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W. H. CARPENTER.
MACHINE FOR COILING SHEET METAL.
APPLICATION FILED SEPT. 9, 1907.

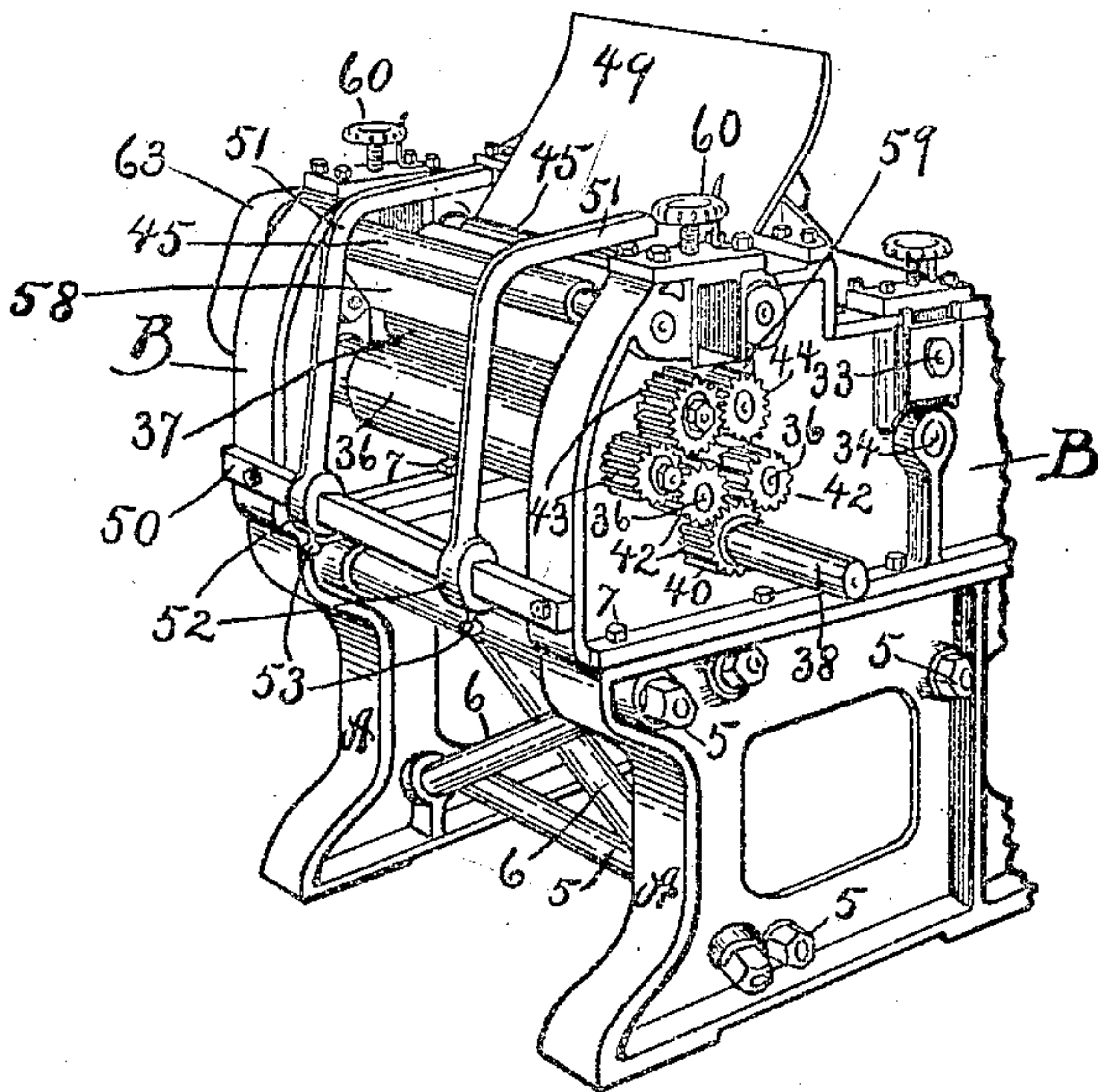


Fig. 1.

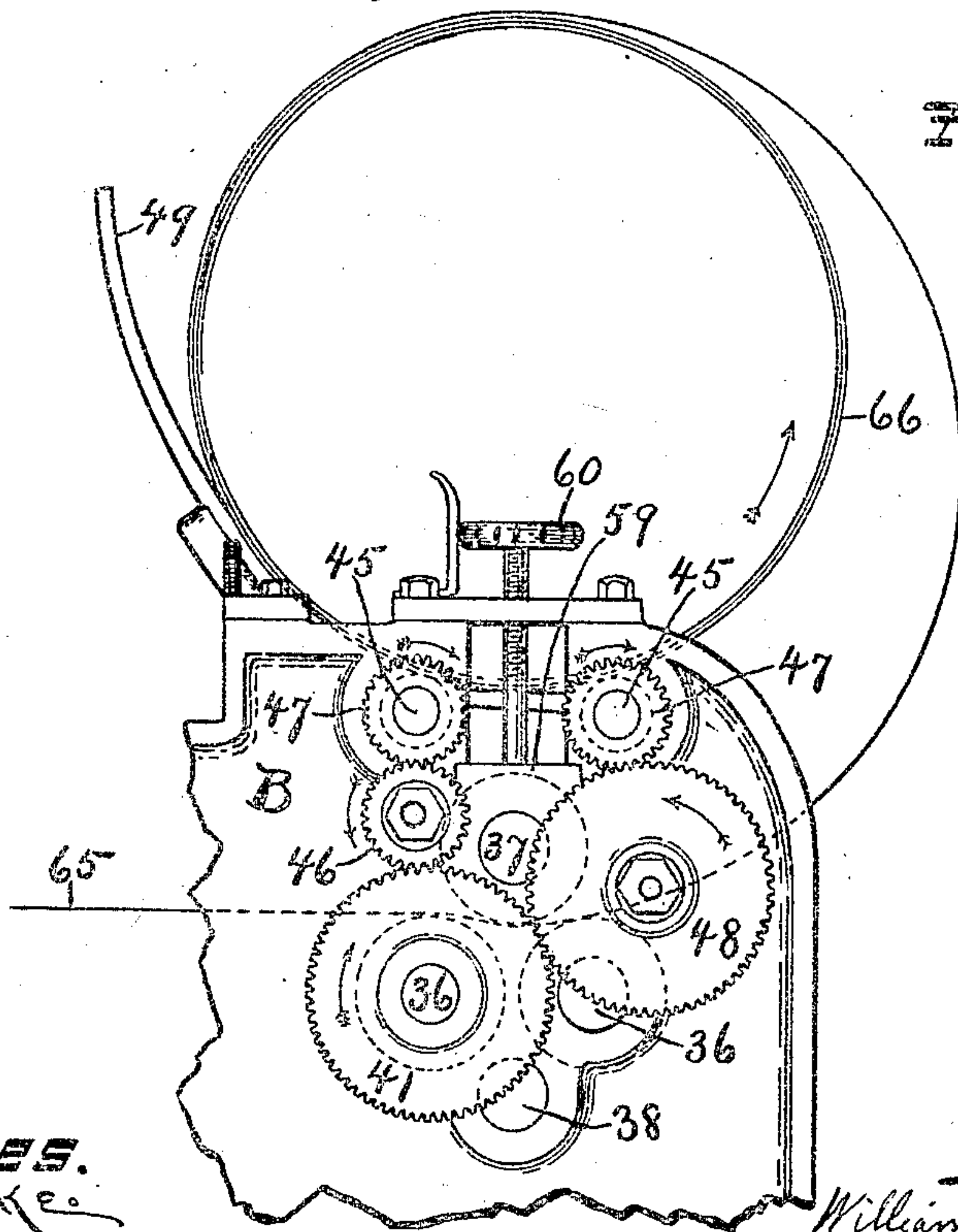


Fig. 2.

WITNESSES.
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MACHINE FOR COILING SHEET METAL.

No. 884,314.

Specification of Letters Patent.

Patented April 7, 1908.

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To all whom it may concern:

Be it known that I, WILLIAM H. CARPENTER, a citizen of the United States, residing at Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in a Machine for Coiling Sheet Metal, of which the following is a specification.

My invention relates to machines for coiling sheet metal and the objects of my improvements are simplicity and economy in construction, and convenience and efficiency in operation, particularly with reference to coiling the metal into a roll at the delivery end of a machine.

In the accompanying drawing:—Figure 1 is a perspective view of my machine, with the frame broken away showing the delivery end and part of one side, the top cover and a part of the housing for the gears being removed. Fig. 2 is an enlarged side elevation of a portion of the delivery end of the machine, together with a sheet of metal passing therethrough, and showing that side of the machine that is out of view in Fig. 1.

The machine as shown is constructed on one end of the frame of a machine for scouring and coiling sheet metal. I have herein shown the sub-frame and main frame as broken off so as to omit that part of the machine that contains the scouring devices. I have however retained the shafts 33 and 34 of a pair of feed rolls, which rolls delivered the metal after being scoured from the scouring devices to the coiling machine. These feed rolls may be omitted and the metal may be delivered to the machine from any suitable mechanism, as for example a rolling mill, or the metal may be fed directly into the coiling rollers.

A, A, designate the two sides of the sub-frame or legs which are connected together by suitable cross rods 5 and brace rods 6 in any ordinary manner. The two sides B, B, of the main frame are placed on the top of the sub-frame and secured thereto in any proper manner, as for example by the bolts 7. Mounted in the two sides B, B, of the main frame there is a set of three forming or coiling rollers, consisting of two lower rollers 36 and a centrally arranged upper roller 37. The roller 37 is vertically adjustable by means of sliding boxes 59 and ordinary adjusting screws 60. These rollers are driven

by the driving shaft 38 having a gear 40 at one end, and a gear 41 at the opposite end for a purpose hereinafter described. In Fig. 1 the shaft 38 is shown with room enough to apply a driving pulley by the side of the gear 40 but the said pulley is omitted from the drawing in order to show the gearing. The gear 40 engages and drives gears 42 on the ends of the lower rollers 36, as shown in Fig. 1, while one of the gears 42 drives the upper roller 37 by means of the two idle or intermediate gears 43, and gear 44 fixed on the end of the said upper roller. A little above the coiling rollers 36—37 there are two live rollers 45, that form a support for a coil or roll of metal. These are so geared that their upper surface travels in the same direction as the opposing surfaces of the coiling rollers, that is towards the delivery end of the machine. They are so driven by means of the gear 41 on one of the rollers 36, which gear 41 engages and drives the intermediate gear 46 for driving the gear 47 fixed on the end of one of the live rollers 45, while the same gear 41 on roller 36 also engages and drives another intermediate gear 48 for driving the gear 47 that is fixed on the end of the other one of the live rollers 45, as shown in Fig. 2. The gears shown in Fig. 2 are covered in Fig. 1 by the housing 63.

Adjacent to the coil supporting rollers there is a curved apron or guard 49 fixed on the frame and curving downwardly and outwardly towards the top of the coil supporting rollers. At this end of the machine there is a cross bar 50 upon which is mounted a pair of guides 51 extending upwardly to and over the upper side of the coil supporting rollers. The lower ends of the guides 51 have heads or eyes 52 that are fitted to the cross bar so that they may be adjusted thereon to and from each other and held in their adjusted position by means of the set screws 53. From the feed rollers on the shafts 33 and 34, the metal passes between the forming and coiling rollers which act to coil the metal into a roll. The metal, Fig. 2, comes out from the coiling rollers, passes upwardly between the two guides 51 and is rolled into a coil or roll 66, as shown, the said roll 66 resting on the coil supporting rollers 45 which are so geared as to move in unison therewith. As the last end of the sheet comes through the coiling rollers the

roll 66 is driven by the live rollers 45 upon which the coil is supported and the loose end is drawn up and the roll will continue to revolve on the rollers 45 until the operator is ready to remove it, and there is no danger of its falling off or causing any inconvenience.

While I have shown the coiling and coil supporting rollers in a machine for scouring metal it is evident that their construction and action would be the same when placed at the delivery end of any machine for acting on sheet metal.

I claim as my invention:

1. In a machine for coiling sheet metal, the combination of a set of coiling rollers with a pair of coil supporting rollers arranged parallel to the coiling rollers in a horizontal plane and separated or spaced apart from each other above the said coiling rollers on opposite sides of the central vertical plane thereof.

2. In a machine for coiling sheet metal, the combination of a set of coiling rollers with a pair of coil supporting rollers arranged above the said coiling rollers, and connecting gearing for driving the coiling rollers and coil supporting rollers in unison with each other.

3. In a machine for coiling sheet metal, the combination of a set of coiling rollers with a pair of coil supporting rollers arranged above the said coiling rollers on opposite sides of the central vertical plane thereof, and adjustable guides for the opposite edges of the metal, the said guides extending upwardly from the delivery side of the coiling rollers over the top of the coil supporting rollers.

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Witnesses:

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