

E. RICHARDS.

CONSTRUCTION OF GROOVED ROLLS.

No. 177,424.

Patented May 16, 1876.

Fig. 1.

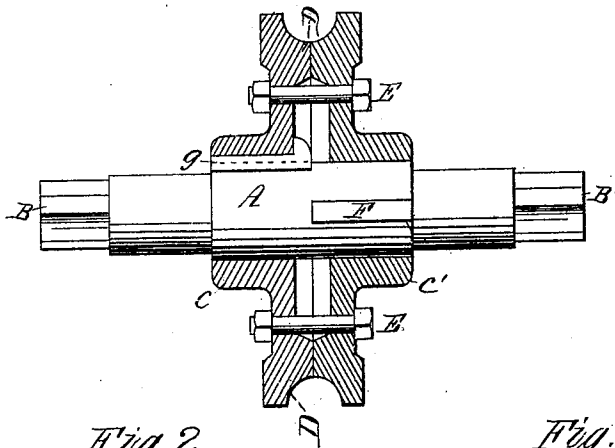


Fig. 2.

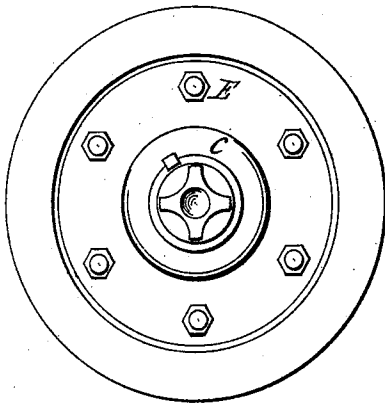
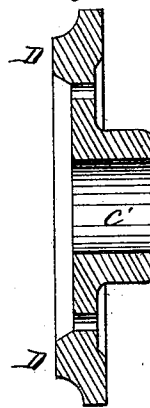


Fig. 3.



Witnesses.

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EMANUEL RICHARDS, OF READING, PENNSYLVANIA, ASSIGNOR TO WILLIAM W. SEITZINGER, OF SAME PLACE.

IMPROVEMENT IN THE CONSTRUCTION OF GROOVED ROLLS.

Specification forming part of Letters Patent No. **177,424**, dated May 16, 1876; application filed September 10, 1875.

To all whom it may concern:

Be it known that I, EMANUEL RICHARDS, of the city of Reading, county of Berks and State of Pennsylvania, have invented a new and useful Improvement in the Construction of Welding and Sizing Rolls for the Manufacture of Gas-Pipes and Boiler-Flues, of which the following is a specification:

These rolls are mounted in housings, and are driven in the usual manner by a coupling-box, connecting the flutes on the neck of the roll with the flutes of the main driving-shaft.

The improvement is fully set forth in the following specification, reference being had to the accompanying drawings, of which—

Figure 1 is a front elevation, part in section, Fig. 2 an end elevation, and Fig. 3 a section, of the sliding disk.

The object of my invention is to so construct welding and sizing rolls that, notwithstanding wear, their original diameter may be retained until the rolls are worn out. This I attain by making the rolls in two or more parts, as shown.

The shaft A may be made separate from the body of the roll C C'; or it may be cast with the disk C, forming an integral portion of the same. I prefer the arrangement shown in the drawings, in which A is the shaft; B, the flutes by which it is driven; C, a disk fitted to the shaft A, and secured to the same by a key, g. C' is a similar disk, sliding freely on shaft A, and over a feather, F. The disks are provided on their inside faces with projecting surfaces D D, and with bolts E for re-

taining them in contact with each other. When put together, as described, they are finished in a lathe the same as ordinary rolls.

When, from wear, the rolls require reshaping, the bolts E are slacked up, and a link of sufficient thickness to separate the surfaces D D is dropped over the shaft A between the disks C C'. The bolts E are then tightened, and the roll being put in a lathe, a tool is inserted between the disks and enough of the surfaces D D removed to take up the side wear of the rolls. Bolts E are then slacked and the link removed, the disks C C' brought together again by the bolts E, and the desired shape given to the forming-surfaces. In this way the roll can at any time be refitted without being decreased in diameter. In case of breakage duplicate parts can be substituted, and the whole roll is not a loss.

By the use of this invention the speed of the rolls and motor remains uniform throughout, while under the present system every change in the diameter of the rolls, from wear and refitting, necessitates a change of gearing or alteration of speed in the motor.

I claim as my invention—

A grooved welding and sizing roll, constructed of the disks C C', provided with projecting surfaces D D, attached together by the bolts E E', substantially as herein shown and described.

EMANUEL RICHARDS. [L. S.]

Witnesses:

MATTHIAS MENGEL,
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