

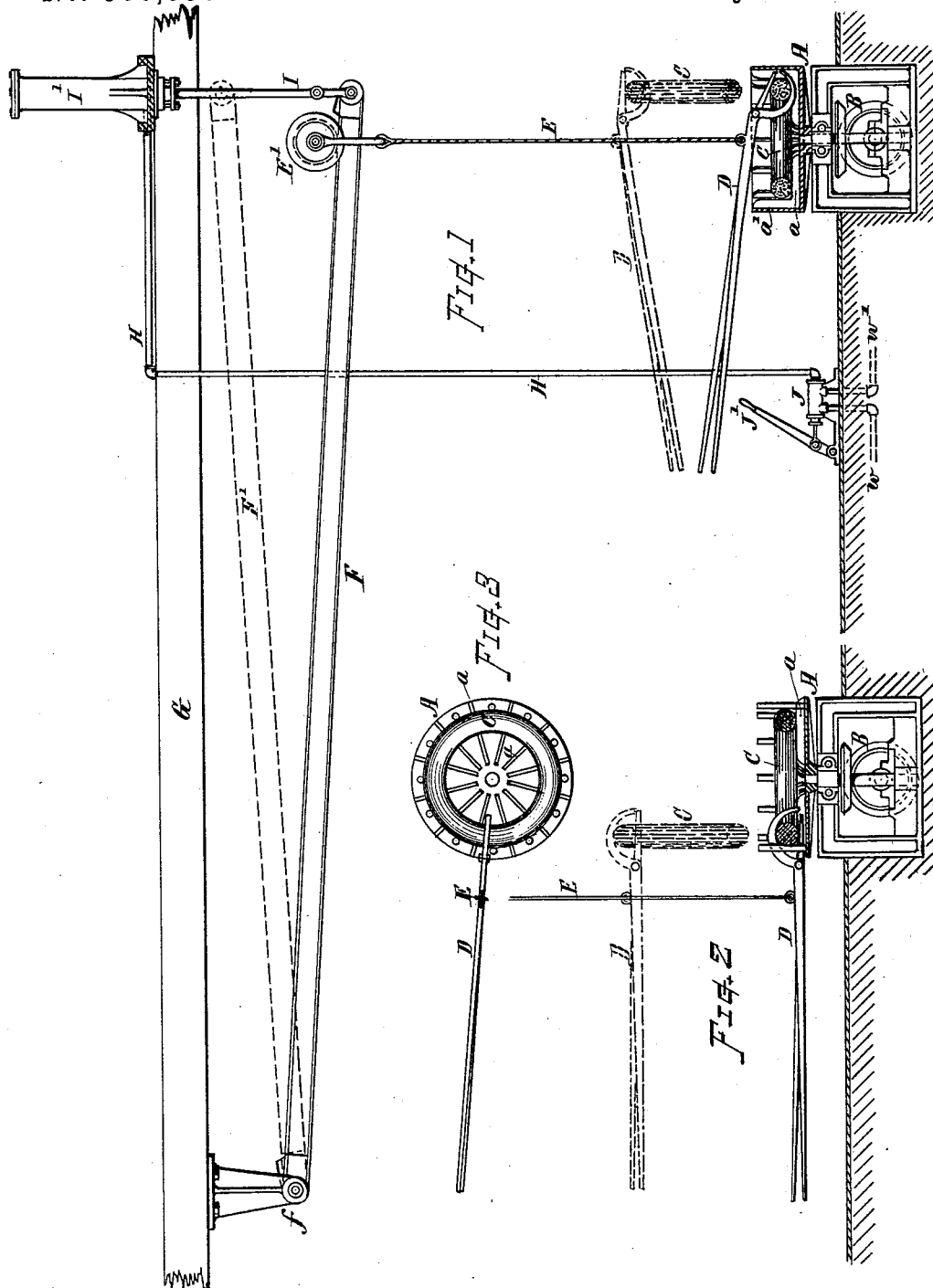
(No Model.)

F. H. DANIELS.

WIRE ROD REEL DISCHARGING MECHANISM.

No. 386,530.

Patented July 24, 1888.



WITNESSES.

N. R. Barton.
Ella P. Blenus.

INVENTOR

Fred H. Daniels.
By Chas H. Burleigh.
Attorney.

UNITED STATES PATENT OFFICE.

FRED H. DANIELS, OF WORCESTER, MASSACHUSETTS.

WIRE-ROD-REEL DISCHARGING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 386,530, dated July 24, 1888.

Application filed April 16, 1887. Serial No. 235,006. (No model.)

To all whom it may concern:

Be it known that I, FRED H. DANIELS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Wire-Rod-Reel Discharging Mechanism, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The object of my present invention is to provide means for facilitating the discharge of coiled wire rods from reeling apparatus, whereon said wire rods are wound up or reeled as they come from the rolling-mill; also, to provide a reel having flanges that support the coils clear of the reel-plate, in combination with handling-tongs or a discharging implement having a hook or jaws adapted for insertion under the coil between said reel-flanges, and a traveling fulcrum support with facilities for effecting lifting action in mechanism, whereby the coils are seized and held at one side while being lifted from the reel and transferred to the place of deposit. These objects I attain by mechanism the nature and operation of which are explained in the following description, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a part side, part sectional view of a reel and reel-discharging mechanism illustrating my invention. Fig. 2 is a vertical section showing a modification in the apparatus. Fig. 3 is a plan view of the mechanism illustrated in Fig. 2.

Referring to parts, A denotes the reel or coil-receptacle whereon the wire rods are coiled as they come from the rolling-mill, (not shown,) said rods being conducted to the reel through a suitable guide-pipe, and coiled in a manner substantially as heretofore practiced. The reel is constructed with upwardly-projecting flanges or ribs *a*, that support the coiled rod at some distance from the plate or disk of the reel. Said ribs or flanges, which are preferably radially disposed, are stopped off or omitted at the center of the plate, thus leaving space laterally between their inner ends. In the case of the tub-reel, Fig. 1, these flanges

extend up the inner surface of the outer cylinder or rim, *a'*.

B indicates the driving-gears for imparting rotative action to the reel or coiling-receptacle A, which gears and their driving mechanism may be of any suitable well-known kind.

C indicates the coil of wire rod as wound up by the reel. D denotes the tongs, handling-hook, or implement by means of which the coil of wire rod is seized and transferred from the reel. Said tongs are suspended by rod, cord, or chain E from a traveler, E', on the overhead track or way F, one end of which way is pivoted or hinged to a support-bracket or hanger, *f*, attached to the girder G at the top of the building or room, while its other end is connected with the piston-rod I of a hydraulic lifting-cylinder, I', which is supported on the girders G, or in other suitable manner, for supporting, raising, and depressing the end of said transfer-way and the handling-tongs suspended therefrom. While I consider this the best manner of arranging the transfer-way and lifting devices, I do not confine myself to the exact construction shown, as the transfer-way and the lifting mechanism may be somewhat modified, the lifting of the tongs being accomplished to effect equivalent results in discharging the coil.

H indicates the pipe by which power is transmitted to the cylinder I', and J the valve for controlling the action or pressure in the cylinder. Said valve may be disposed at any convenient position and be worked by a lever, J', or other convenient handle.

In the operation of discharging the coiled wire rod from the reel, when the coil is completed, the rotation of the receptacle A is stopped. The attendant then inserts the tongs, lifting-hook, or equivalent handling implement D between the ribs *a* and beneath the coil C, seizing it in the manner indicated. The valve J is then opened to let pressure into the cylinder I' beneath the piston, which is forced upward, lifting the tongs D and swinging the coil of rod upward from the receptacle by a hold at one side of its circle, as indicated by dotted lines, after which it can be transferred to the place of deposit by allowing the traveler E' to roll along the way F.

In Fig. 2 the peripheral boundary of the coil-receptacle is formed of a series of upright pins instead of a continuous rim or cylinder. In this case the tongs or lifting-hook 5 can be inserted from the exterior of the coil-circle for seizing the coil, as indicated in said Fig. 2.

I am aware that in a previous patent there is described a coil-discharging mechanism having a three-armed grappling device adapted for taking hold on the coils by the expansion of the arms within the circle and engaging at three positions, so as to lift the coil while maintaining its horizontal relation. It will therefore be understood that I do not desire to include a mechanism of such nature as within the scope of my present invention and claims.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. The combination, with a reel having flanges to support the coiled rod above the bottom thereof, of a discharging implement fulcrumed in connection with a traveling supporter, and having at its forward end a hook or jaw adapted to be inserted between said flanges and passed under the side of the coil to remove it from the reel and transfer it to a place of deposit, substantially in the manner set forth.

2. The combination, with a reel having flanges that support the coiled rod above the

bottom thereof, of a coil-discharging implement having at one end a hook adapted to be inserted between said flanges under the side 35 of the coil, at its other end a handle or handles for manipulation thereof, and intermediate thereto a fulcrum on which said implement swings as a lever supported in connection with a traveler or truck, an elevating-tramway for said truck, and a lifter connected with one end thereof, whereby said tramway can be raised and lowered to oppositely-inclined positions, to facilitate the running of said discharging-implement truck by gravity in either direction to or from the reel, substantially as set forth.

3. The combination, with elevating discharging-tongs, of a reel having flanges which support the coiled rod clear of the reel-plate and walls in the coiling mechanism.

4. The reel having its coil-supporting plate provided with flanges or ribs for sustaining the coil of wire rod, and an open center or space wherein said ribs are omitted to facilitate the introduction of the discharging-tongs, substantially as set forth.

Witness my hand this 12th day of April, A. D. 1887.

FRED H. DANIELS.

Witnesses:

CHAS. H. BURLEIGH,
ELLA P. BLENUS.