No. 850,190. PATENTED APR. 16, 1907.

R. H. STEVENS.

METAL TRANSFER DEVICE.

APPLICATION FILED JUNE 19, 1905.

3 SHEETS—SHEET 1.

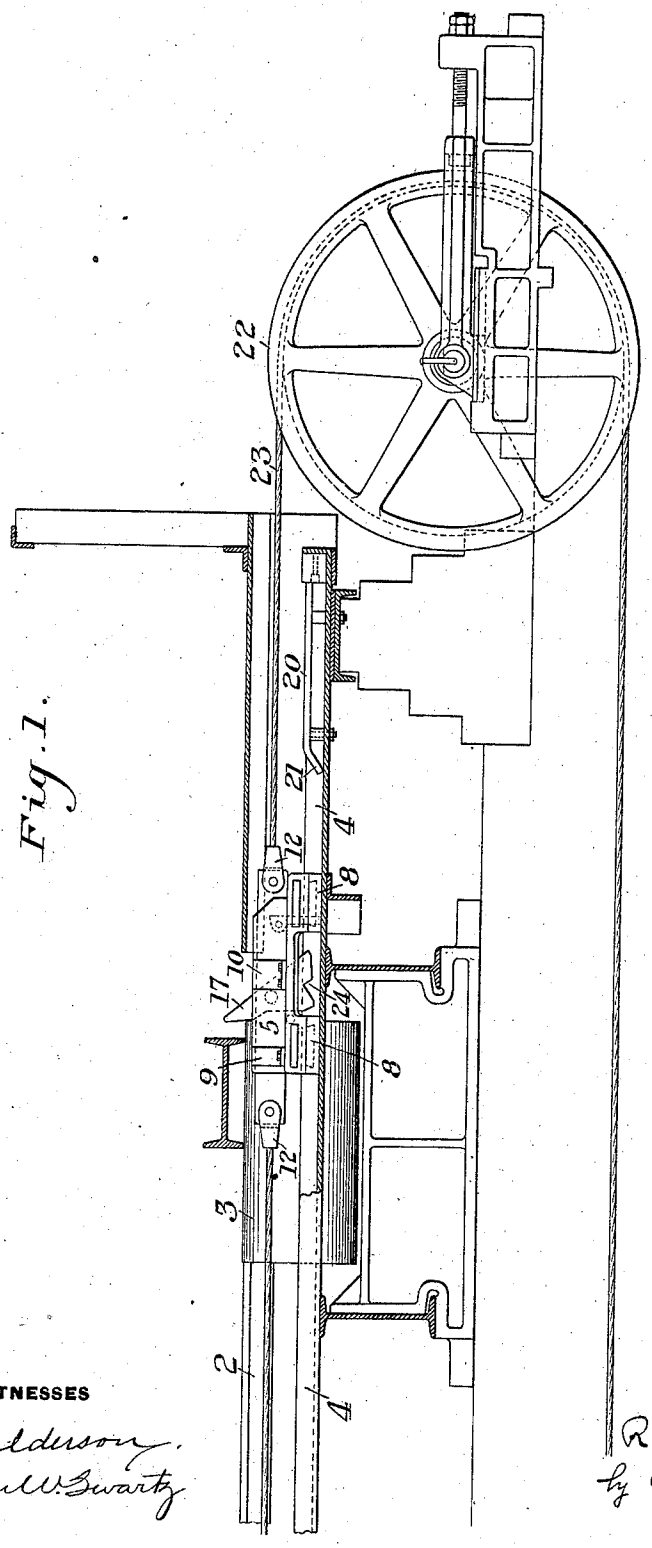


Fig. 1.

WITNESSES

R. A. Balderson.

Warren W. Swartz

INVENTOR

Richard H. Stevens

by Randall & Byrnes

his Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 850,190. PATENTED APR. 16, 1907.

R. H. STEVENS.

METAL TRANSFER DEVICE.

APPLICATION FILED JUNE 19, 1905.

3 SHEETS—SHEET 2.

Fig. 2.

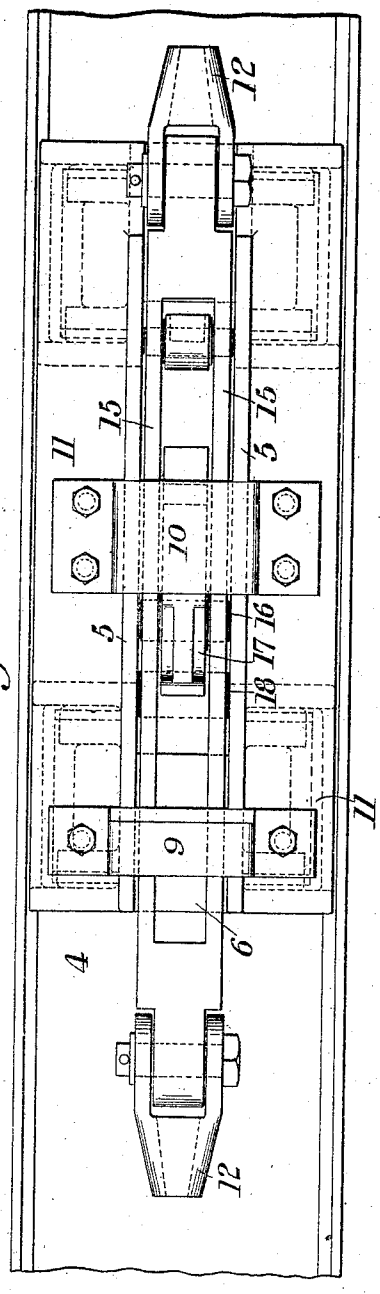
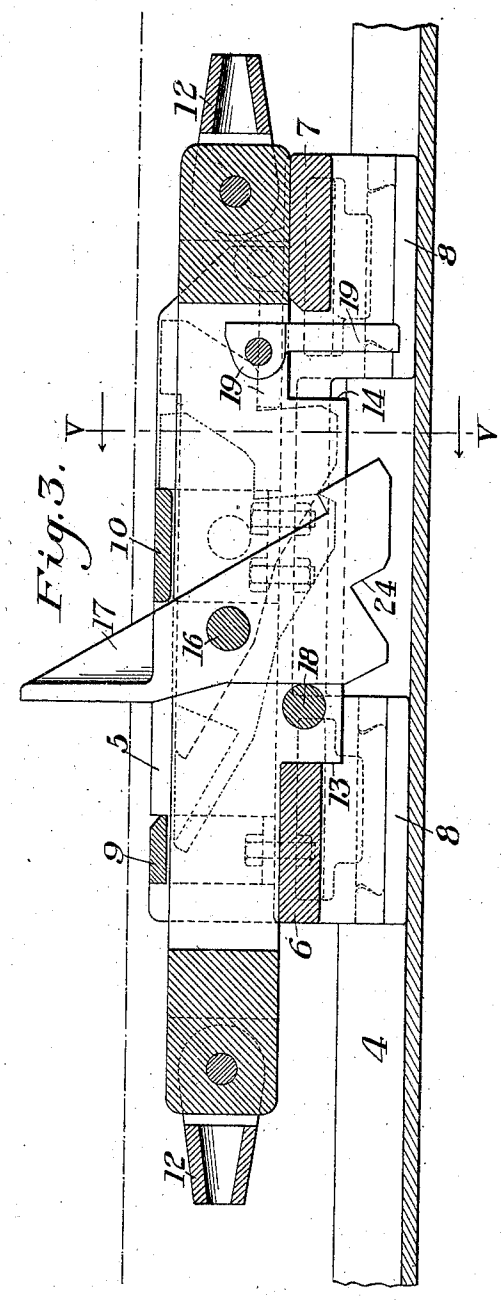


Fig. 3.



WITNESSES

R. A. Balderson

Warren W. Swartz

INVENTOR

Richard H. Stevens

by Bakewell & Byrnes

his attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 850,190. PATENTED APR. 16, 1907.

R. H. STEVENS.

METAL TRANSFER DEVICE.

APPLICATION FILED JUNE 19, 1905.

3 SHEETS—SHEET 8.

Fig. 4.

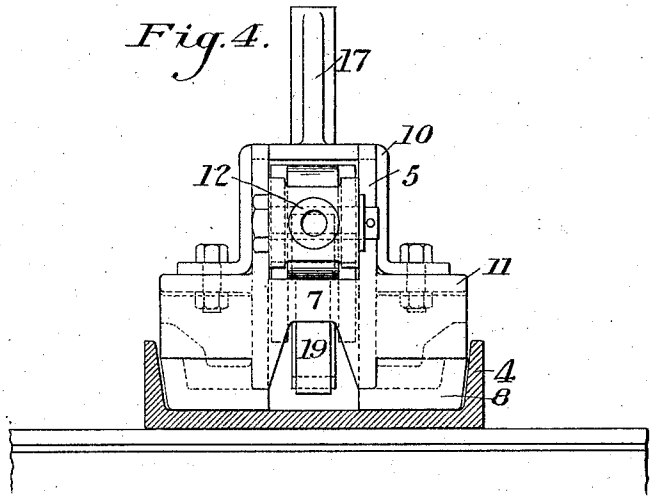
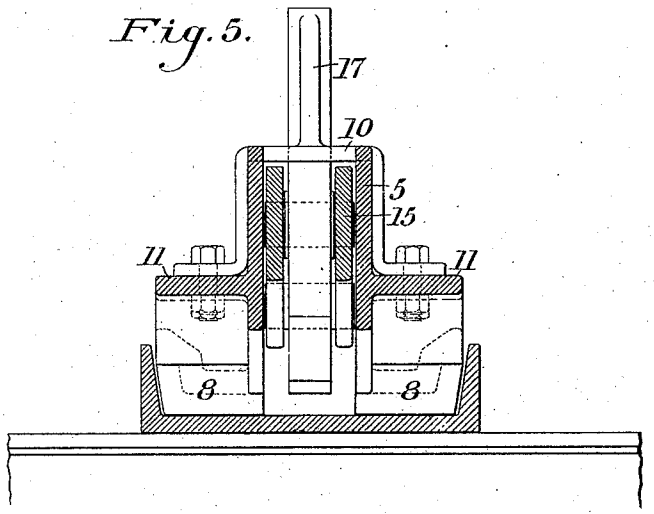


Fig. 5.



WITNESSES

R. A. Balderson.

Warren W. Swartz

INVENTOR

Richard H. Stevens

by Barnett & Byrnes

his Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RICHARD H. STEVENS, OF MUNHALL, PENNSYLVANIA.

METAL-TRANSFER DEVICE.

No. 850,190. Specification of Letters Patent. Patented April 16, 1907.

Application filed June 19, 1905. Serial No. 265,868.

To all whom it may concern:

Be it known that I, RICHARD H. STEVENS, of Munhall, Allegheny county, Pennsylvania, have invented a new and useful Metal-Transfer Device, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, partly in section, of a hotbed equipped with my improved transfer device. Fig. 2 is a plan, and Fig. 3 is a sectional side elevation, of the transfer device. Fig. 4 is an end elevation, and Fig. 5 a sectional elevation on the line V V of Fig. 2.

My invention relates to the class of devices for transferring metal laterally on supporting-ways; and the object of the invention is to provide a simple and efficient device by which metal may be moved sidewise on hotbeds or suitable supports; further, to provide a dog or pivot pushing device which may be thrown into inoperative position and held in such position without manual operation; further, to provide a pushing device which may be thrown into and out of operation at the will of the operator without manual operation of the dog or pushing device.

The further object of the invention is to prevent distorting or nicking of the metal by the action of the dog in returning.

In the drawings, 2 indicates the rail of the hotbed, and 3 the roller of the table leading from the mill to the hotbed. The hotbed is made up of a series of these rails, which are separated apart from each other, the rollers carrying the beam or metal forwardly along the side of the hotbed. Below and between certain of the supporting-rails of the hotbed are located supporting-guideways 4, which are shown as consisting of channels with their flanges projecting upwardly. In these channels slide the transfer devices, which are shown in detail in Figs. 2, 3, 4, and 5. Each of these transfer devices consists of a framework having an open top and bottom with side members 5 5. This frame is preferably cast in one piece with the connecting-webs 6 and 7 at its ends. Each side member is provided with bottom shoes 8 8, which travel upon the top face of the channel-web and fit loosely against the flanges, and at the top are provided U-shaped straps or abutments 9 and 10, which are bolted to the lateral flanges 11 of the casting. Within the movable frame above described is located a shifting frame having pivoted to its ends the rope-sockets 12 12. This shifting frame is provided with a front shoulder 13, which is adapted to butt against the web 6 in certain positions, and also with a rear shoulder 14, adapted to butt against the web 7 in certain positions. The side members 15 of the shifting frame fit loosely between the side members 5 5 of the outer frame and receive the pin 16, to which the dog 17 is pivoted and also the abutment-pin 18. These pins are held in place by the side members 5 5 of the outer frame. The shifting frame rests upon the webs 6 and 7 and in its rear portion is pivoted the depending gravity-latch 19, the pivot-point of this latch being above the abutment 7. The upper end of the dog 17 projects above the top of the hotbed-rails a sufficient distance to insure a proper movement of the metal when the entire device is drawn from the delivery-rollers onto the hotbed.

At the side of the delivery-roller opposite to the hotbed are located a series of shelves or supporting-guides 20, having downwardly-inclined nose portions 21.

22 indicates one of the pulleys or drums around which the wire rope 23 passes, the ends of this wire rope being secured to the rope-sockets 12.

In the operation of the device a pulling strain applied to the moving frame in a direction to cause it to travel from the rollers to the hotbed will first pull the inner shifting frame into position shown in Fig. 3, in which position the dog of each frame will be elevated by gravity, the forward movement of the shifting frame being stopped by the shoulder 13 abutting against the web 6. A further pulling movement causes the elevated dogs to push the metal forwardly upon the hotbed. After the metal has been moved forwardly to the desired point on the hotbed the movement of the wire ropes is reversed, and the strain being applied in the opposite direction to the shifting frame will first slide this shifting frame rearwardly within its inclosing frame until the shoulder 14 strikes the web 7. In this movement the nose of the dog will strike the abutment 10, which will depress the dog into the position shown in dotted lines. Immediately thereafter the latch 19 will be swung up by movement over the abutment 7 and will hold the dog in depressed position by its engagement with the notched portion 24 of the tail

of the dog. The dogs of the several frames will thus be depressed without contacting with any beams or metal in the rear of the dogs and in its return-path. As long as the movement of the dog-supports is continued in this return direction, therefore, the dogs will be held depressed. If it is desired to lock the dogs in this depressed position, so that they may be held in such position during their forward travel, so as to pass them under certain beams or metal lying on the rollers or table, the dog-carriers are moved back to a position where the shelves 20 will hold the tails of the dogs and prevent the dogs tilting to raised position. A forward-pulling movement upon the ropes will then draw the dogs and their shifting frames along on the shelves until the noses of the dogs are brought under the front abutments 9 of the outer frame. In this position as long as the frames are drawn steadily forward the dogs will remain depressed and are held against tilting up by the abutments 9. Now if it is desired to throw the dogs into operative position the operator shifts the direction of rotation of the rope drums or pulleys so as to move the shifting frames back a slight distance, when the dogs will be released and will tilt into operative position, and the movement of the drums being again reversed to draw the frames forwardly the dogs will then act upon the metal in front of them. The dogs are held in proper upright position by the stop-pins 18. It will therefore be evident that the operator may lock the dogs whenever desired and then by a quick back-and-forth movement can release the dogs at any point desired in the width of the hotbed. The swinging latch acts to insure the depressing of the nose of the dog sufficiently to clear the metal. If this were not used, the abutment 10 may become worn by continual use, so that it would allow the dogs to project slightly above the top of the hotbed even when acted upon by these webs 10. The latch also acts to depress the dog far enough to engage under the abutment 9.

The advantages of my invention will be apparent to those skilled in the art. The dogs are depressed without forcibly striking beams or metal with which they may contact on their backward return movement, and thus are prevented from nicking or injuring the beams or other metal. The shifting-frame device enables the operator to lock the dogs at the rear portion of their travel and then hold them locked until any desired point in the width of the hotbed is reached. He can then release the dogs, and thus select any beam or metal upon which he desires to act. The latch device insures the proper holding of the dogs in depressed position.

Many variations may be made in the form and arrangement of the parts without departing from my invention, since I consider myself the first to depress the dogs without contacting with the metal operated upon and also the first to provide means for locking the dogs and releasing them at any desired point without manual operation.

I claim—

1. In a transfer for hotbeds and similar apparatus, a device comprising two parts, namely, a movable carrier and a frame mounted thereon and shiftable relatively thereto, a swinging dog pivoted to one of said parts and arranged to be tilted by relative movement of the parts, and connections arranged to move one of said parts relatively to the other; substantially as described.

2. In a transfer for hotbeds and similar apparatus, a movable device comprising two parts, namely, a carrier and a shifting frame thereon, a swinging dog pivoted to one of said parts and arranged to be tilted by relative movement of the parts, and connections extending to the shifting frame and arranged to move the device across the hotbed; substantially as described.

3. In a transfer for hotbeds and similar apparatus, a movable device comprising two parts, namely, a carrier and a frame mounted thereon and shiftable relatively thereto, a swinging dog pivoted to one of said parts, the other part having a projection arranged to tilt the dog upon relative movement of the parts, and connections extending to the shifting frame and arranged to move the device in opposite directions across the hotbed; substantially as described.

4. In a transfer device for hotbeds and similar apparatus, a movable carrier, a pushing-dog pivotally mounted therein, dog-tilting mechanism operated by the backward movement of the carrier, means on the carrier for locking the dog in its tilted position and means coupled to the carrier for releasing said dog at any desired point in the travel of the carrier; substantially as described.

5. In a transfer device for hotbeds and similar apparatus, a movable carrier, a shifting frame on said carrier, a dog pivoted to the shifting frame, connections coupled to the frame for moving the carriers endwise in either direction, and mechanism on the carrier by which the dog is tilted when the carrier is moved in the reverse direction; substantially as described.

6. In a transfer for hotbeds and similar apparatus, a movable device comprising a carrier, a shifting frame mounted on and movable relatively to said carrier, a dog pivoted to the shifting frame, the carrier having a projection arranged to tilt the dog upon relative motion of the two parts, and flexible connections leading to the opposite end of the shifting frame and arranged to move the device transversely of the hotbed and tilt the dog when desired; substantially as described.

7. In a transfer device for hotbeds and

similar apparatus, a movable carrier, an endwise-shifting frame thereon, a dog pivoted on the frame connections secured to the ends of the shifting frame for moving the carrier endwise in either direction and means on the carrier adapted to tilt the dog when the direction of movement of the carrier is reversed; substantially as described.

8. In a transfer device for hotbeds and similar apparatus, a movable carrier, a shifting frame on the carrier having a pivoted dog, an abutment on the carrier arranged to tilt the dog and a latch device arranged to hold the dog in its tilted position; substantially as described.

9. In a transfer device for hotbeds and similar apparatus, a carrier, a shifting frame on said carrier, a tilting dog mounted thereon, a tail-supporting device for the dog at one end of the travel of the carrier and means for shifting the frame and locking the dog in its tilted position; substantially as described.

10. In a transfer device for hotbeds and similar apparatus, a carrier having a locking-abutment and an endwise-shifting frame therein having a pivoted dog; substantially as described.

11. In a transfer device for hotbeds and similar apparatus, a carrier, an endwise-shifting frame thereon having a pivoted dog, an abutment on the carrier arranged to tilt the dog and a locking device for the dog on said carrier; substantially as described.

12. In a transfer device for hotbeds and similar apparatus, a carrier, an endwise-shifting frame thereon, actuating connections at the ends of the shifting frames, a dog pivoted on the shifting frame, an abutment on the carrier arranged to tilt the dog and a latch on the shifting frames arranged to hold the dog in its tilted position; substantially as described.

13. In a transfer device for hotbeds and similar apparatus, a carrier, an endwise-shifting frame thereon having a pivoted dog, a support for said dog near one end of the travel of the carrier, a locking-strap on the carrier for the dog and an abutment on the carrier arranged to tilt the dog; substantially as described.

In testimony whereof I have hereunto set my hand.

RICHARD H. STEVENS.

Witnesses:

W. H. CORBETT,

R. D. LITTLE.