

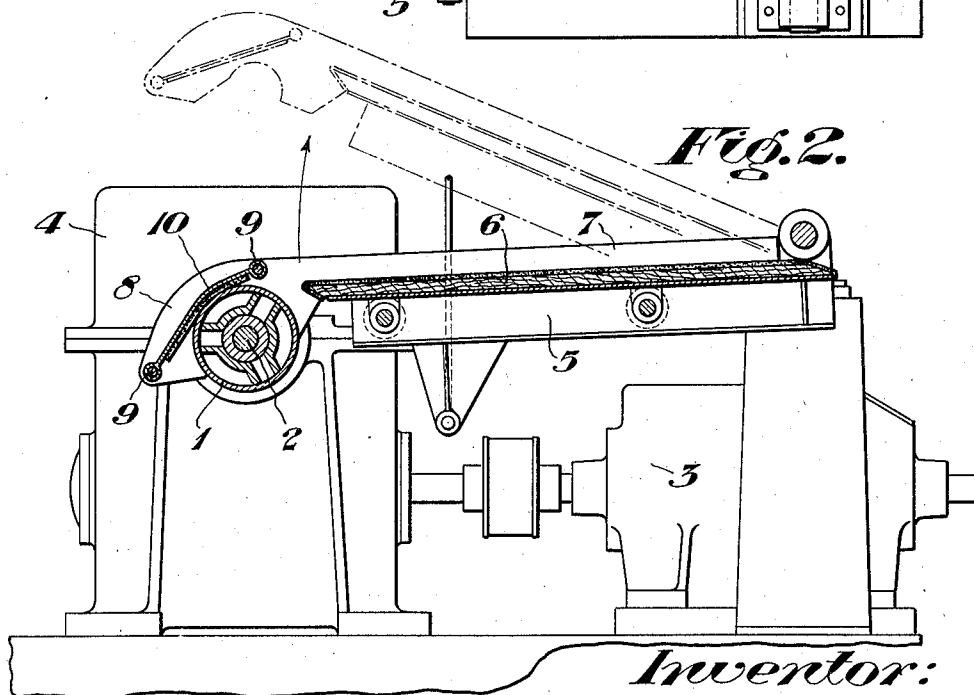
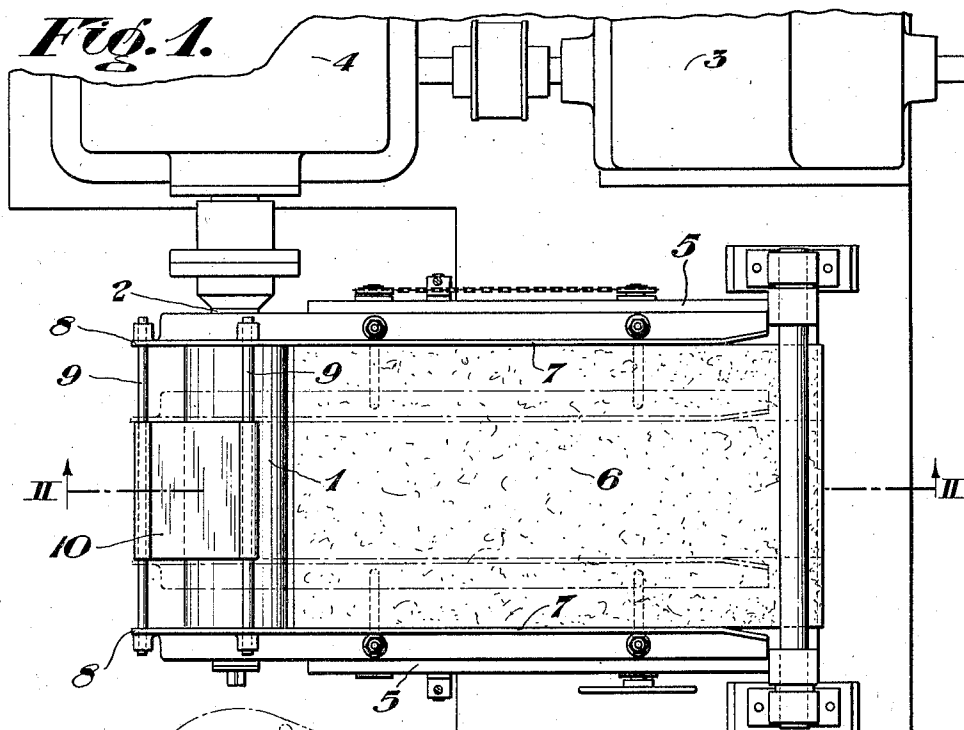
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COILING STRIP

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COILING STRIP

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6 Claims. (Cl. 242—78)

This invention relates to a machine for coiling metal strip and particularly when the same is tin plated or otherwise provided with a finish allowing it to slip on itself with relative freedom.

One of the objects is to tightly coil this strip on a spool or spindle.

Other objects may be inferred from the following illustrated disclosure of a specific form of the invention.

Referring to the drawing:

Figure 1 is a top plan.

Figure 2 is a vertical cross-section from the line II—II of Figure 1.

The above shows a spool 1 mounted on a spindle 2 driven by a motor 3 through a suitable reduction unit 4. The spool 1 is intended to receive the tin plated metal strip in the form of a coil. If the protection of flanges is desired, a flanged spool might be substituted.

An elongated table 5 is pivotally mounted at right angles to the axis of the spool 1 so that one of its ends swings adjacent thereto. This table is surfaced with a carpet covered guide 6 for the purpose of preventing damage to the strip when fed thereover. It is also provided with adjustable lateral guides 7 which restrain the strip and compel it to pass truly onto the spool 1. This adjustment might require the substitution of other sized guides for the one shown.

This table 5 includes an extending end 8 provided with cross-bars 9 between which a strip of flexible material 10, such as spring steel, is tautly held. This piece of material 10 is arranged to bear tangentially against the spool 1 and any strip which might be coiled thereon, the material's flexibility causing it to partially conform to the coil's shape. This is accomplished because of its mounting on the swinging end of the table 5 which imparts a radial movement to it with respect to the spool 1.

In operation, the strip is fed over the soft surface of the table 5 and onto the spool 1. When this spool is rotated the strip begins to coil thereon. The carpet surfaced material 10 is constantly pressed against the circumferential surface of the coil being thus formed by the weight of the swinging table.

This frictional application of the taut material tangentially to the coil insures the requisite compactness. When the coil is fully formed on the spool 1 the swinging table is raised by any suitable means and the spool removed. It is to be noticed that as the coil's size increases the frictional restraint of the material 10 increases because more of its surface is brought to bear. That is to say, the restraint is in increments dependent on the coil's diameter so that a sub-

stantially uniform tightness results throughout the coil.

I claim:

1. A machine for coiling strip including the combination of a rotary carrier, means for turning said carrier, means for feeding the strip longitudinally onto said carrier to form a coil and frictional means for increasingly restraining and radially pressing said strip at the circumference of the coil being formed.

2. A machine for coiling strip including the combination of a rotary carrier, means for turning said carrier, means for feeding the strip longitudinally onto said carrier to form a coil and a taut piece of flexible material arranged to be pressed substantially tangentially against the circumferential surface of the coil being formed.

3. A machine for coiling strip including the combination of a rotary carrier, means for turning said carrier, an elongated table arranged at a right angle to said carrier with a swinging end adjacent thereto and a frame on the swinging end of said table and mounting a taut piece of flexible material arranged so that swinging motion of the table will bring it into substantially tangential contact with said carrier and the outer surfaces of any strip convolutions thereon.

4. A machine for coiling strip including the combination of a rotary carrier, means for turning said carrier, an elongated table arranged at a right angle to said carrier with a swinging end adjacent thereto, a carpeted surface on said table for carrying the strip to be coiled, a frame on the swinging end of said table, a taut piece of spring steel mounted on said frame so that the swinging motion of the table will bring it into substantially tangential contact with said carrier on the outer surface of the strip convolutions thereon, and a carpeted surface arranged on said spring steel for contact with the strip's surface.

5. A machine for coiling strip including the combination of means for forming strip into a coil and taut flexible material arranged for movement to and from strip being formed into a coil by said means and which is tangentially fixed respecting said coil, said material being flat when free from said strip and being curved when in contact therewith.

6. A method of coiling relatively wide and thin strip metal on a rotary carrier consisting in turning the carrier while feeding strip in a flat condition thereonto and applying a frictional restraint to the flat strip only at the point where said strip is being convoluted, said frictional restraint increasing in proportion with the increasing diameter of said strip.

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