

W. H. GLOVER.
Rolling-Mill.

No. 224,420.

Patented Feb. 10, 1880.

Fig. 1.

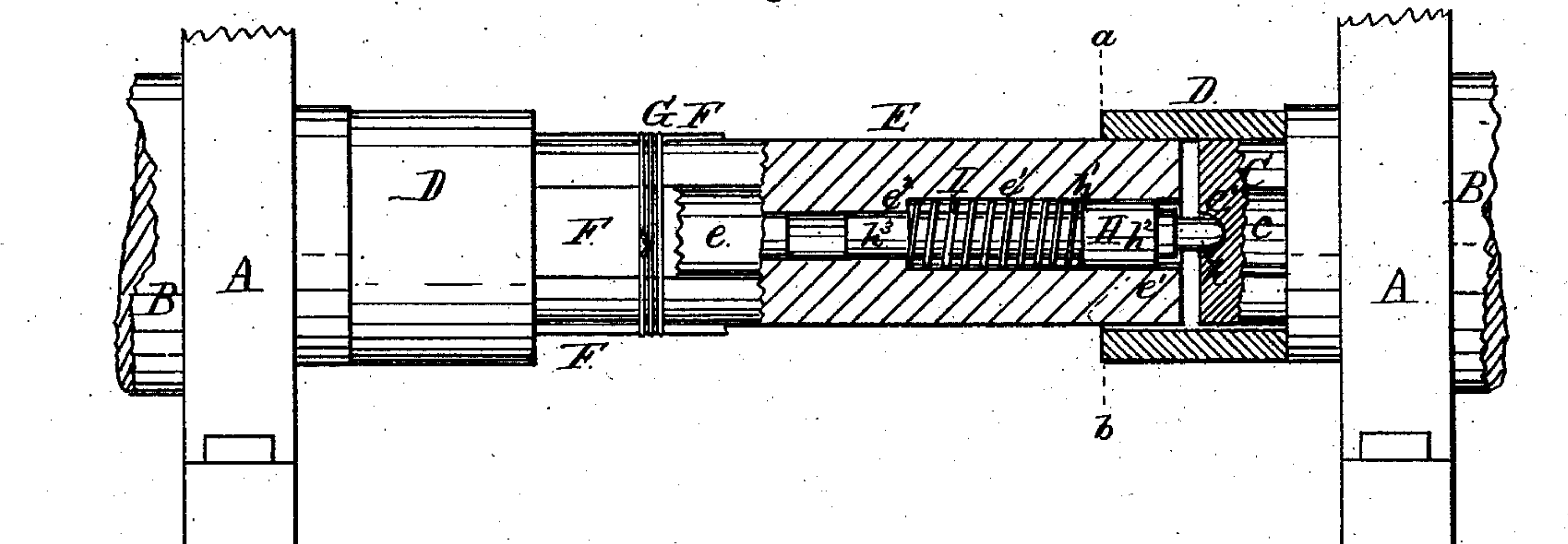
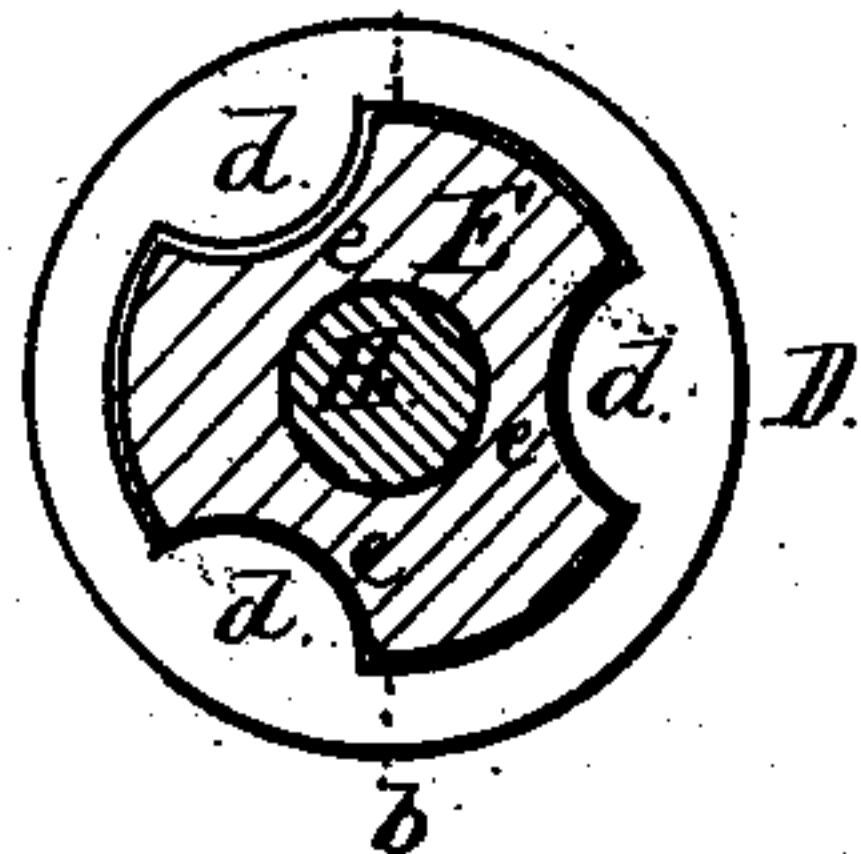


Fig. 2.



Attest:
Geo. H. Wright
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William H. Glover
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Attys.

UNITED STATES PATENT OFFICE.

WILLIAM H. GLOVER, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO THOMAS TAYLOR, OF SAME PLACE; SAID TAYLOR ASSIGNOR OF ONE-HALF OF HIS RIGHT TO WILLIAM L. REYNOLDS, OF SAME PLACE.

ROLLING-MILL.

SPECIFICATION forming part of Letters Patent No. 224,420, dated February 10, 1880.

Application filed October 31, 1879.

To all whom it may concern:

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

10 My improvement relates to the coupling device between rolls of the same elevation, by which one roll is made to drive another. This has been done by forming the rolls with one end projecting beyond the journal-boxes, and
15 forming longitudinal recesses in this end, which receive inwardly-projecting ribs upon the coupling-box, so as to cause the coupling-box to turn and to communicate rotation to a spindle extending from one roller to another,
20 said spindle being grooved like the ends of the rollers for the engagement of the coupling-box, which laps onto both the spindle and roller ends.

It has been impracticable to keep the rolls
25 in exact line, or even a near approximation thereto, so that the coupling is required to be made very loose to prevent binding and straining of the parts. The consequence is that there is a great amount of jarring and wear
30 from the loose motion between the parts, which are necessarily made very heavy.

My improvement consists in supporting the coupling-spindle upon a spring center spindle at each end, said center spindle being socketed in the coupling-spindle and its end entering a center hole in the end of the roll. This construction prevents the ends of the coupling-spindle beating against the ends of the rolls, as well as acting as a support to said
40 spindle.

In the drawings, Figure 1 illustrates my invention part in side elevation and part in section at *a' b'*, Fig. 2. Fig. 2 is a transverse section at *a b*, Fig. 1.

45 A A show parts of the frame-work in which the rolls B B have bearing. C is a coupling-extension of the roller, provided with grooves *c* to receive the inside rib, *d*, of the coupling-box D. E is a coupling-spindle, which has a
50 diameter equal to the coupling-extension C,

and, like it, has grooves *e*, which the ribs *d* enter at the ends of the spindle.

The grooves between the coupling-boxes are occupied by distance-strips F, whose office is to hold the boxes D in position. These strips
55 are held in place by wires G wrapped around them.

Up to this point there is no novelty of construction.

I will now proceed to describe the points of
60 novelty of which I claim to be inventor.

The coupling-spindle has an axial socket, *e'*, in each end for the reception of a center spindle, H, whose outer end, *h*, enters a center cavity, *c'*, of the end C of the roll, and
65 thus serves to support the end of the coupling-spindle.

The center spindle is forced outward, so as to press its end into the center hole of the roll by a spring, I, whose outer end bears against
70 the shoulder *h'* of the spindle, and whose inner end bears against the shoulder *e''* of the socket.

The center spindle has snug bearings *h'' h'''* in the socket, and they may be lubricated to
75 ease its endwise movement.

The coupling-spindle is preferably cast on an axial core extending from end to end, and the sockets may be subsequently reamed out to fit the center spindles.
80

The position of the center spindle may be reversed. Thus it may be socketed in the roll, and its center *h* enter a center hole in the coupling-spindle.

The center spindle, H, may be applied without a spring, I, but would not operate equally well.
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I claim as my invention—

1. The coupling for rolls, having an axial spindle, H, inserted in the coupling-spindle E
90 or roll B, and having center in the other roll or spindle, for the purpose set forth.

2. The combination, with the coupling-spindle E, center spindle, H, and roll B, of the spring I, for the purpose set forth.

WILLIAM H. GLOVER.

In presence of—

SAML. KNIGHT,
GEO. H. KNIGHT.