

(No Model.)

D. F. DUNN.

MACHINE FOR TRUING VALVE PLUGS, SEATS, &c.

No. 378,196.

Patented Feb. 21, 1888.

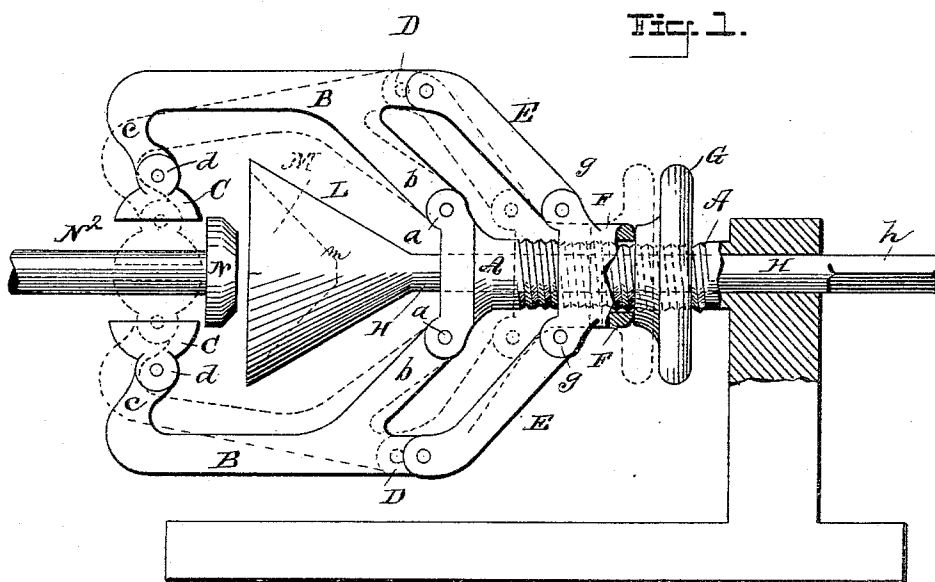


Fig. 2.

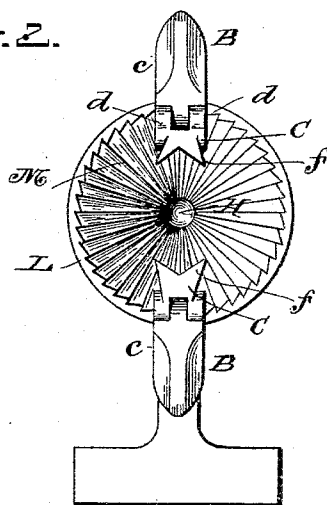
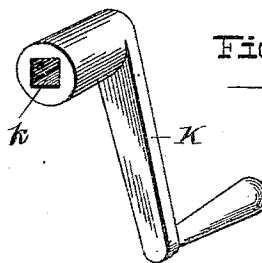


Fig. 3.



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UNITED STATES PATENT OFFICE.

DANIEL F. DUNN, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO JOHN S. ELLIS, OF SAME PLACE.

MACHINE FOR TRUING VALVE PLUGS, SEATS, &c.

SPECIFICATION forming part of Letters Patent No. 378,196, dated February 21, 1883.

Application filed October 15, 1887. Serial No. 252,429. (No model.)

To all whom it may concern:

Be it known that I, DANIEL F. DUNN, of Columbus, in the county of Franklin and State of Ohio, have invented a new and Improved Machine for Truing Valve Plugs, Seats, &c., of which the following is a full, clear, and exact description.

The present invention relates to a device for centering a valve-stem or valve-casing, &c., and means for grinding or burring the plug or seat of the so-centered valve stem or casing; and it consists in the formation and combination of the parts for operation, all substantially as will hereinafter more fully appear, and be pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the clamping and centering mechanism, showing the position of a valve-stem when centered and clamped therein and the burring or grinding implement combined therewith. Fig. 2 is an end view of the clamp-arms and clamp-jaws and of a burring head, and Fig. 3 is a view of the burr-shaft crank detached.

At and upon the end of a stationary tubular spindle, A, suitably supported or held and exteriorly screw-threaded, are formed ear-pieces *a*, to which are pivotally hung the ends *b* of clamp-arms B, having inward bends near their outer ends, as at *c*, to the ends of which, by their ear pieces *d*, are pivotally hung clamp-jaws C, the inner edges, *f*, of which are made of concave or other suitable form for an embrace or hold of said jaws upon the valve, stem, &c., said clamp-arms B having lugs D outside of their pivotal connections with the tubular spindle, to which are pivoted the outer ends of links E, their inner ends being pivoted to ear-pieces *g*, formed upon a sleeve, F, fitting loosely upon the screw-threaded tubular spindle A, to the rear of which sliding sleeve, engaging with the screw-threads of the spindle, is a nut, G.

Within the tubular spindle A, and having a rotatable and sliding bearing therein, is a shaft, H, at the outer end provided with a squared portion, *h*, formed thereon to receive the socket *k* of a crank-handle, K, its other end project-

ing beyond the inner end of spindle A, and there provided with an enlargement, L, having therein an axial opening, M, of conical, conoidal, or funnel shape, as indicated at *m*, and of a shape corresponding with that of the end of a valve-plug, said opening M having its surface burred, milled, roughened, or otherwise prepared for cutting or grinding. A valve-plug, N, to be trued is first centered by its stem *N*² within the clamp-jaws C by the turning of the screw-nut G on the threaded spindle A against the sleeve F, forcing it inwardly, and through the links E forcing the clamp-arms B forward, they swinging upon their pivots at *a* on the end of said fixed spindle, their inner ends, *e*, being carried inwardly toward the axial line of the said spindle and upon the valve-stem, the pivoted clamp-jaws C insuring an adjustment and parallel bearing upon said stem. Then upon attaching the crank-arm A onto the end of burr-shaft H, forcing said shaft inwardly for its conical burred opening to lie upon and around the end and edge of the valve-plug, and rotating said shaft, a cutting or grinding of said valve-plug is secured perfectly true and concentric with the axial line of its stem, and all in a most simple, easy, and practical manner, it being observed that the jaws are capable of such a spread from each other as to permit the passage of the burring-shaft between them for its withdrawal from the tubular bearing-socket A, enabling the substitutions of burr-shafts having heads with burring or grinding surfaces of different characters or forms suitable for use upon other articles clamped by said jaws CC—as, for instance, a valve casing or body may be clamped and centered with the axial line of its seat coincident with the axial line of shaft H, which is provided with a conical-shaped head having exterior burr or grinding surface.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a tubular spindle having clamp-arms pivoted thereto, of a sliding sleeve fitting upon the spindle and links connecting said clamp-arms and sleeve, substantially as and for the purpose described.
2. The combination, with a screw-threaded tubular spindle having clamp-arms pivoted

thereto, of a sliding sleeve fitting upon the spindle, links connecting said clamp-arms and sleeve, and screw-nut G, substantially as and for the purpose described.

5 3. The combination, with a tubular spindle having clamp-arms pivoted thereto provided with pivoted clamp-jaws C, of a sliding sleeve fitting upon the spindle and links connecting said clamp-arms and sleeve, substantially as
10 and for the purpose described.

4. The combination, with a screw-threaded tubular spindle having clamp-arms pivoted thereto provided with pivoted clamp-jaws, of
15 a sliding sleeve fitting upon the spindle, links connecting said clamp-arms and sleeve, and screw-nut G, substantially as and for the purpose described.

5. The combination, with a tubular spindle having clamp-arms pivoted thereto, a sliding
20 sleeve fitting upon the spindle, and links connecting said clamp-arms and sleeve, of a shaft having rotatable and sliding bearing in said sleeve, provided with a burring or grinding head, substantially as and for the purpose de-
25 scribed.

6. The combination, with a tubular spindle having clamp-arms pivoted thereto, a sliding sleeve fitting upon the spindle, and links con-

necting said clamp-arms and sleeve, of a shaft having rotatable and sliding bearing in said sleeve, provided with a funnel-shaped opening, M, with burring or grinding surface, substan- 30
tially as and for the purpose described.

7. The combination, with a screw-threaded tubular spindle having clamp-arms pivoted thereto, a sliding sleeve fitting upon the spin- 35
dle, links connecting said clamp-arms and sleeve, and screw-nut, of a shaft having rotatable and sliding bearing in said spindle, provided with a burring or grinding head, sub- 40
stantially as and for the purpose described.

8. The combination, with a screw-threaded tubular spindle, A, having clamp-arms B B pivoted thereto, provided with pivoted clamp- 45
jaws C C, a sliding sleeve, F, fitting upon the spindle, links E E, connecting said clamp-arms and sleeve, and screw-nut G, of a shaft, H, having enlargement L, with funnel-shaped opening M, with burring or grinding surface, and provided with crank-handle K, all sub- 50
stantially as shown and described, for the purpose specified.

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Witnesses:

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