFICE.

HENRY C. BALSBAUGH, OF HUDSON, WISCONSIN.

TURNING-LATHE.

SPECIFICATION forming part of Letters Patent No. 258,000, dated May 16, 1882.

Application filed December 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. BALSBAUGH, of Hudson, in the county of St. Croix and State of Wisconsin, have invented certain new and useful Improvements in Turning-Lathes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a side view. Fig. 2 is a view of the opposite side. Fig. 3 is a vertical sectional view. Fig. 4 is a vertical cross-section. Fig. 5 is a sectional view of one of the jaws on the line *x x*, Fig. 1. Fig. 6 is a section on the line *y y*, Fig. 1. Fig. 7 is a detail view, showing in perspective the construction of the revolving collar; and Fig. 8 is a section of one of the jaws on the line *y y*, Fig. 4.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to collar-plates or revolving rests for turning-lathes; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A represents a frame having a bearing for a revolving collar, B, provided on either side with bearings for the clamping-jaws C, one side of said collar being provided with three and the other side with four such bearings, which consist of radial grooves arranged at equal distances apart. The clamping-jaws, the construction of which will be hereinafter described, are detachable, and may be adjusted upon either side of the revolving collar, which is reversible in order that either side may be turned to the front.

The clamping-jaws consist of suitably-constructed frames D, having their under sides adapted to fit and slide in the grooves or bearings E, and provided with bearings for the screws F, which have key-seats G projecting beyond said frames. The screws F are fitted in threaded collars H, having bolts I, which project through slots J in the bottom of the frames and pass through perforations K in collar B, on the opposite side of which they are secured by nuts L. By turning the screws F the clamping-jaws may be radially adjusted to clamp the object introduced through the collar. The inner ends of the frames D have seats M for the vibrating or rocking end pieces, N, which, when the object to be clamped is tapering, will adapt themselves thereto and hold it firmly. Said end pieces may, when desired, be easily removed by removing the pins by which they are held in place.

The revolving collar B is constructed in two separate pieces or sections, O O, connected by means of a dovetail joint, P, which is made tapering or wedge-shaped in direction of its length, so as to enable the sections to be held securely together by means of a single tapering pin, Q, driven through suitable perforations in the rib and flanges forming the joint, and made to register, as shown. The construction of the collar has been clearly shown in Fig. 7 of the drawings.

The frame A consists of a lower part or base, R, adjustable upon the lathe, as will be presently described, and an upper section, S. The said parts, when fitted together, form a circular ring or bearing for the revolving collar B, which is provided with a circumferential rib, T, fitting in a groove, U, in the box or bearing and holding it in position.

The parts R and S, constituting the frame, are provided with laterally-projecting lugs V V′ and W W′, having vertical slots X. Y are bolts hinged in the slots of lugs V V′ and provided with nuts Z. By swinging the bolts into the slots of lugs W W′ of the top S and tightening the nuts the parts R and S may be clamped securely together. The said parts are kept a slight distance apart by plates or washers A′, interposed between them. When on account of wear the revolving collar becomes loose in its bearing, this may be compensated for by removing the washers A′ and inserting thinner ones, or planing a small portion off their faces. The parts R and S are hinged together at one end by means of short bolts or set-screws B′, passing through sleeves C′, fitted in the sides of one of the slotted lugs W, as clearly shown in Fig. 6 of the drawings, and into threaded perforations D′ in the sides of the corresponding lug. The sleeves C′ project slightly on one side, so as to be clamped be-

tween lug V and the head of the screw or bolt when the latter is tightened. By this arrangement it will be seen that the upper part, S, turns not upon bolts B′, but upon sleeves C′, as a hinge. When, in order to compensate for wear of the revolving collar, it becomes necessary to reduce the thickness of the plates or washers A′, the bolts B′ should be slightly loosened, so as to enable the top S to drop down squarely upon base R. The bolts B′ are then again tightened, and the top is then ready to be worked upon its hinge as before.

The base R is provided with a foot-piece, D″, having upon its under side a groove, E′, in direction of its length, to receive ribs F′ upon the upper sides of two clamps, G′, adjustable by means of bolts H′. By properly adjusting said clamps the collar B may be easily centered horizontally, the clamps being originally made of such height that by planing a sufficient quantity off their under sides the device may be centered in a vertical plane.

The revolving collar B is provided in its edge with a recess, I′, adapted to receive the point of a set-screw, J′, working in the top S of the frame, when for any reason it becomes necessary to prevent the collar from revolving, thus forming a stationary as well as a revolving rest.

The operation and advantages of my invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed, by those skilled in the art to which it appertains. It is simple, convenient, and easily adjusted for operation. When the objects to be turned are so large at the ends as to prevent the collar B from being slipped on, the collar may be taken apart and adjusted at the proper place.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination, with the frame or bearing A, of the reversible revolving collar B, provided on each side with grooves for the detachable clamping-jaws C, substantially as and for the purpose set forth.

2. The herein-described revolving collar, consisting of two parts connected by a dovetail joint, tapering or wedge-shaped in direction of its length, and by a single tapering pin, substantially as set forth.

3. The frame consisting of the base R and hinged top S, with the interposed plates or washers A′, in combination with the revolving reversible collar B, substantially as set forth.

4. The slotted lug W, having sleeves C′ fitted in its sides and projecting at the ends, in combination with the headed bolts or set-screws B′, passing loosely through said sleeves and into the sides of lug V, forming a hinge, substantially as set forth.

5. The combination, with the reversible revolving collar, constructed and arranged substantially as described, of the frame consisting of two parts hinged together and having a set-screw adapted to enter a recess in the edge of said revolving collar, so as to hold it stationary, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

HENRY C. BALSBAUGH.

Witnesses:
A. J. McCLELLAN,
WM. S. EVANS.