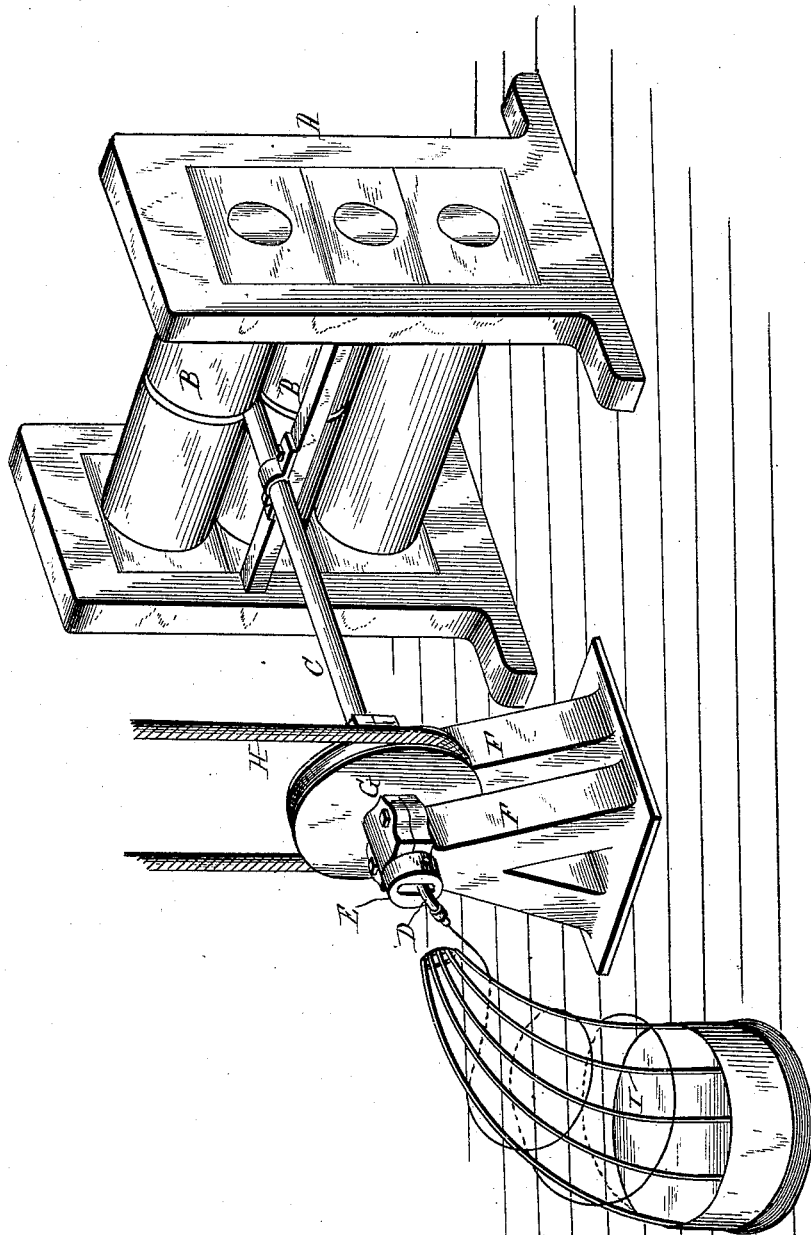


(No Model.)

F. G. TALLMAN.
METHOD OF COILING WIRE RODS.

No. 420,747.

Patented Feb. 4, 1890.



WITNESSES

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METHOD OF COILING WIRE RODS.

SPECIFICATION forming part of Letters Patent No. 420,747, dated February 4, 1890.

Application filed March 5, 1889. Serial No. 301,909. (No model.)

To all whom it may concern:

Be it known that I, FRANK G. TALLMAN, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented new and useful Improvements in the Method of Coiling Wire Rods; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improved method of coiling wire rods or metallic rods used in the manufacture of wire into bundles.

The object of my invention is to provide a cheap and reliable method for the coiling into bundles of metallic rods, dispensing with the expensive reeling devices now in common use and also the services of several skilled workmen, and at the same time utilizing but a small space of the mill-floor for this purpose.

My invention consists in the method hereinafter described of imparting to the rods as they emerge from the rolls a motion which will form them into coils or spirals while the rod is in the air or in its flight from the rolls, and in arresting said coils by a suitable standard around which the coils are thrown, as will more fully hereinafter appear.

In the accompanying drawing I have shown in perspective a device by which my invention can be carried into effect, and in an application filed of even date herewith I have shown, described, and claimed the devices which I have now in actual use.

It has been customary heretofore in rod-rolling mills to run the hot rods or wire from the rolls through a straight guide or pipe, at the delivering end of which an attendant was stationed, technically called a "steer-out," to direct the course of the front end of the rod and so distribute the slack rod on the mill-floor that it would not become snarled or tangled. To do this required the attendant to be very expert, and consequently he commanded high wages, and it was extremely difficult to fill his place. After the front end of the rod was stopped in its forward course by reason of its friction on the floor it

was then picked up by a second attendant, technically called a "pick-up," and was by him inserted in a stationary reeling mechanism. The pick-up was then obliged to step in behind a cage or screen to protect himself from the flying hot rod, caused by the sudden starting up of this reeling mechanism. A third attendant was then required, called a "reeler." As a large amount of the rod was on the floor, and had to be reeled up by this mechanism before it got cold, it was necessary to run this machine very fast, thereby causing snarls, tangles, and knots to be formed in the rod being coiled, making it unmarketable and very dangerous for the men who have subsequently to handle it in the wire-mill or any other place where the rod is to be used. After it was coiled on the machine mentioned above, said machine was then stopped by the reeler and still a fourth attendant steps up, called the "take-off," and takes the hot coil off of the machine and deposits it in a suitable place to cool. These four men all have to be very expert at their several occupations, and are also in danger of being burned or hurt, and consequently all command high wages. With my new and improved device for reeling and removing these rods I do away with these skilled men, thus saving their cost and doing away with the likelihood of accident. I am also enabled to coil the rod close to the rolls at a very moderate speed, as there is then no slack to be taken up, and I also avoid all the likelihood of forming knots, tangles, or snarls that have proved so injurious in coiling by the old methods.

Referring to the drawing, A indicates the housings, and B the rolls confined in said housings, which are of the ordinary or well-known construction used in rod-mills.

C is a guide-pipe, one end of which is placed in front of the rolls B and opposite the groove which gives the finished form to the rod. The office or function of this guide-pipe is to direct the rod and keep it in a straight line as it emerges from the rolls. The front end of the rod C communicates with a pipe D, the front end of which is curved, said curved pipe being adjustably mounted in a sleeve E, said sleeve being mounted in bearings in

suitable standards F and adapted to be rotated by means of the band-wheel G and band H, which is driven from any suitable source of power.

- 5 To still further facilitate the operation of coiling the rod and holding the same in the coil relation into which it has been thrown or caused to assume by the revolving pipe, I employ a cone-shaped holder and arrester I, 10 having its upper end or apex curved inward toward the revolving curved pipe to bring said end into proper relation to catch the coils as formed and discharged from the pipe. It will thus be seen that by causing 15 the rod to pass out through the curved pipe, which has a revolving motion imparted thereto, the rod will be thrown forward as it emerges from the pipe into a spiral coil, and by making the curved pipe adjustable to and 20 from the center of movement the shape of the coil to be wound can be regulated at will, and the contour of the holder is such that the rod assumes a perfect circle when it comes to a standstill upon said holder.
- 25 The size of the coil is determined by the number of revolutions per minute imparted to the pipe conforming to the feed delivery of the rolls—that is to say, if the rolls are set to deliver so many feet of rod per second, 30 if the pipe is revolved once in a second it would make a coil equal in circumference to the delivery of the rolls for one second, and if the speed was increased so as to revolve

the pipe twice in a second the coil would be made of one-half the circumference. 35

While the form of holder above described has been found in practice to be very desirable, still it will be readily apparent that other forms of holders may be employed in connection with the rod-shaping tube without departing from the spirit or intent of my invention. 40

Having now described my invention, I claim—

1. The method herein described of coiling 45 metal rods as they come from the rolls, the same consisting in causing the rods to assume a spiral form while passing through the air and assembling them uniformly one above another in a body, substantially as 50 specified.

2. The method herein described of coiling metal rods as they come from the rolls, which consists in passing said rods through a horizontally-revolving bent tube, which forms 55 the rods into spirals in a vertical plane, and then arresting said coils while in their aerial flight on a standard, causing the coils to assume a horizontal position.

In testimony whereof I affix my signature in 60 the presence of two subscribing witnesses.

FRANK G. TALLMAN.

Witnesses:

FRED. N. BEEGLE,

J. CHAS. IRWIN.