

(No Model.)

W. A. SWEET.

PASS RECEIVER AND SHIFTER FOR ROLLING MILLS.

No. 510,451.

Patented Dec. 12, 1893.

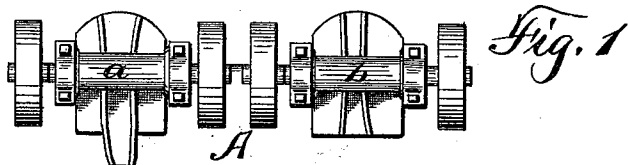


Fig. 1

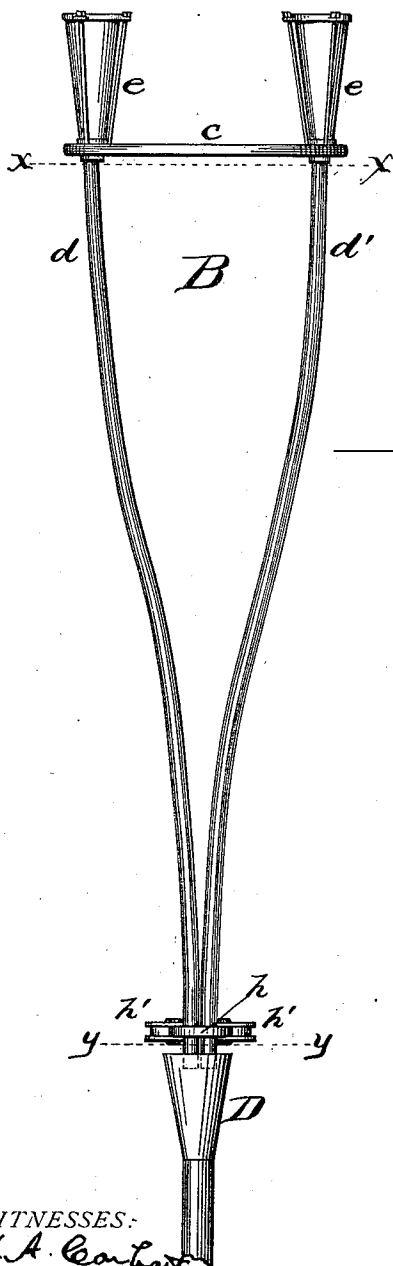


Fig. 2

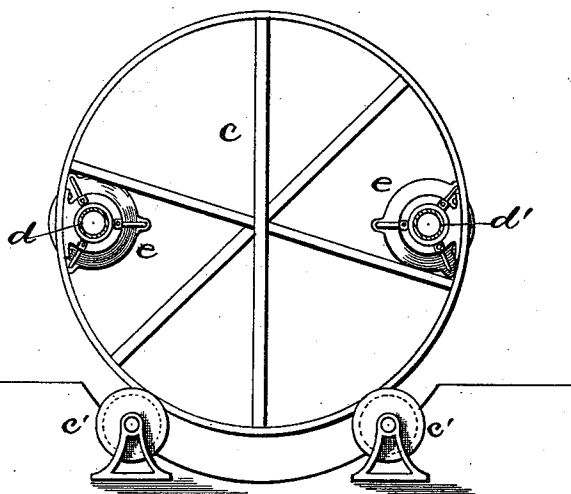
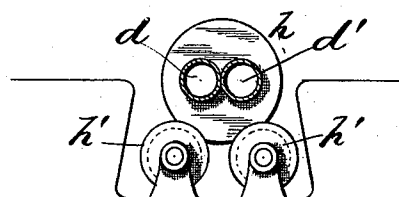


Fig. 3.



WITNESSES:
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WILLIAM A. SWEET, OF SYRACUSE, NEW YORK.

PASS RECEIVER AND SHIFTER FOR ROLLING-MILLS.

SPECIFICATION forming part of Letters Patent No. 510,451, dated December 12, 1893.

Application filed August 13, 1892. Serial No. 443,020. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. SWEET, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Rolling-Mill Pass Receivers and Shifters, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to devices for receiving a bar of metal as it is passed through a set of rolls in a train, and shifting it to be passed through the next set in the train.

My object is to produce a new rolling mill appliance, or apparatus, consisting in a Y-shaped pass receiver, consisting of a tubular stationary body, and diverging tubular arms mounted rotatably, said arms, at their converging ends being adapted to coincide with the front end of the tubular body, and when one arm receives a bar passed through a set of rolls, it will extend through said arm into said body, and then when the arms are half rotated the one containing the bar is shifted and will present the bar ready to be by-passed through the next set of rolls.

My invention consists in the several novel features of construction and operation hereinafter described and which are specifically set forth in the claims hereto annexed. It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1, is a top plan of part of a train of rolls, and of my pass-receiver and shifter. Fig. 2, is a transverse section on line *x x*, in Fig. 1. Fig. 3, is a like view on line *y y*.

A—, is part of a train of rolls, and *a—b—* are respectively, sets of rolls in the train, all of ordinary construction, such as are used in rolling bars of metal.

B—, is my pass-receiver and shifter comprising a wheel *c—* supported upon rollers *c'—* and two diverging pipes or conduits *d—d'—* are connected to the wheel on opposite sides near its periphery, and each being provided with a funnel-shaped extension *e—* toward the rolls. The rear ends of said conduits are secured in a circular head *h—*, which is mounted upon the grooved rollers *h'—*.

D—, is the stationary tubular body which may be embedded in the earth and may be of

any desired length, and is enlarged at its front end as shown, to receive the ends of the conduits *d—d'—*. When the wheel is revolved, the conduits *d—d'—* and the head *h—* are rotated together, so as to reverse the presentation of said conduits to the rolls and to bring each conduit in succession in alignment to receive the bar passed through the rolls *a—*, and then shift it over to be passed through the rolls *b—*; such bar passing from one set of rolls into and through the conduit *d—* which it enters and thence into the conduit *D—*, and then a half turn of the wheel brings said bar into position for the pass through the other set *b—*, and bringing the conduit *d'—* into position to receive the next bar from the rolls *a—*.

It will be seen that the bar receiver and shifter consists of a sectional Y-shaped tubular conduit, the body of which is stationary, and the arms of which are reversible by rotation upon their mountings; and that by its use long bars are kept straight and are prevented from curling, bunching and twisting around, thereby providing against the great danger to the workmen.

This apparatus is especially adapted to the passing of long bars from fifty to one hundred and fifty feet in length, and is thereto adapted because when the Y-shaped section is rotated, only that part of the bar which is exterior to the stationary section is, in point of fact, shifted, all that part which lies in the latter section, remaining at rest, except, perhaps a small portion of the bar therein closely adjacent to the Y-section.

I am aware of the construction shown in the patent to C. H. Morgan, No. 379,974, dated March 27, 1888, in which the bar-receiving tubes *g—* are parallel and mounted in circular rotatable frames *g'—*, but that is not my invention; my invention consisting in a sectional conduit, one section being Y-shaped having converging arms, and adapted to be rotated to shift the bar, while the other section is stationary, its front end coinciding with the other section of said conduit, at substantially the converging point or apex of the tubular arms, whereby only a part of the bar lies in the rotatable section, while the greater part lies in the stationary section which may be embedded in the earth, if desired.

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

1. A Y-shaped pass-conduit consisting of a stationary body, and diverging arms adapted to receive the pass from one set of rolls into one arm and said body, and to be rotated to shift said arm into alignment for the by-pass into the next set of rolls.

2. The combination with a train of rolls, of a combined pass-receiver and shifter, consisting of diverging conduit arms rotatably mounted, and a stationary conduit body coinciding with said arms at their convergence.

3. The combination with a train of rolls, of

a Y-shaped conduit adapted to receive a bar passed from one set of rolls into one arm and to be rotated to present it for the by-pass into the next set of rolls, and a stationary conduit coinciding with the other at the convergence of its arms, and to receive that part of the bar projecting rearwardly beyond the conduit arm receiving it from the rolls.

In witness whereof I have hereunto set my hand this 15th day of June, 1892.

WM. A. SWEET.

In presence of—

C. W. SMITH,

C. B. KINNE.