

Feb. 6, 1934.

C. F. HOOD

1,945,898

ROD HANDLING

Filed Oct. 17, 1932

2 Sheets-Sheet 1

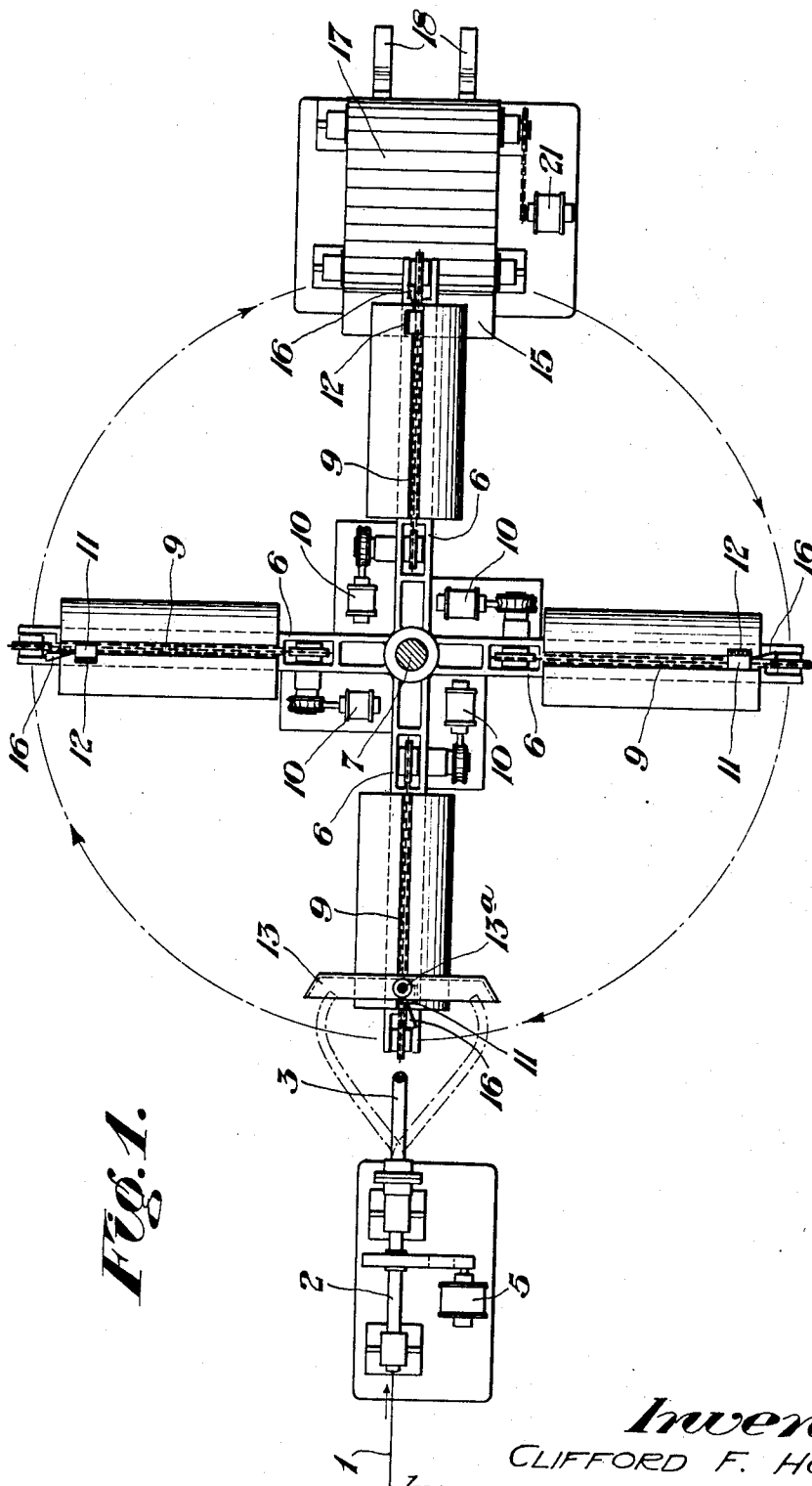


Fig. 1.

Inventor:

CLIFFORD F. HOOD,

by: *Lina Hauber*

his Attorneys.

Feb. 6, 1934.

C. F. HOOD

1,945,898

ROD HANDLING

Filed Oct. 17, 1932

2 Sheets-Sheet 2

Fig. 2.

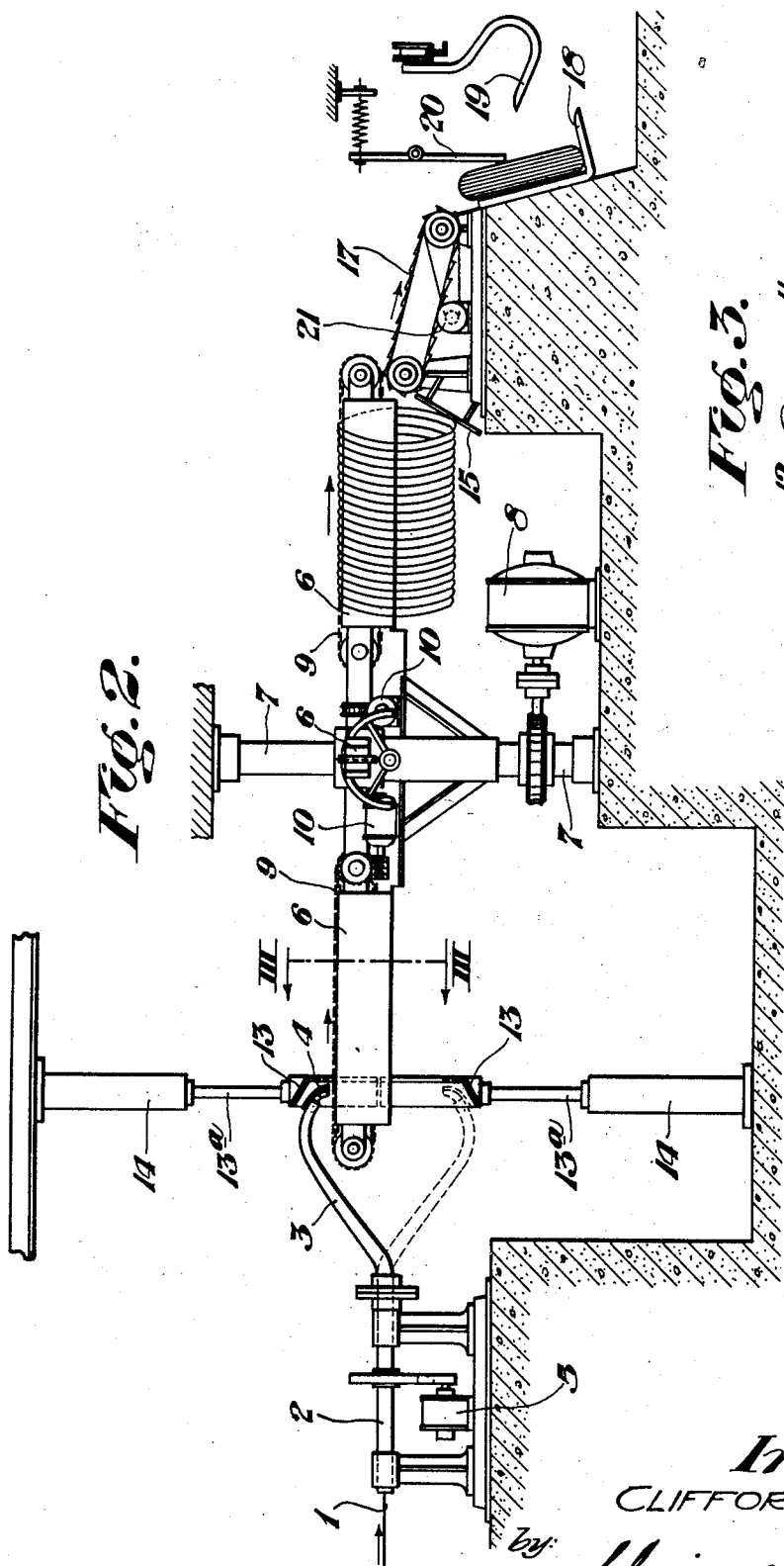


Fig. 3.

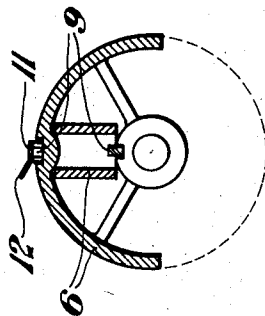
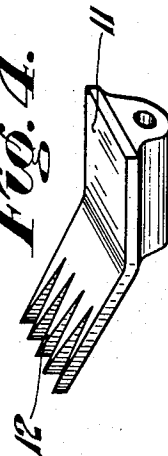


Fig. 4.



Inventor:
CLIFFORD F. HOOD,
by *Usina & Rauber*
his Attorneys.

UNITED STATES PATENT OFFICE

1,945,898

ROD HANDLING

Clifford F. Hood, Worcester, Mass., assignor to
The American Steel and Wire Company of New
Jersey, a corporation of New Jersey

Application October 17, 1932. Serial No. 638,263

4 Claims. (Cl. 242—80)

This invention relates to the handling of hot metal rod and is intended to provide for a maximum heat dissipating area. It is also intended to attain other objects which may be inferred from the following disclosure.

Referring to the drawings:

Figure 1 is a top plan.

Figure 2 is a side elevation.

Figure 3 is a cross-section from the line III—III in Figure 2.

Figure 4 is a detail.

The rod 1 comes from a hot mill and is fed through the hollow drive shaft 2 of a curved guide 3. This guide has a deflector 4 fastened to its tip and shaped to deliver the rod in concentric coils. Its drive shaft may be driven by a motor 5 at a suitable rotative speed with respect to the linear speed of the rod to accomplish this.

Arms 6 radiate from a rotative shaft 7 and are arranged to move by a point adjacent the tip of the guide 3. This shaft 7 is powered by a motor 8 for this movement, and the arms 6 are suitably constructed to receive the coils of rod progressively delivered by the guide 3.

The arms 6 carry chains 9 individually driven by reversing motors 10 and carrying jaw members 11 having sharpened fish-tail ends 12 adapted to laterally engage rod-ends. These fish-tail ends are at right angles to the arms and are intended to automatically engage the end of the first coil delivered by the guide 3, when they are at the end of an arm stopped at the aforementioned point adjacent the tip of this guide.

To prevent accidents, restraining hoods 13 are provided. There are two of these and each is carried by the piston rod 13* of a hydraulic cylinder motor 14 so that it may be quickly removed when the rod-end is safely engaged by one of the jaw members. They should preferably encompass the arms and present an open guiding face to the oncoming rod coil so that its end will be surely guided into the fish-tail end of one of the engaging members and not fly off into space.

During the time one of the arms is stopped and is receiving the coils, the motor 10 which powers its rod-end engaging member is operated at a speed which draws the coils along at the same rate they are progressively fed, so that each rod length is carried by each arm in a single layer. When one of the arms is loaded the motor 8 is operated so that an empty arm is brought to the coil receiving point.

A declined platform 15 is arranged at a point adjacent the passage of the ends of the arms 6 and diametrically opposite the coil delivering

means. When a loaded arm reaches this platform its chain motor is reversely operated so that the rod coils are shoved off. During this, the platform holds the bottom portions of the coils so that the rod is formed into a bundle.

The arms 6 are provided with wedges 16 suitably arranged to outwardly force the engaged ends of the innermost coils, when the jaw members are moved thereby. This will not be accomplished until the coils have completely assumed a bundled form.

An endless carrying chain 17 is arranged over the platform and below the arm ends 15 so that the top portion of the formed bundle falls thereon. When the rod is completely removed from one of the arms this chain is operated so that the resulting bundle is deposited on a shelf 18 from whence it may be removed by the usual hook conveyer 19. Preferably, the bundle is prevented from accidentally falling from this rack by a spring urged retainer 20. A motor 21 may be arranged to power this conveyer chain.

I claim:

1. The method of handling hot metal rod consisting in coiling it on carriers in concentric layer form prior to forming it to the usual rough bundles.

2. The method of handling hot metal rod consisting in coiling it on carriers in concentric layer form and then assembling it to bundle form at a remote point.

3. The method of handling hot metal rod consisting in forming it into a single layer coil of substantially concentric convolutions, maintaining the rod in this form for a cooling period and then forming the rod into conventional bundle form.

4. The method of handling hot metal rod consisting in delivering it in concentric convolutions to form a single layer of coil, maintaining it in this form for a cooling period and then forming it to conventional bundle form by bringing its ends together.

CLIFFORD F. HOOD.

100

105

110