

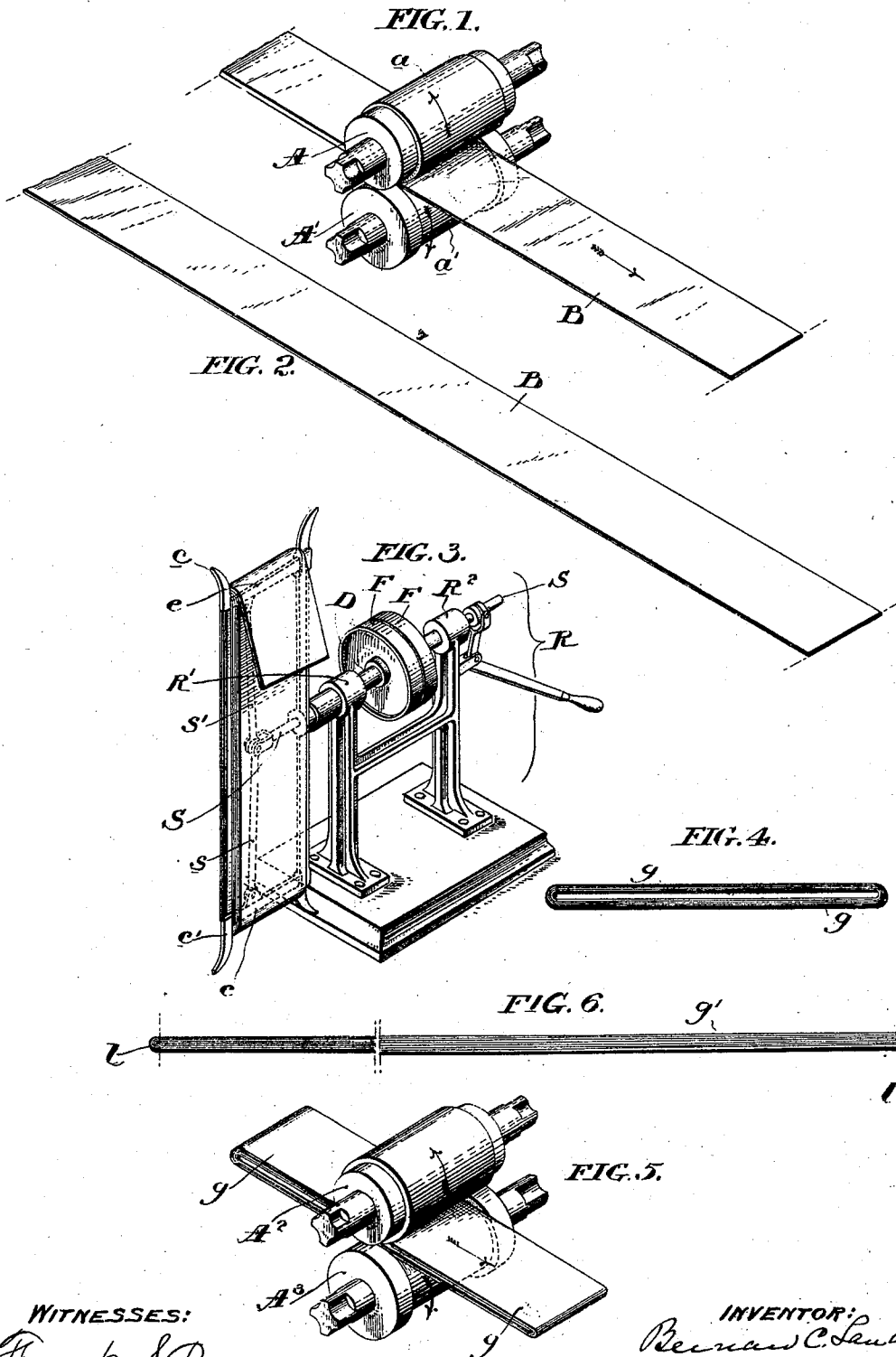
(No Model.)

B. C. LAUTH.

PROCESS OF ROLLING THIN SHEET STEEL OR IRON.

No. 478,193.

Patented July 5, 1892.



WITNESSES:

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UNITED STATES PATENT OFFICE.

BERNARD C. LAUTH, OF PHILADELPHIA, PENNSYLVANIA.

PROCESS OF ROLLING THIN SHEET STEEL OR IRON.

SPECIFICATION forming part of Letters Patent No. 478,193, dated July 5, 1892.

Application filed April 6, 1891. Serial No. 387,728. (No specimens.)

To all whom it may concern:

Be it known that I, BERNARD C. LAUTH, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in the Process of Rolling Thin Sheet Steel or Iron, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a perspective view of the primary rolls A A' for rolling the bars or piles of iron down to No. 10 or 12 gage. These rolls may be of the usual length and the grooves can be made to suit any width of sheet required. *a'* represents the groove in roll A', and *a* the projection on the roll A.

Fig. 2 represents the sheet B as it comes from the rolls Fig. 1.

Fig. 3 represents a reeling device R, composed of two arms *c c'*, arranged upon a sleeve D and having reeling-arms *e e'*, upon which the sheet of iron is reeled. The sleeve D passes through the bearings R' R² and are connected with tight and loose pulleys *f f'*, as shown in the figure. The reeling-arms are preferably about eight feet long. After the finished sheet of iron, as shown in Fig. 2, comes from the first set of rolls it is reeled upon the reeling device shown in Fig. 3 into the shape of a flat coil having eight or more thicknesses of sheet on the reel. The arms *e e'* of the reel R are connected to the central shaft S by levers *s s'* so as to be folded toward each other and release the coil after it is reeled.

Fig. 4 represents the coil of sheet metal after it is taken from the reel. The flat coil *g* (shown in Fig. 4) is then passed through the finishing-rolls A² A³, (shown in Fig. 5,) which may be rolls similar to those shown in

Fig. 1 or plain rolls and adjusted so as to roll down the coil to the desired thickness.

In Fig. 6 *g'* represents the finished sheets in the coil, as rolled down in Fig. 5.

My improvement consists in forming the sheet-iron as it comes from the first set of rolls into a flat coil before passing it through the final rolls. In rolling down the flat coil from the condition shown in Fig. 4 to that shown in Fig. 6 in the rolls Fig. 5 the metal is elongated considerably to the condition shown in Fig. 6, which represents the finished sheets in the coil. The ends *l l'* of the coil are then cut off and the finished sheets remain in pile and can be separated and tinned or otherwise treated.

The advantage of this process is that by reeling the sheet into a flat coil between the first rolling and the final rolling a long pack is obtained, which cannot be opened or separated during the subsequent process of rolling, and much hand labor is saved, and also sheets of much greater length and a much greater product in the final rolling can be obtained.

Any other device or mode may be used for folding the strips into coils.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

The hereinbefore-described process, which consists in rolling the metal into long strips, then reeling the strips into flat coils, and passing the coils thus formed through rolls.

In testimony of which invention I have hereunto set my hand.

BERNARD C. LAUTH.

Witnesses:

GEO. W. REED,
FRANK S. BUSSEY.