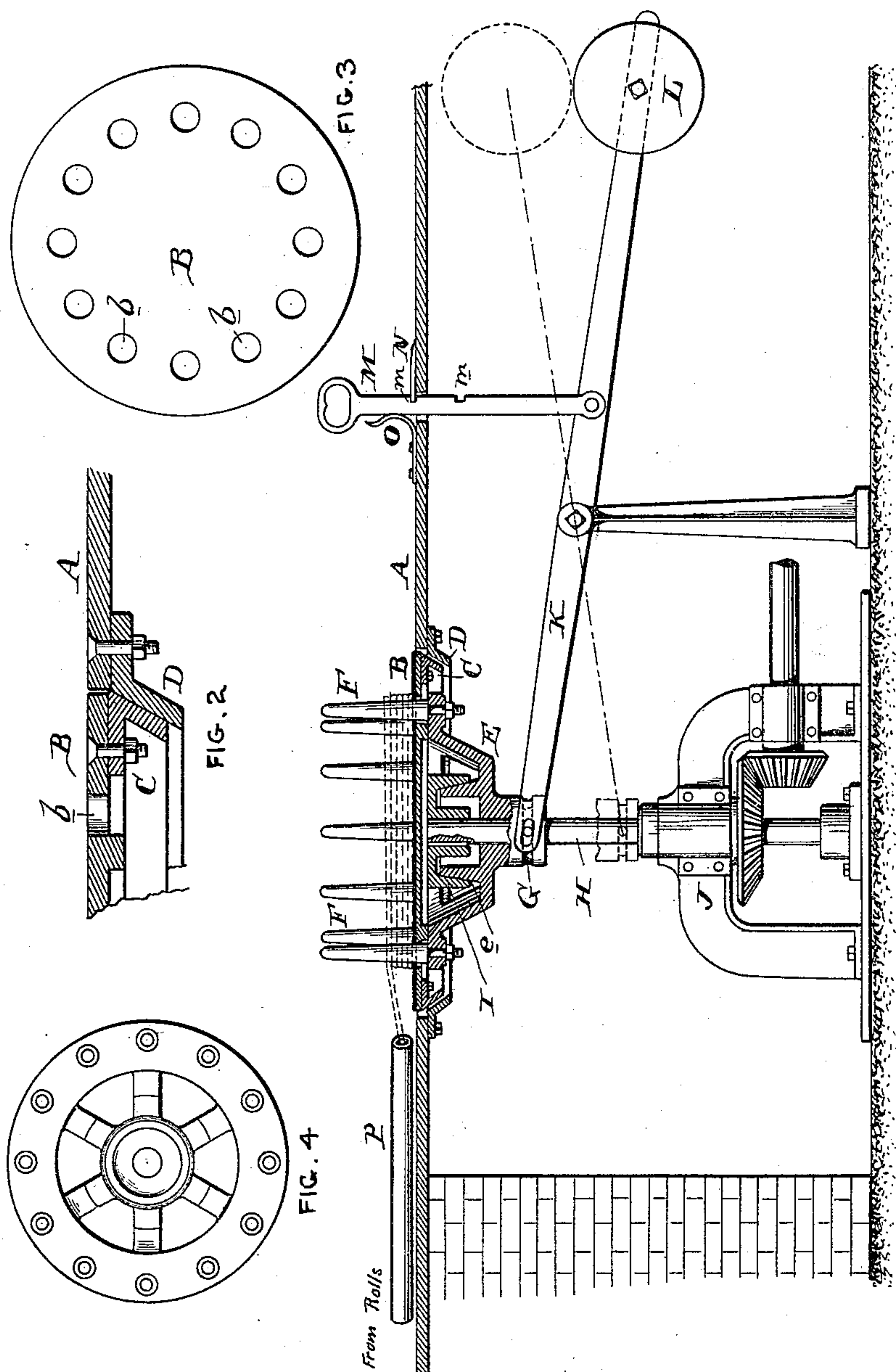


(No Model.)

J. A. TATRO.
DEVICE FOR COILING WIRE RODS.

No. 451,081.

Patented Apr. 28, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH A. TATRO, OF BEAVER FALLS, PENNSYLVANIA.

DEVICE FOR COILING WIRE RODS.

SPECIFICATION forming part of Letters Patent No. 451,081, dated April 28, 1891.

Application filed October 1, 1890. Serial No. 366,737. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. TATRO, citizen of the United States, and a resident of Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Coiling Wire Rods, which are fully set forth in the following specification and shown in the accompanying drawings, forming a part hereof.

The object of my invention is to provide a rolling-mill for wire rods with a suitable reel for coiling the wire rods into coils; and in carrying out my invention I provide a movable rotatable plate upon which the coil rests during its formation and support said plate upon a rotating reel provided with a series of upwardly-extending portions around which the wire is wound to form a coil, said projections or upwardly-extending portions extending above the supporting-plate; and in combination with these devices I arrange a suitable power mechanism for rotating both the reel and plate and provide means to raise and lower both the reel and plate, whereby the upwardly-extending portions of the reel may be withdrawn below the plate and the plate may be allowed to come to rest on a level corresponding to that of the floor, so that the coil may be readily removed and delivered to the conveyer, which conveyer is commonly employed for depositing the coils of wire rods at the door of the car or to any place which it is desired to deliver them in the works.

In conjunction with the mechanism above referred to I employ suitable clutch devices between the power-shaft and the reel, whereby the act of raising the reel and its supporting-plate in position for rotation automatically puts the said reel and plate into connection with the power devices, and vice versa. Furthermore, I prefer to provide the supporting-plate with a friction-brake device, whereby when the reel is free from the power mechanism the plate has its tendency to rotate arrested by the action of the brake, and thereby arrests the rotation of the reel, so that the upwardly-projecting portions thereof are always in operative position with respect to the supporting-plate.

Referring to the drawings, Figure 1 is a sectional elevation of a wire reel embodying my

improvements. Fig. 2 is an enlarged view of a portion of same, showing the application of the friction-brake to the supporting-plate. Fig. 3 is a plan view of the supporting-plate, and Fig. 4 is a plan view of the reel.

A is the floor of the mill, and is usually made of metal.

B is a circular wire-rod-supporting plate, and is provided with a series of holes *b*, arranged in a circle, as indicated in Fig. 3. The under portion of the rim of the plate B is provided with a conical flange C, which corresponds to the conical flange D, arranged upon the under side of the floor A. When the plate is not sustained by the reel, it rests upon the flange D, and the conical shape of these flanges creates a great deal of friction and arrests the tendency to rotate and at the same time supports the plate B on or substantially on a level with the floor A.

H is a vertical power-shaft journaled in a frame J and extending upwardly in line with the center of the supporting-plate B. This shaft H carries upon its upper portion a friction-cone I. Loosely sleeved upon the power-shaft H is the reel E, which is provided with an upwardly-extending conical part *e*, adapted to engage with the friction-cone I when the reel is raised to cause the said reel to rotate with the power-shaft H. The rim of the reel E is provided with a series of upwardly-extending projections or arms F, preferably slightly tapering and extending through the orifices or holes *b* in the supporting-plate B. It will be observed that when the reel is raised so as to engage with the friction-cone I the arms or projections F extend considerably beyond the supporting-plate B, and also that the supporting-plate B is sustained by the reel E clear of the friction cone or flange D.

The hub of the reel is provided with a sleeve G, which is connected by pins with a lever K, counterweighted at L, and adapted to be oscillated by means of a hand-link M. This hand-link projects upward through the floor A, and is provided with notches *m*, which engage with a projection N on the floor by means of a spring O. The notches *m* cause the reel to be sustained in its highest and lowest positions. When in the position shown in Fig. 1, the reel is in the act of reeling the wire rods into a coil, the said wire being de-

livered through the tube P, leading from the rolls. When the hand-link M is lifted upward, the lever K takes the position indicated in dotted lines, and the reel descends after lowering the plate B until its flange C comes in contact with the flange D, as indicated in Fig. 2. The reel is thus disconnected from the power-shaft, and it descends until the upper portions of the arms or projections F come flush with the upper surface or slightly below the surface of the supporting-plate. The coil may then be dragged from off the plate B on the floor A and delivered to the conveyer. The conical or tapering construction of the arms or projections F allow them to be readily withdrawn from the coil which has been previously formed upon them.

I do not limit myself to the particular construction of the arms or projections F, nor to the particular location of the friction devices C D, nor to the particular manner of connection between the reel and the power-shaft, as my invention comprehends a reciprocable reel adapted to be withdrawn from a coil of wire rods and leave it supported upon a suitable plate arranged substantially flush with the floor.

The details of construction may be more or less modified without departing from the spirit of my invention.

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

1. In a device for coiling wire rods, the combination, with a reel, of means for reciprocating the reel upward and downward, a plate for supporting the coil, located in the path of movement of the reel and carried by the reel when the latter is in its upper position, and a support for sustaining the plate independently of the reel when the reel is in its lower position, substantially as described.

2. In a device for coiling wire rods, the combination, with a reel, of means for reciprocating the reel upward and downward, a plate for supporting the coil, located in the path of movement in the reel and carried by the reel when the latter is in its upper position, a support for sustaining the plate independently of the reel when the reel is in its lower position, and a floor arranged substantially on a level with the plate, substantially as described.

3. In a device for coiling wire rods, the combination, with a reel, of means for reciprocating the reel upward and downward, a plate for supporting the coil, located in the path of movement of the reel and carried by the reel when the latter is in its upper position, a support for sustaining the plate independently of the reel when the reel is in its lower position, a power-shaft, and a clutch for connecting the reel to the power-shaft when in the upper position and disconnecting it therefrom

when in the lower position, substantially as described.

4. In a device for coiling wire rods, the combination, with a reel, of means for reciprocating the reel upward and downward, a plate for supporting the coil, located in the path of movement of the reel and carried by the reel when the latter is in its upper position, a support for sustaining the plate independently of the reel when the reel is in its lower position, a power-shaft, a clutch for connecting the reel to the power-shaft when in the upper position and disconnecting it therefrom when in the lower position, and a friction-brake for bringing the plate and reel to rest when disconnected from the power-shaft, said friction-brake consisting of opposing contact-surfaces forming extensions of the plate and its support, substantially as described.

5. In a device for coiling wire rods, the combination, with a reel, of means for reciprocating the reel upward and downward, a plate for supporting the coil, located in the path of movement of the reel and carried by the reel when the latter is in its upper position, a support for sustaining the plate independently of the reel when the reel is in its lower position, a power-shaft, a clutch for connecting the reel to the power-shaft when in the upper position and disconnecting it therefrom when in the lower position, and a counter-balance for the reel, substantially as described.

6. In a device for coiling wire rods, the combination, with a reel, of means for reciprocating the reel upward and downward, a plate for supporting the coil, located in the path of movement of the reel and carried by the reel when the latter is in its upper position, a support for sustaining the plate independently of the reel when the reel is in its lower position, a power-shaft, a clutch for connecting the reel to the power-shaft when in the upper position and disconnecting it therefrom when in the lower position, a conical flange on the plate, and a corresponding conical flange on the support for said plate, substantially as described.

7. In a device for coiling wire rods, the combination, with a reel, of means for reciprocating the reel upward and downward, said means including a hand-controlled device and provisions for locking the same at the end of the upward and downward movements, a plate for supporting the coil, located in the path of movement of the reel and carried by the reel when the latter is in its upper position, and a support for sustaining the plate independently of the reel when the reel is in its lower position, substantially as described.

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Witnesses

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