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Patented Feb. 12, 1901.

V. E. EDWARDS.

REELING OR COILING DEVICE FOR ROD OR WIRE MILLS.

(Application filed Mar. 27, 1899.)

(No Model.)

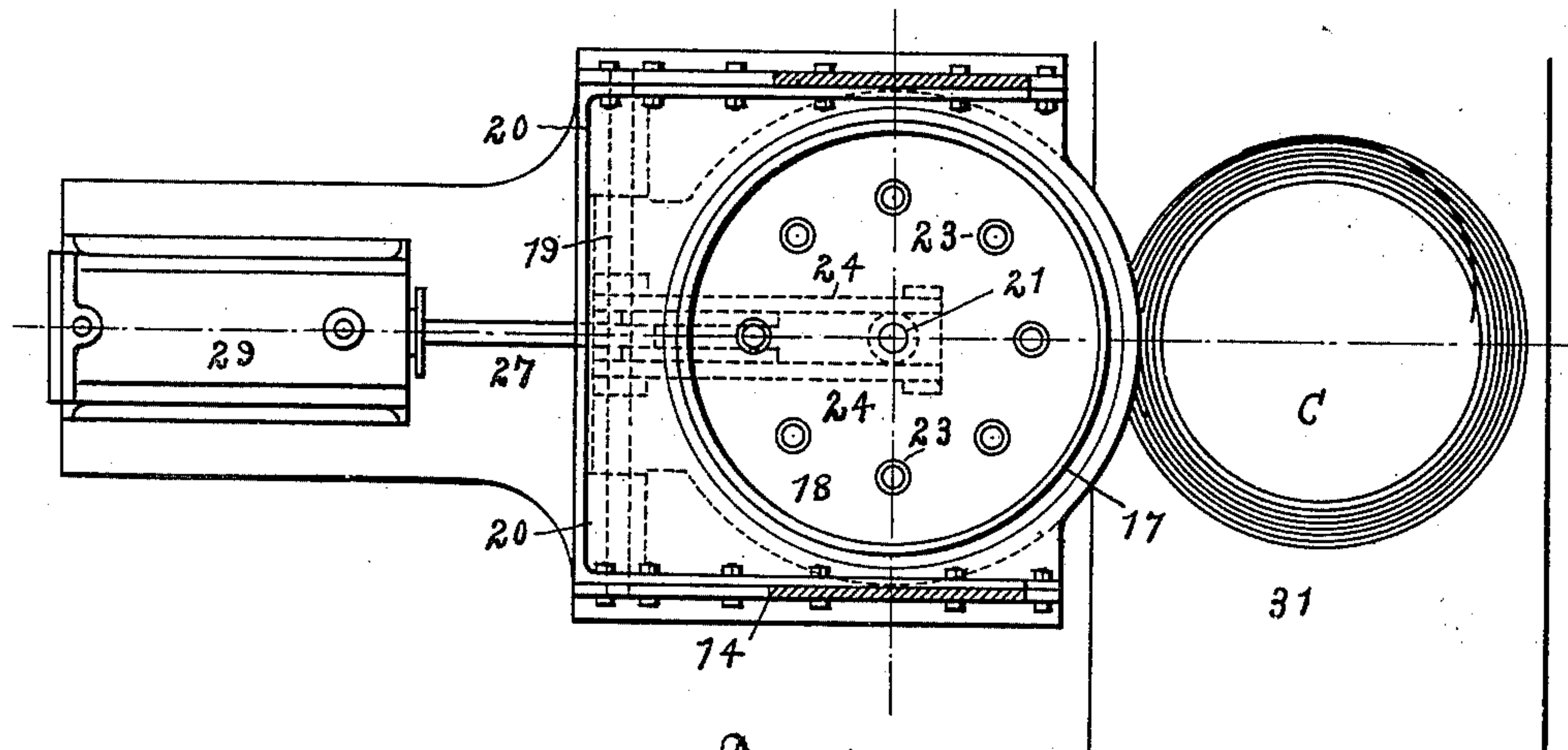


Fig. 1.

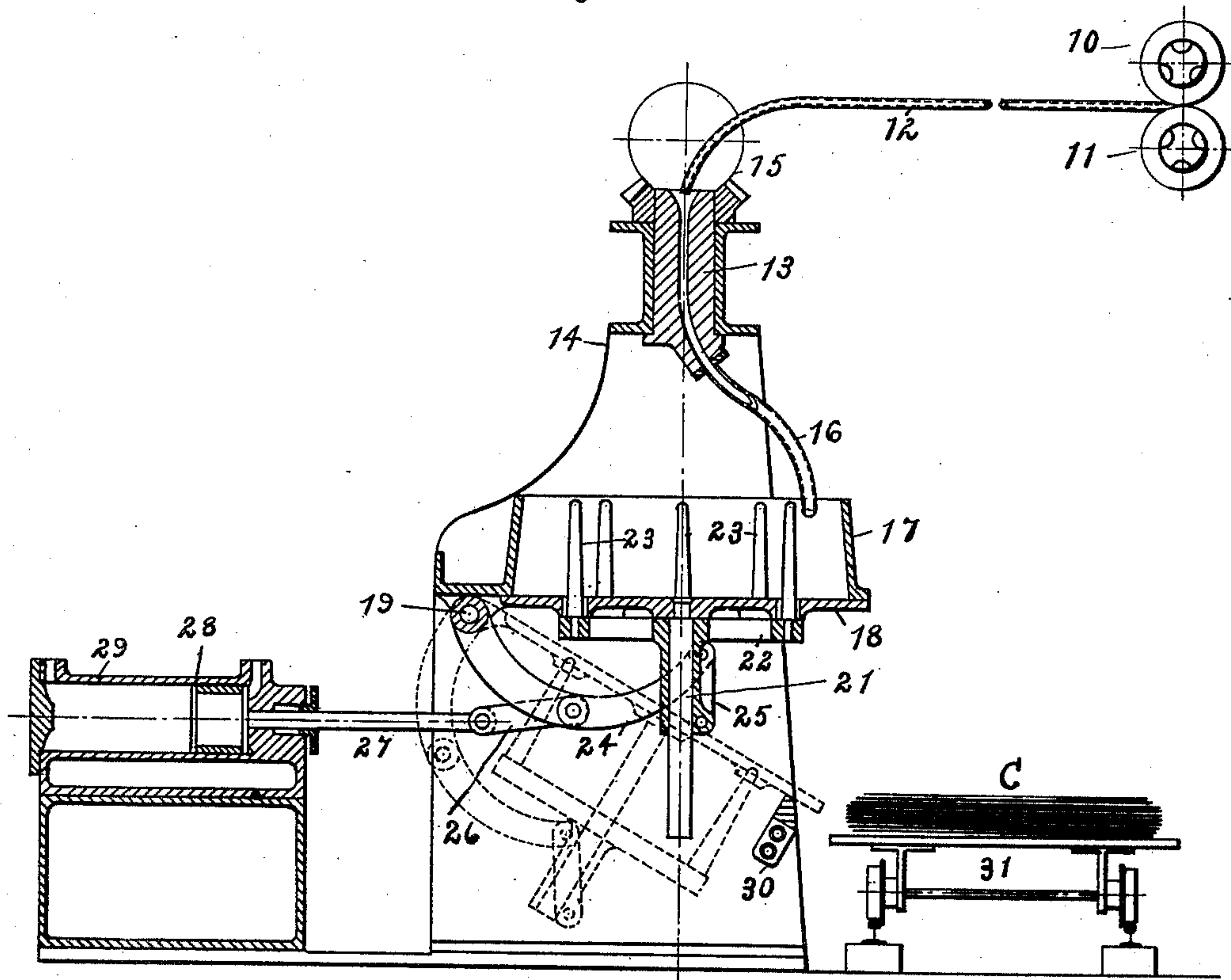


Fig. 2.

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# UNITED STATES PATENT OFFICE.

VICTOR E. EDWARDS, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE MORGAN CONSTRUCTION COMPANY, OF SAME PLACE.

## REELING OR COILING DEVICE FOR ROD OR WIRE MILLS.

SPECIFICATION forming part of Letters Patent No. 667,870, dated February 12, 1901.

Application filed March 27, 1899. Serial No. 710,531. (No model.)

*To all whom it may concern:*

Be it known that I, VICTOR E. EDWARDS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Reeling or Coiling Device for Rod or Wire Mills, of which the following is a specification.

The aim of this invention is to provide a new and improved reeling or coiling device for rod or wire mills which can be operated to deliver the coils or bundles in a very efficient and simple manner.

To this end the invention consists of the devices described and claimed in this specification and illustrated in the accompanying drawings, in which—

Figure 1 is a diagrammatic plan view of my improved device, and Fig. 2 is a sectional elevation.

A rod or wire coiling device constructed according to my invention consists of a horizontal base and a number of pins which form a core for the reel or coil. The base is hinged to the frame and means are provided so that the same can be lowered on its hinge to swing down, so that the coil or roll of wire can slide out laterally thereon. Means are also provided in connection with the above so that the core will be freed from the coil to permit of this lateral delivery. I am thus enabled to produce a very simple and efficient device for this purpose and one which has the advantages of being horizontal in position during the coiling of the rod or wire and which still obtains an efficient lateral delivery.

My invention further consists of the details of construction which are hereinafter described, and more particularly pointed out in the claims at the end of this specification.

Referring in detail to the drawings, 10 and 11 designate the last rolls or by-pass of a mill. The rod or wire is conducted therefrom by pipe 12 down into a bushing 13, which, with the extending nozzle 16, forms a rotary coiler. The bushing 13 is journaled in suitable framework 14, and the same may be driven by any of the usual gearing, as miter-gears 15.

17 designates a circular guard which is secured to the frame.

18 designates the base. This base 18 is hinged on a pivot or shaft 19, which pivot is secured in journals or bearings 20 20 on the

framework 14. A shaft or rod 21 is fitted centrally in the base 18. Fitted to slide on the shaft 21 is a frame or spider 22, which carries a number of pins 23, which project up through the base 18. These parts are so arranged that an annular space will be provided between the series of pins 23 and the guard 17, in which the rod or wire will be coiled by the rotary coiler.

24 designates one or more arms, preferably two, which are journaled on the pivot 19, and which arms connect by links 25 to the frame or spider 22. The arm or arms 24 are also connected by links 26 to a piston-rod 27, and thus to piston 28, arranged in cylinder 29.

30 designates a stop for limiting the downward inclination of the base 18.

31 designates a suitable conveyer arranged beside the coiling device, onto which the reels or coils C may be delivered. This conveyer may consist either of a car or any of the usual endless conveyers used for this purpose.

The operation of my device is as follows: The parts are shown in their normal position in Fig. 2 in full lines. With the parts in this position and with the base 18 horizontal the incoming wire or rod is formed into a coil by the rotary coiler 16 between the pins 23 and the guard 17. The parts are kept in this position by maintaining the pressure behind the piston 28. When the rod is coiled, pressure is admitted to the right of the piston 28 and the pressure on the left thereof is relieved, and thus the piston 28 will be moved toward the left. This will swing the base 18 about the pivot 19 until the edge of the base 18 strikes against the stop 30. Then the continued movement of the piston to the left will cause the spider 22 to move down on the shaft 21, and thus the pins 23 or the core on which the coil is formed will be withdrawn through the base, the parts then assuming the position shown in the dotted lines in Fig. 2. This will permit the coil C to slide laterally off of the base 18 onto the conveyer 31. By causing the piston 28 to move to the right the parts will be restored to their normal position and the operation can be continued.

Of course mechanical means can be substituted for the piston, if desired.

My device thus forms a very simple one for this purpose and one by which the reel or coil



can be delivered free of the coiling device without manual manipulation. My device also has the advantage that the base remains in a horizontal position during the coiling or reeling operation, so that the coil or reel will be accurately and nicely formed.

The details and arrangements for practicing my invention herein shown may be greatly varied by a skilled designer without departing from the scope of my invention as expressed in the claims.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a rod or wire coiling device, the combination of a tilting base or floor which normally occupies a horizontal position while the rod or wire bundle is coiled thereon, a core or mandrel around which the rod or wire bundle is coiled, which core or mandrel normally extends up from the surface of the floor or base while the same is in its horizontal position, and means for producing a relative movement of said parts, whereby the core or mandrel will stand in position to leave the surface of the base or floor unobstructed when the same is tipped or tilted to an inclined position, substantially as described.

2. In a rod or wire coiling device, the combination of a tilting floor or base which occupies a horizontal position while the rod or wire bundle is coiled thereon, a core or mandrel comprising a number of projections or pins which extend up through said floor or base so as to project up therefrom when the floor or base is in its normal or horizontal position, means for oscillating said tilting floor or base, and means for withdrawing the core or mandrel, so that the pins thereof will leave the surface of the floor or base unobstructed when the same stands in its tipped or tilted position, substantially as described.

3. In a rod or wire coiling device, the combination of a tilting floor or base upon which the rod or wire bundle is coiled, a number of pins normally extending up through the floor or base to form a core or mandrel about which the rod or wire bundle is coiled when the floor or base is in its horizontal position, said pins being mounted to turn or tilt with the floor or base, and to have an independent movement therefrom for sliding or withdrawing the same beneath the base or floor, and means for operating said parts, substantially as described.

4. In a rod or wire coiling device, the combination of a base or floor normally occupying a horizontal position while the rod or wire bundle is being coiled thereon, and arranged to tilt or swing down upon a hinge at one side thereof, a series of pins extending up through the base or floor to form a core or mandrel when the parts are in their normal position, said pins being mounted to tip or tilt with the base or floor, and to be withdrawn longitudinally beneath the surface of said base or floor when the same is in its

tipped or tilted position, and means for operating said parts, substantially as described.

5. In a rod or wire coiling device, the combination of a tilting base or floor which occupies a horizontal position when the rod or wire bundle is being coiled thereon, a shaft or guide extending down from said floor, a frame or spider movable thereon, and having pins which project up through the base or floor while the same is in its horizontal position, and operating connections arranged so that said pins will tip or tilt with the floor or base and then be withdrawn beneath the surface thereof, substantially as described.

6. In a rod or wire coiling device, the combination of a tilting floor or base which occupies a horizontal position while the rod or wire bundle is being coiled thereon, a frame or spider having operating connections for normally supporting the base or floor in a horizontal position, and having a series of pins for projecting therethrough to form a core or mandrel, and means for controlling said connections to permit the base or floor to tip down to an inclined position, and for withdrawing said pins, substantially as described.

7. A rod or wire coiling device consisting of a movable base, a frame or spider carrying a series of pins projecting through the same, a stop for limiting the movement of the base, and connections arranged to incline the same until the same strikes the stop and then to withdraw the pins, substantially as described.

8. A rod or wire coiling device consisting of a hinged base, a frame or spider supporting said base, and having a series of pins projecting therethrough, and a piston connected to incline said base and withdraw said pins, substantially as described.

9. A rod or wire coiling device consisting of a hinged base, a spider or frame having pins projecting therethrough, and mounted on a shaft projecting down therefrom, a stop for the base, an arm mounted on the pivot of the base, and connected by a link to the spider, and a piston connected by a link to said arm, substantially as described.

10. In a rod or wire coiling device, the combination with a base upon which the rod or wire bundle is coiled, and hinged at one edge, means for holding said base in a horizontal position, and for releasing it to tilt to an inclined position, of a core or mandrel around which the rod or wire bundle is coiled, movable in said base, and means for sliding or withdrawing said core or mandrel beneath the face of the base, and for raising it above said face, and raising the base into its horizontal position, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

VICTOR E. EDWARDS.

Witnesses:

LOUIS W. SOUTHGATE,  
JEROME R. GEORGE.