

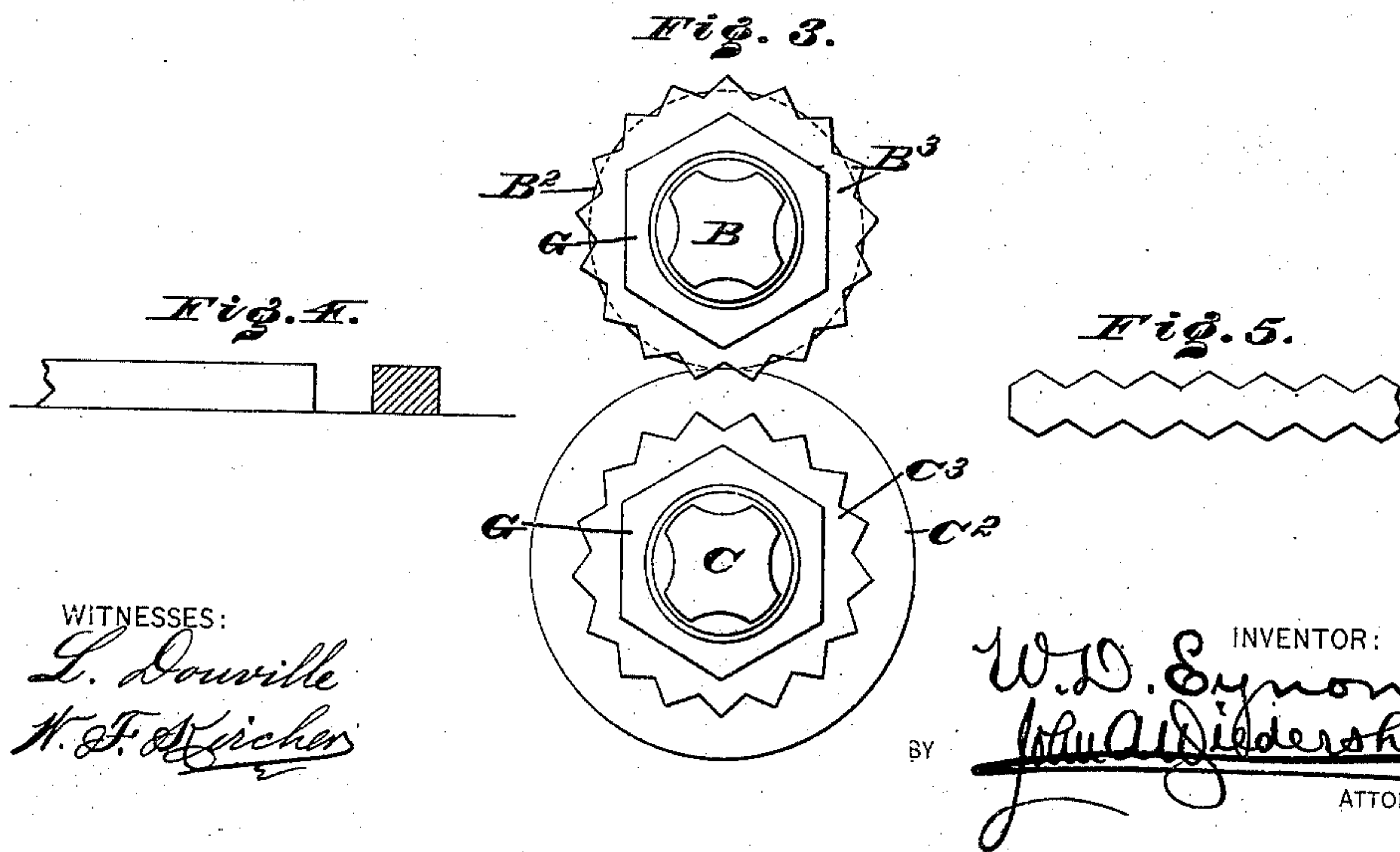
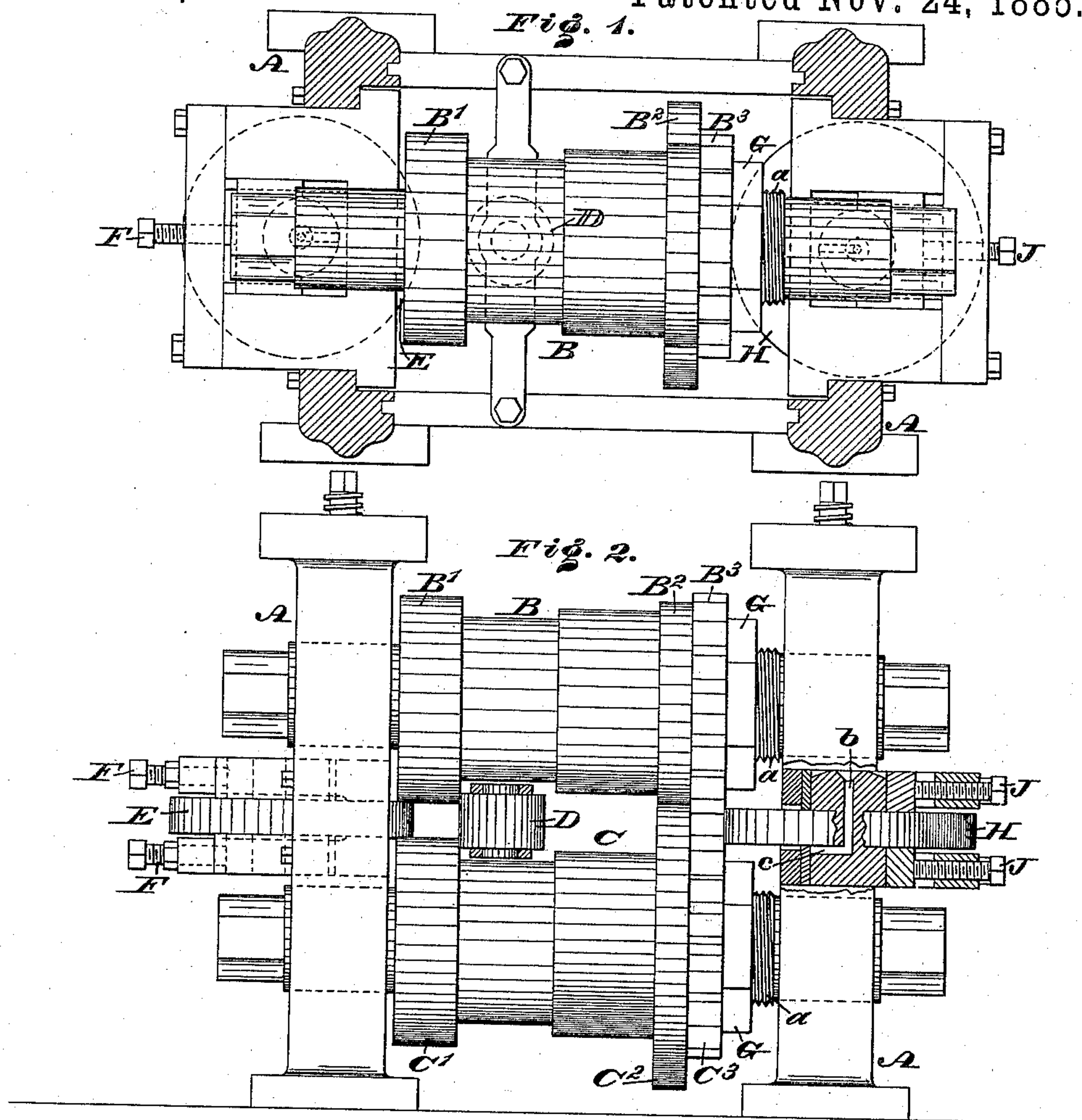
(No Model.)

W. D. EYNON.

MACHINE FOR ROLLING FLAT AND NUT BARS.

No. 331,230.

Patented Nov. 24, 1885.



UNITED STATES PATENT OFFICE.

WILLIAM D. EYNON, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR ROLLING FLAT AND NUT BARS.

SPECIFICATION forming part of Letters Patent No. 331,230, dated November 24, 1885.

Application filed August 13, 1885. Serial No. 174,236 (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. EYNON, of the city and county of Philadelphia, State of Pennsylvania, a citizen of the United States, have invented a new and useful Improvement in Rolling-Mills for Flat and Nut Iron, which improvement is fully set forth in the following specification and accompanying drawings, in which—

10 Figure 1 represents a top or plan view of a mill for rolling flat and nut iron, the housing of the machine being shown in section. Fig. 2 represents a front elevation of the mill, partly broken away and partly in section. Fig. 3 represents end views of the rolls employed. Fig. 4 represents a side view and section of a flat bar as delivered by the mill. Fig. 5 represents a side view of a bar of nut-iron as delivered by the mill.

20 Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of an improved mill for rolling flat bar or merchant iron, by means of which different rolls are not required for producing the different sizes of iron.

It also consists of means for rolling nut-iron for square, hexagonal, or other shaped nuts.

Referring to the drawings, A represents the housing of a set of rolls such as are commonly employed in rolling-mills. B represents the upper roll, and C the lower roll, both properly provided with necks for the coupling and bearings in the housing, with necessary adjusting-screws well known in rolling-mill machinery. For rolling flat bar, both rolls B and C have a portion of their length of an increased diameter, as at B' C', the distance between which determines the thickness of the bar to be rolled, and which is set or adjusted in the ordinary way by the adjusting-screws.

Properly mounted on the housing between the rolls B and C are rolls or rollers D E, the roller D being aside of the projections (see Fig. 2) B' C', and thus closing a portion of the space between the rolls at that side. Opposite to the roller D is the roller E, both rollers D and E being horizontally mounted. The roller E is of a thickness of the bar to be rolled, and is within the opening left between the parts B' and C'. The roller E has, by means of set-screws F, a lateral adjustment,

so that it may be advanced toward or moved away from the roller D, and thus the width of the bar may be determined. It will be seen that the four rolls B, C, D, and E, owing to their position, will readily pass the bar to be rolled and deliver the same with true sharp edges and of an even section. It will further be seen that bars of different widths may be rolled by simply adjusting the roller E, and thus obviate the use of different rolls for each size of bar, this being accomplished by the use of a roller, E, of the thickness of the bar to be rolled.

To roll nut-iron, the rolls B and C have flanges or projections B² C², which are adapted to come in contact, one of the flanges being of larger diameter than the other, the object whereof will be hereinafter stated. Located against the flanges on the side toward the housing are serrated or star-shaped annuli, B³ C³, the angles on the circumference whereof are graded by the nut to be produced. They are so located that during the revolution of the rolls they come point to point, (see Fig. 3,) and are retained in their places by nuts G, which are screwed on threaded portions a of the body of the rolls. Running or pressing against the annuli B³ C³ is a roll or roller, H, horizontally mounted, and which is so placed that its periphery covers the space between the annuli B³ C³. Since the annuli determine the thickness of the nut to be produced, the roller H is made laterally adjustable by means of a screw, J, properly applied.

I make the flanges B² C² of the rolls B C of different diameters, so that the opening left between the nut-forming annuli B³ C³ is entirely covered or closed.

It will be seen that thus I produce a nut-bar (shown in Fig. 5) which can be drilled, punched, the individual nuts readily separated, and which can be stored, handled, and shipped without the use of extra packing, as is necessary in transportation of blank nuts.

For the market the bar can be furnished already punched and nicked, thus producing an economic and desirable article for the purpose intended.

In order to lubricate the horizontal rolls D, E, and H, especially on their lower bearing, I drill in the center of their journal an opening or duct, b, and at an angle to the same, and

below the body of the roll, a duct, *c*, which leads from the duct *b* to the outside of the journal. It will be seen that I can thus readily lubricate the lower bearings of the horizontal rolls.

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

1. In a rolling-mill, two rolls having suitable bearings, a roller on the side of the opening between said two rolls, and a roller within said opening, combined substantially as described.

2. The rolls *B C*, with portions *B' C'*, of increased diameter, and rollers *D* and *E*, combined therewith, said roller *D* being at the side of the opening between said rolls *B C*, and roller *E* within said opening, substantially as and for the purpose set forth.

3. The adjustable rolls *B C*, having flanges *B' C'*, of increased diameter, in combination with roller *D* on one side, opening between said rollers *B* and *C*, and adjustable roller *E* within said opening, all of said rollers having bearings in the frame of the machine, substantially as described.

4. Rolls *B C*, with parts *B' C'*, in combination with rollers *D E*, the roller *E* being laterally adjustable, substantially as described.

5. The rolls *B C*, having flanges *B² C²*, of different diameters, in combination with annuli *B³ C³*, of the same diameters, and roller *H*, substantially as and for the purpose set forth.

WILLIAM D. EYNON.

Witnesses:

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