(No Model.)

W. H. GLOVER.

Rolling Mill.

No. 235,679. Patented Dec. 21, 1880.

Fig. 1.

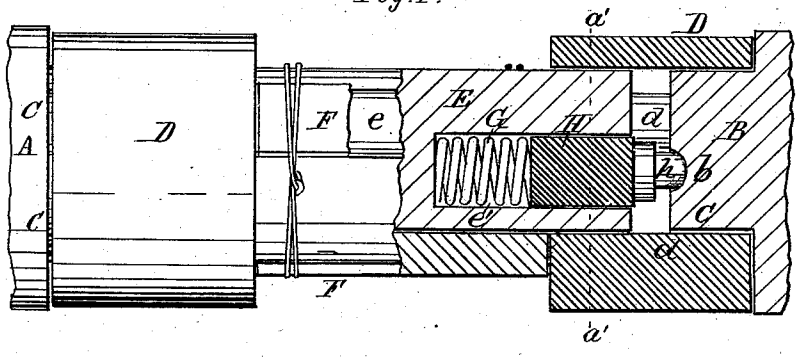


Fig. 2.

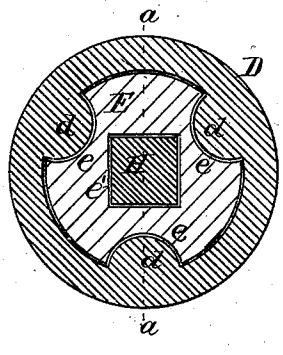
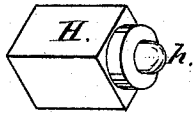


Fig. 3.



Witnesses:

G. D. Knight

Geo. H. Knight

Inventor

William H. Glover

By Knight Bros.

Attys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM H. GLOVER, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO H. MAXIMILIAN STARKLOFF, OF SAME PLACE.

ROLLING-MILL.

SPECIFICATION forming part of Letters Patent No. 235,679, dated December 21, 1880.

Application filed September 22, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. GLOVER, of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Rolling-Mills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

This is an improvement on my invention described and claimed in Letters Patent No. 224,420, dated February 10, 1880; and my present improvement consists in making the part of the center spindle which enters the coupling-spindle angular, so that it cannot turn in its socket, (which is made to fit it.) I also am able to dispense with the bearing-extension at the inner end of the center spindle. This construction is much cheaper and more durable than the former. The center spindle can be made from a bar of square metal with a center turned thereon.

In the drawings, Figure 1 shows the improvement in axial section, part of the drawing being in elevation or side view, the sectional part being at line *a a*, Fig. 2. Fig. 2 is a transverse section at *a' a'*, Fig. 1. Fig. 3 is a perspective view of the center spindle.

A and B are the coupling ends of two rolls, having the ordinary grooves, C, to receive the interior projections, *d*, of the coupling-boxes D, (as usual.) E is the coupling-spindle, of substantially the same diameter as the coupling hubs or ends A B of the rolls, and with similar grooves, *e*, (extending from end to end,) for the same purpose. There is no novelty claimed in these parts, as they have the ordinary construction.

F F are the usual strips or blocks occupying the grooves *e* between the coupling-boxes D, and serving to keep the boxes asunder and upon the hubs A and B.

In my former invention described in Patent No. 224,420, the center spindle was round and occupied a round socket in the end of the coupling-spindle. In my present invention the part H of the center spindle entering the socket *e'* of the coupling-spindle is angular, and the socket is made to fit it snugly, but not so tightly as to interfere with the action of the spring G in forcing it out to engage the center *h* in the center hole, *b*, of the hub. The spring G bears against the inner end of the center spindle, as shown.

The angular shape of the center block, H, prevents its turning in the coupling-spindle, and for this reason there is much less wear upon the parts than in the former case, where the turning movement of the spindle caused its own wear and that of the socket and spring. I have shown a square center piece or block, H, and this is the most practicable shape, because it is cheaper than any other angularly-shaped block, and more effective than any block having a greater number of sides.

The sockets in the coupling-spindles are made by casting them upon simple cores, and in making the center spindles blocks of square metal may be taken and the center *h* turned thereon, or a center may be inserted in the block H.

As an evident modification the center block, H, may be inserted in the hub A or B, and the center holes be made in the end of the coupling-spindle.

I claim as my invention—

The coupling-spindle E, with angular sockets, angular center blocks, H, fitting therein, spring G, and hub A, with center hole or recess therein, all substantially as set forth.

WILLIAM H. GLOVER.

Witnesses:
SAML. KNIGHT,
GEO. D. KNIGHT.