

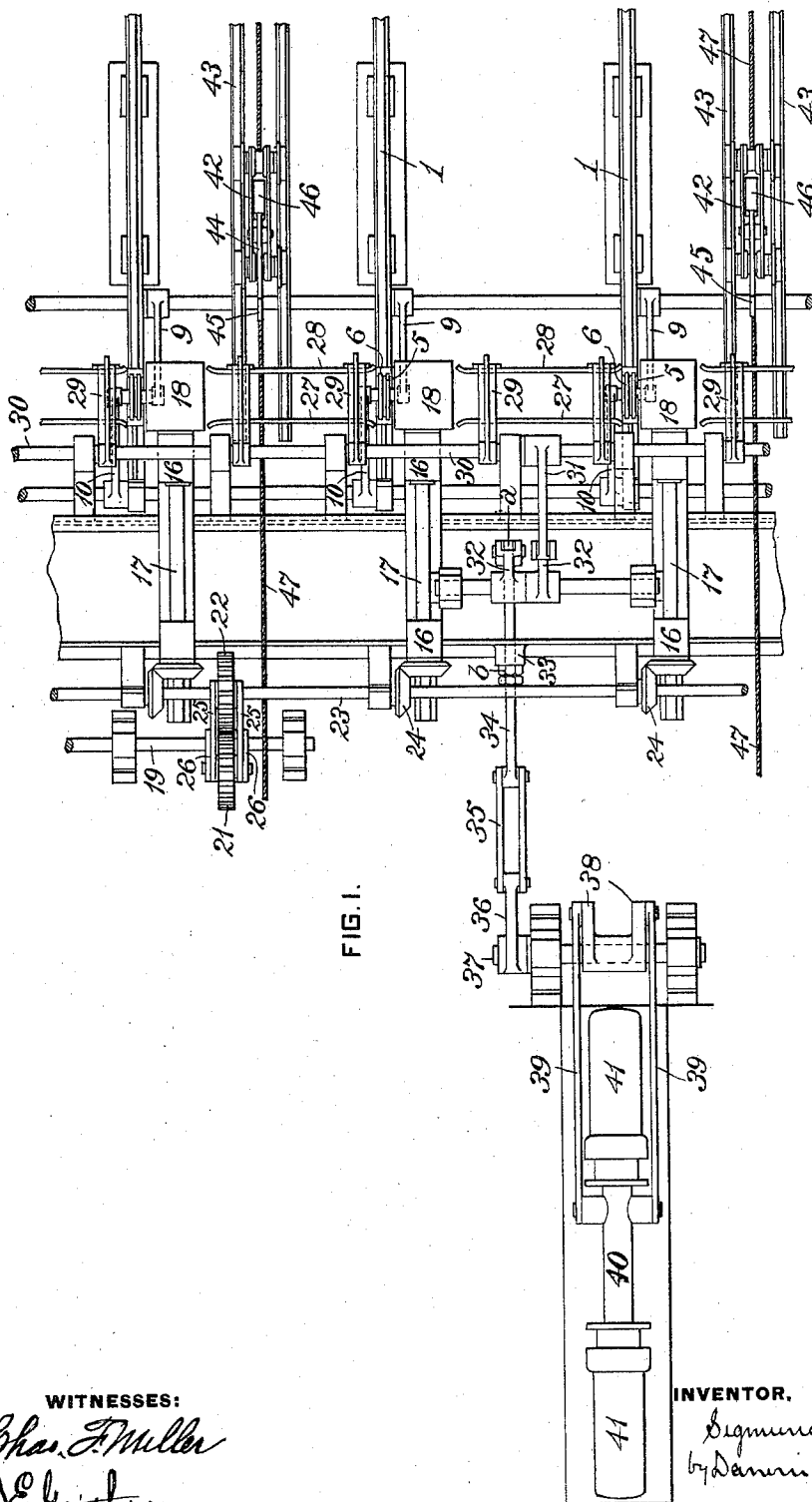
(No Model.)

2 Sheets—Sheet 1.

S. V. HUBER.
APPARATUS FOR PILING BARS.

No. 581,934.

Patented May 4, 1897.



WITNESSES:

Chas. F. Miller
R. C. Gaither

INVENTOR.

Sigmund V. Huber
by Daniel S. Wolcott

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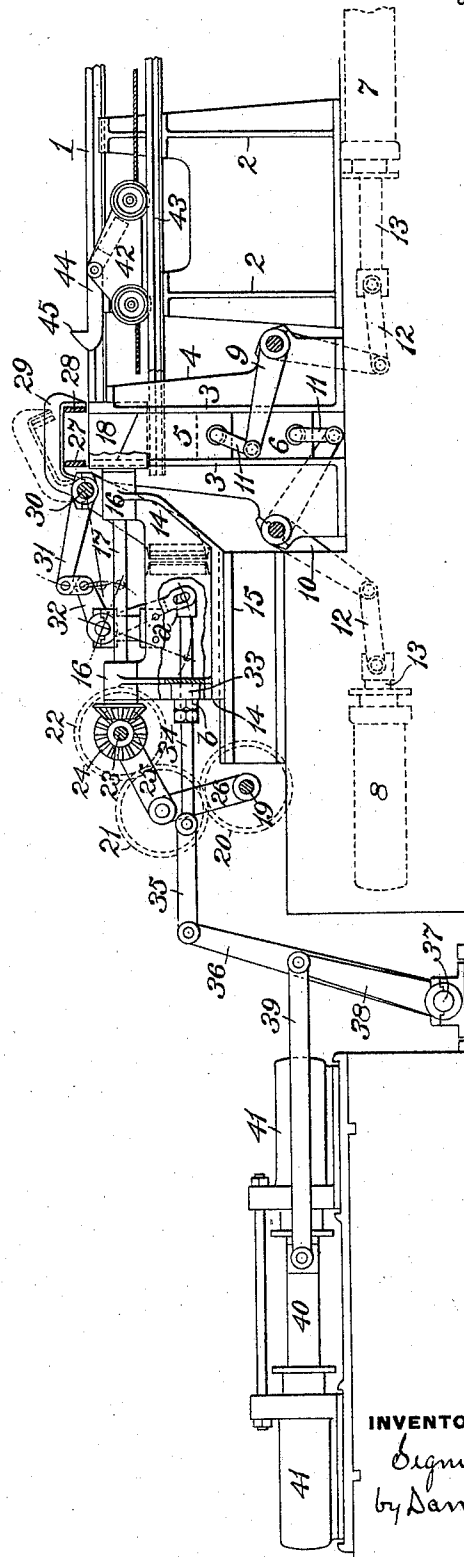
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FIG. 2.



WITNESSES:

Chas. F. Miller.
J. E. Gaither.

INVENTOR,

Seigmund V. Huber
by *Samuel S. Wolcott*

Att'y.

UNITED STATES PATENT OFFICE.

SIGMUND V. HUBER, OF YOUNGSTOWN, OHIO.

APPARATUS FOR PILING BARS.

SPECIFICATION forming part of Letters Patent No. 581,934, dated May 4, 1897.

Application filed February 1, 1897. Serial No. 621,479. (No model.)

To all whom it may concern:

Be it known that I, SIGMUND V. HUBER, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented or discovered a certain new and useful Improvement in Apparatus for Piling Bars, &c., of which improvement the following is a specification.

The invention described herein relates to certain improvements in mechanism for piling bars, &c., as they come from reducing-rolls or shear mechanism; and the invention has for its object a construction whereby the bars may be superposed one upon the other in regular order and alinement regardless of any twisting or warping which they may have received; and it is a further object of the invention to provide for the lateral shifting of such a pile of bars along a hotbed or other table for subsequent treatment.

In general terms the invention consists in the construction and combination, substantially as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a top plan view showing a portion of a hotbed and my improved bar-piling mechanism applied thereto, and Fig. 2 is a sectional elevation of the same.

In the practice of my invention the hotbed is formed by a series of parallel rails 1, supported on suitable posts or standards 2. At one end of the hotbed is found the piling-pit, the walls of such pit being formed by plates 3, secured to suitable standards 4, the latter being preferably arranged a distance apart equal to the widest bar which it is desired to treat. At suitable points along the length of the pit are arranged a series of sets of slides 5 and 6, which are mounted in suitable vertical guides and are operated independently of each other by fluid-pressure cylinders 7 and 8. The connection between the slides and their operating-cylinders is formed by bell-crank levers 9 and 10, having one end connected by links 11 to the slides, while the opposite ends or arms are connected by links 12 to the piston-rods 13. As clearly shown by reference to Fig. 2, the upper end of one of the slides of each set is formed with an inclined edge, so that any article dropped or

resting upon such slide will move toward and rest against one wall of the piling-pit.

At the end of the hotbed a slide 14 is arranged on suitable guideways 15, said slide being provided with suitable bearings 16 for the shafts 17 of feed-rollers 18, said rollers being positively driven from the power-shaft 19 by a flexible train of gearing consisting of the gear-wheel 20 on the power-shaft, the idler 21, and gear-wheel 22 on a shaft 23, which is also provided with series of beveled pinions 24, adapted to intermesh with correspondingly-shaped pinions on the shafts 17 of the feed-rollers. The shaft 23 is mounted in suitable bearings secured on the slide or carriage 14, so as to move back and forth therewith. The journals of the idler 21 are mounted in suitable bearings formed in the ends of links 25 and 26, which have their outer ends loosely mounted on the shafts 19 and 23, respectively. By reason of this connection from the shafts 19 and 23 to the journal of the idler 21 the latter is held in constant operative relation with the gear-wheels 20 and 22 regardless of the position of the slide or carriage 14.

As clearly shown in Fig. 2, the feed-rollers 18 overhang the front edge of the slide 14, so that when the latter is in the position shown in said figure the rollers will project across the upper end of the piling-pit and will support and positively feed any article placed thereon to any desired position along the pit. In order to prevent any article from passing laterally off from the rollers while being fed along, guides 27 and 28 are arranged along opposite edges of the pit, the guides 27 being secured permanently in place, while the guides 28 are secured to arms 29, which are keyed to a shaft 30, mounted in suitable bearings upon the slides 14. The shaft 30 is rotated in order to raise the arms and the guide-strips carried thereby by means of an arm 31, keyed to the shaft and having its opposite end connected to one arm of the bell-crank lever 32, pivotally mounted on a suitable post or standard of the slide 14, while the opposite end of said lever has a loose or slotted connection to a rod 34, passing through an abutment 33 on the slide or carriage 14. The outer end of this rod 34 is connected by a link 35 to an arm 36, which is secured to a shaft 37,

also provided with an arm 38, connected by links 39 to the piston-rod 40 of the fluid-pressure cylinders 41. The rod 34 is provided at a suitable point along its length with heads or enlargements *a* and *b*, adapted after certain preliminary movements of the rod to bear against the abutment 33 of the carriage and on its continued movement to shift the carriage toward and from the hotbed and thereby pull the rollers 18 out of line with the piling-pit. The preliminary movement of the rod 36 will shift the arms 29 to the positions shown in full and dotted lines in Fig. 2.

This bar-piling mechanism is preferably arranged in line with the last reducing-pass of a suitable mill, so that the bar can be fed directly onto the rollers 18 in line with the pit as they come from the reducing-rolls. As soon as the article has passed out of the reducing-rolls and rests entirely upon the rollers 18 the carriage 14 is drawn back, pulling the rollers out of line with the pit and permitting the bar to drop onto the inclined ends of the slides 5 in the pit. The article is prevented from moving laterally with the rollers by the stationary guide-strip 27. As the article drops upon the inclined end of the slides 5 it will slip along and rest against the front wall of the piling-pit. The rollers 18 are returned to normal position for the reception of another bar, and as soon as that bar has reached the desired position above the pit the rollers are again withdrawn, permitting the bar to drop upon the one previously placed in position. This operation is continued until the desired number of bars have been arranged upon the slides 5, which, it should be observed, are dropped a distance approximately equal to the thickness of the bars after each bar has been placed in position in the manner stated. As soon as the desired number of bars have been piled the slides 6, having a straight upper end, are raised, so as to straighten the pile of bars and lift them up until the under surface of the lowest bar is on a level with or slightly above the upper surface of the rails 1 of the hotbed. In order to shift the pile of bars onto the hotbed, a series of trucks 42 are mounted upon rails 43 parallel with the rails 1 of the hotbed, and on these trucks are pivotally mounted dogs 44, having at one end upturned toes or lugs 45, which are normally held above the level of the rails 1 by weights 46 on the opposite ends of the dogs, as clearly shown in Fig. 2. The trucks are moved back and forth

by ropes 47, which may be wound upon suitable pulleys or may be made in the form of an endless belt passing around guide and driving pulleys, as clearly shown and described in an application, Serial No. 617,177, filed by me December 28, 1896.

When the pile of bars has been raised in the manner stated, the buggies or trucks are shifted to the left, as shown in Fig. 2, so that the toes on the dogs will pass under and engage the rear side of the pile of bars, whereupon the buggy is shifted to the right, pulling the pile upon the rails 1 of the hotbed. The slides 6 are then lowered, the slide 5 raised to the desired position, and the carriage 14 shifted to the right to bring the rollers 18 in line with the piling-pit and the guide-strip 28 to its operative position.

I claim herein as my invention—

1. In an apparatus for piling bars, plates, &c., the combination of a receiver arranged in the line of movement of the plates or bars as they come from reducing-rolls or other mechanism, a series of rollers arranged transversely of the receiver and adapted to support the plates or bars, and means for moving the rollers out of and into line with the receiver, substantially as set forth.

2. In an apparatus for piling bars, plates, &c., the combination of a series of vertically-movable slides arranged in the line of movement of the plates or bars as they come from the reducing-rolls or other mechanism, a series of rollers arranged transversely of the path of movement of the slides, and means for moving the rollers out of and into such line of movement of the slides, substantially as set forth.

3. In an apparatus for piling bars, plates, &c., the combination of a receiver arranged in the line of movement of the plates or bars as they come from the reducing-rolls or other mechanism, a series of rollers arranged transversely of the receiver, guides for preventing a lateral movement of the plates as they move on the rollers, and means for lifting one of said guides and moving the rollers out of and into line with the receiver, substantially as set forth.

In testimony whereof I have hereunto set my hand.

SIGMUND V. HUBER.

Witnesses:

DARWIN S. WOLCOTT,
F. E. GAITHER.