(No Model.)

C. & J. L. GREER.

POLISHING DEVICE FOR HOT OR COLD ROLLS.

No. 532,952. Patented Jan. 22, 1895.

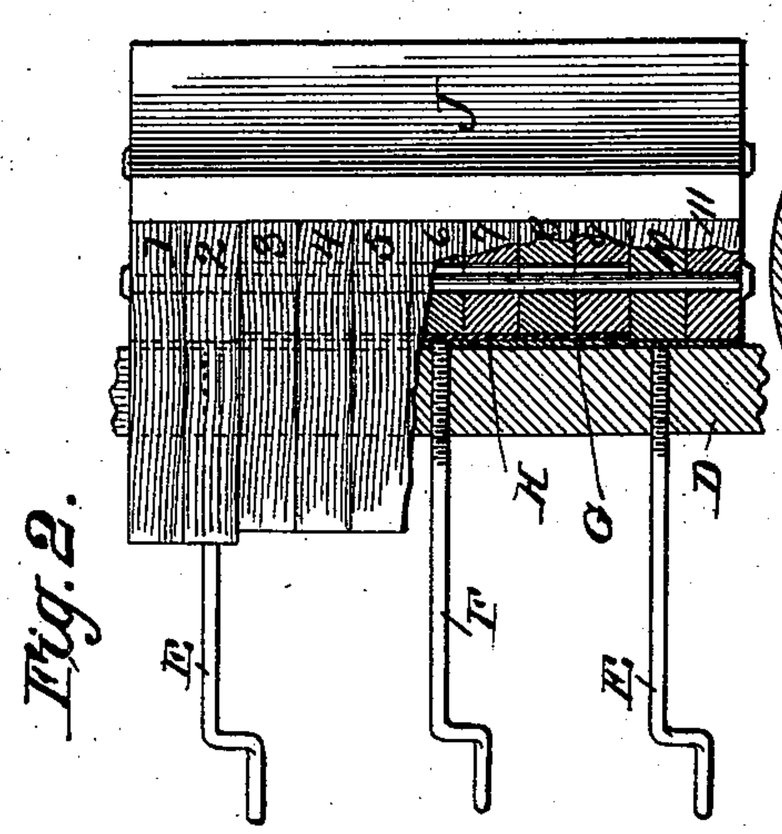

Fig. 2.

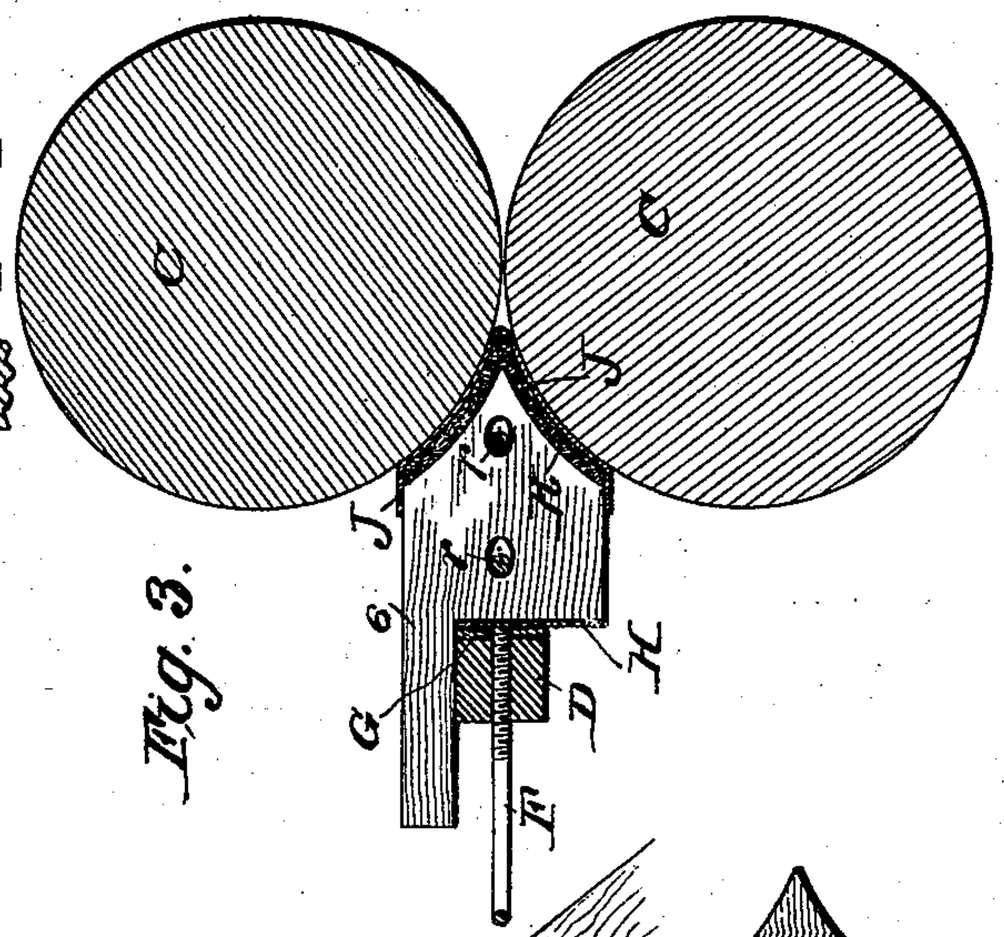

Fig. 3.

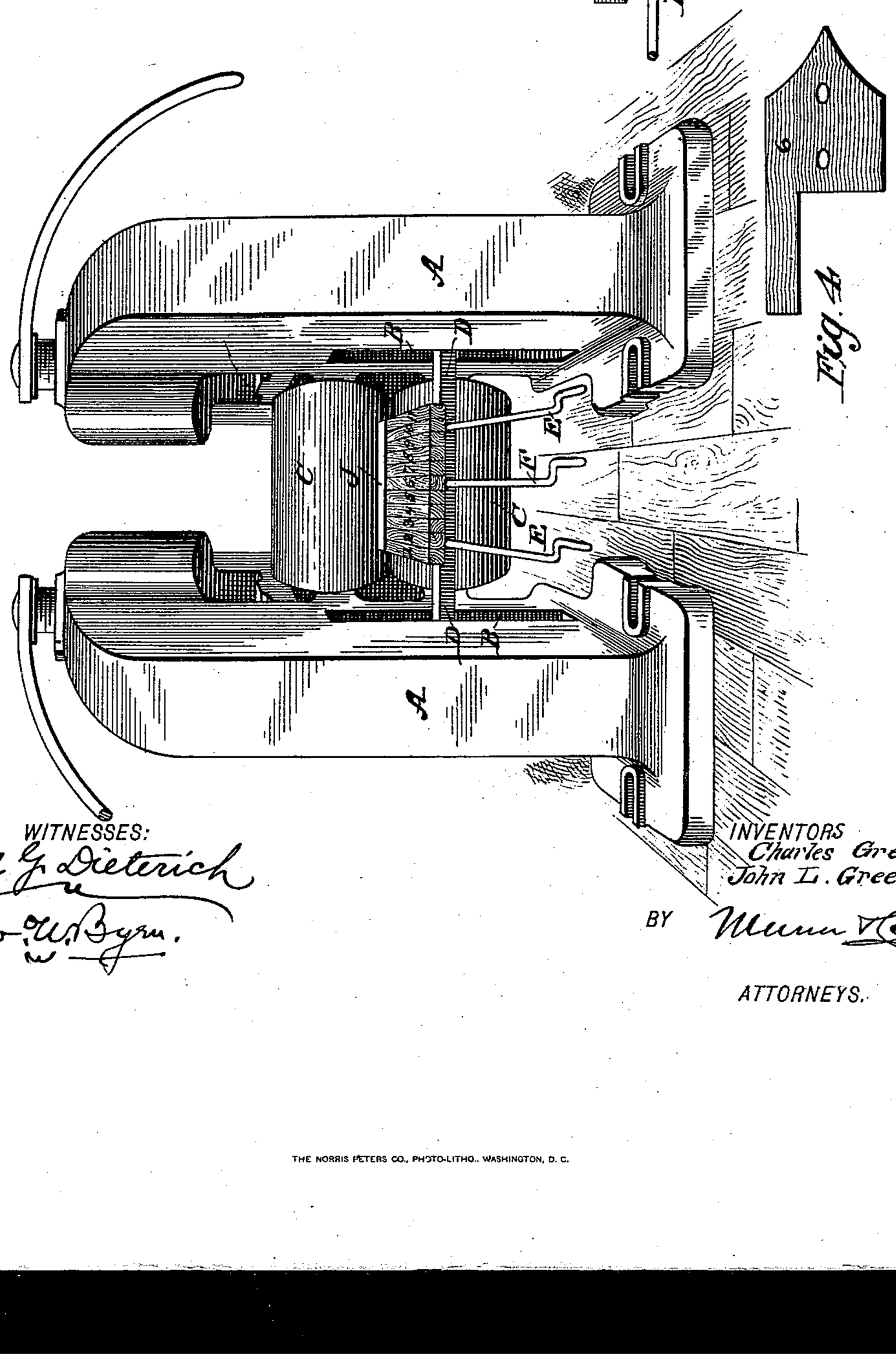

Fig. 1.

Fig. 4.

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POLISHING DEVICE FOR HOT OR COLD ROLLS.

SPECIFICATION forming part of Letters Patent No. 532,952, dated January 22, 1895.

Application filed October 19, 1894. Serial No. 526,390. (No model.)

To all whom it may concern:

Be it known that we, CHARLES GREER and JOHN LEE GREER, of New Castle, in the county of Lawrence and State of Pennsylvania, have invented a new and useful Improvement in Polishing Devices for Hot and Cold Rolls, of which the following is a specification.

The rolls which are employed for rolling sheet metal plates soon have their surfaces roughened by the adhesion of small particles of oxide, scale, &c., so that they cannot produce the best effect in giving a smooth finish to the plates of sheet metal rolled by them. Our invention aims to overcome these difficulties, and to that end it consists in making a scouring apparatus in sections arranged side by side, and capable of independent adjustment to adapt them to press against all parts of the surface of the rolls, and also in providing a cushion for these tongues of a refractory but elastic material, such as asbestos covered with metal to avoid tearing, which causes the bed to press evenly and uniformly, as will be hereinafter more fully described with reference to the drawings, in which—

Figure 1 is a perspective view of the rolls and their housing taken from the front, with our polishing devices applied. Fig. 2 is a plan view partly in section of the polishing devices detached. Fig. 3 is a side view of the same, partly in section, applied to the rolls, and Fig. 4 is a detail side view of one of the middle sections of the scouring wedge.

In the drawings, A is the housing, and C C the two rolls journaled in said housing, and whose surfaces are to be polished by our device.

Our plan for polishing hot and cold rolls consists of bolting together a number of pieces of wood or other material, numbered 1 to 11 in the drawings, and shaped so as to fit between the two rolls to be polished. The pieces are bolted together with two rods *r r*, Fig. 3. The holes in the middle pieces, numbered from 3 to 9 inclusive, are made oblong, see Figs. 2 and 4, so as to allow the blocks to be pushed tight against the rolls, to conform to any unevenness on the rolls by screwing up the iron plate H with the hand screw F that goes through the iron bar D, that fits in the vertical slot B in the housings. We cover the blocks Nos. 1 to 11 with a cushion made of asbestos mill board, K, of the right thickness, one-half inch or more; but as the roughness of the rolls will tear the fiber of the asbestos, and wear it away, we overcome this trouble by covering the asbestos with sheet iron J, that will prevent it from wearing away too fast by pressure against the rolls. Then we apply ground emery to the rolls by smearing the scouring surfaces with palm oil or waste mill grease in which ground emery has been mixed. The middle pieces, Nos. 3 to 9 inclusive, of the blocks can be adjusted to the hollow rolls in the center by screwing the middle screw F, which works against the plate H, Fig. 2, that presses against the parts numbered from 3 to 9 in the middle. The plate marked G is worked with two screws E, and presses against all of the pieces in the block.

Our plan of polishing rolls is very economical of both material and time, as the rolls do not have to be stopped. The top roll is screwed down against the bottom roll tight enough to turn by friction. Then our polishing apparatus is put in place and pressure is put on by the screws E an F sufficient to adjust all of the blocks to the form of the rolls.

The end of our polishing device is constructed as a tapered tongue curved to correspond to the rolls and made short or blunt so that when projected between the rolls it does not pass between the rolls at their tangential point to each other, but merely presses against the rolls outside of their tangential point. This avoids the necessity of raising one of the rolls when using the polishing device, and the power or motion of the upper roll being transmitted peripherally to the lower one, both rolls are polished without any special adjustment.

The same process is adapted to both hot and cold rolls.

We can make our blocks out of wood, or metal, iron, or composition.

The asbestos makes a cushion, and adapts itself to any unevenness on the rolls, sheet iron being put over the asbestos to keep it from tearing or wearing away too fast.

We do not stop the engine, but can adjust our polishing apparatus at any time, and do not disturb the top roll at all.

We can also make our blocks of solid emery, like emery wheels, and use without asbestos.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A roll polishing device consisting of a tapering tongue adapted to be projected between the rolls, said tongue being made in separate sections, and the sections provided with independent means of adjustment, substantially as shown and described.

2. A roll polishing device, consisting of a short tapering tongue adapted to be projected against the rolls outside of their tangential point and having on its bearing surfaces a metal covering and a subjacent refractory cushion, substantially as shown and described.

3. A roll polishing device consisting of a tapering tongue, made in sections with independent means of adjustment, and a bearing surface consisting of an elastic cushion covered by a surface of metal, substantially as and for the purpose described.

4. The roll polishing device consisting of sectional tapered blocks 1 to 11, the connecting bolts *r r*, the middle blocks having a slotted hole to permit motion at right angles to the bolts, plates G and H, the bar D, and hand screws F E tapped through said bar and bearing separately against said plates, substantially as and for the purpose described.

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