

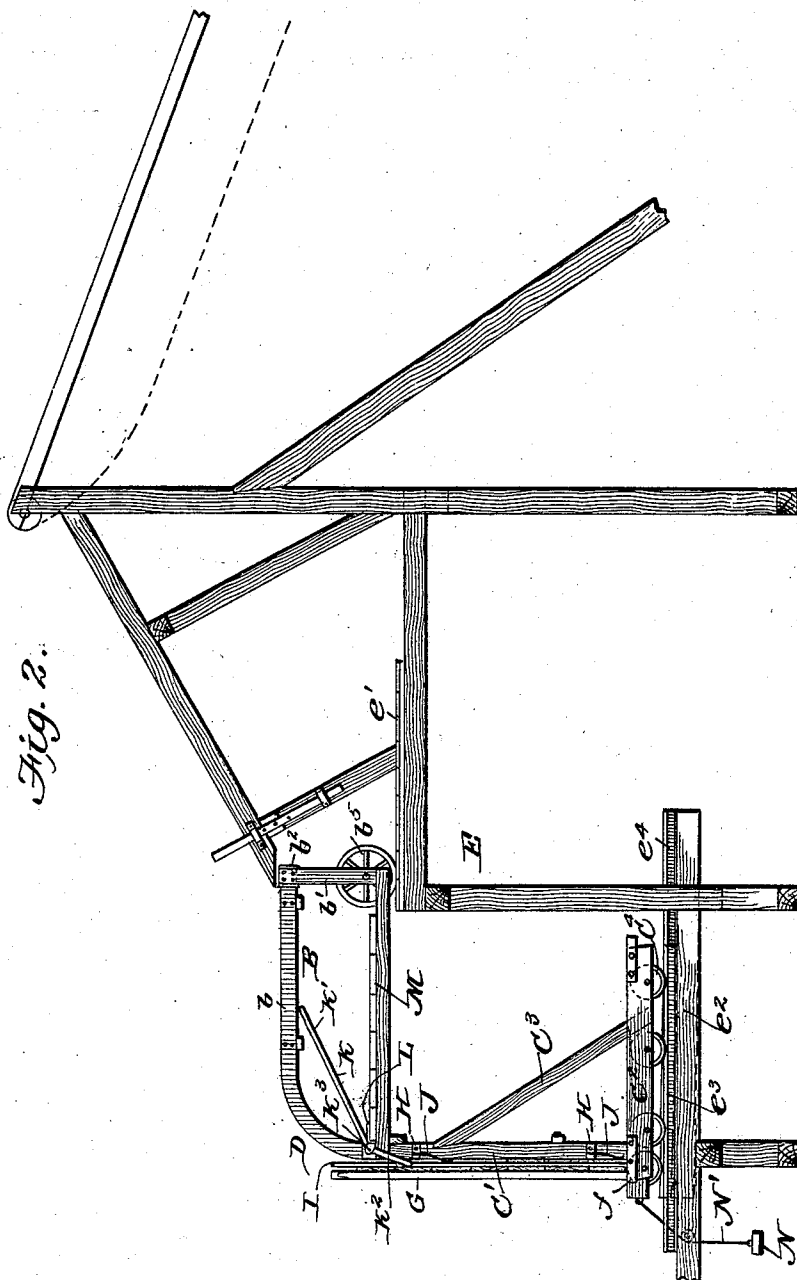
(No Model.)

4 Sheets—Sheet 2.

H. DANIELS.
LUMBER PILER.

No. 570,869.

Patented Nov. 3, 1896.



WITNESSES:

M. A. Blondel
P. B. Turpin.

INVENTOR

Howard Daniels.

BY *Munn & Co.*

ATTORNEYS.

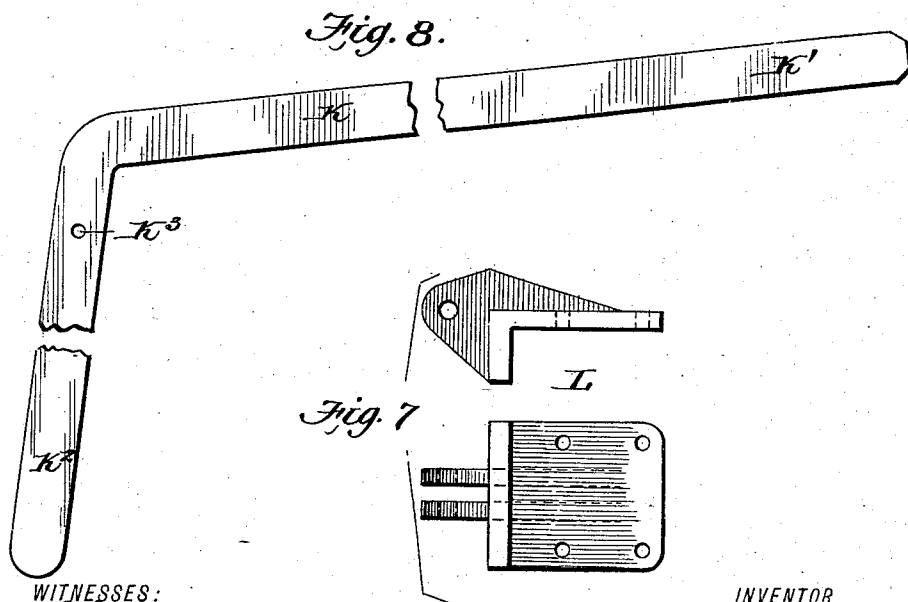
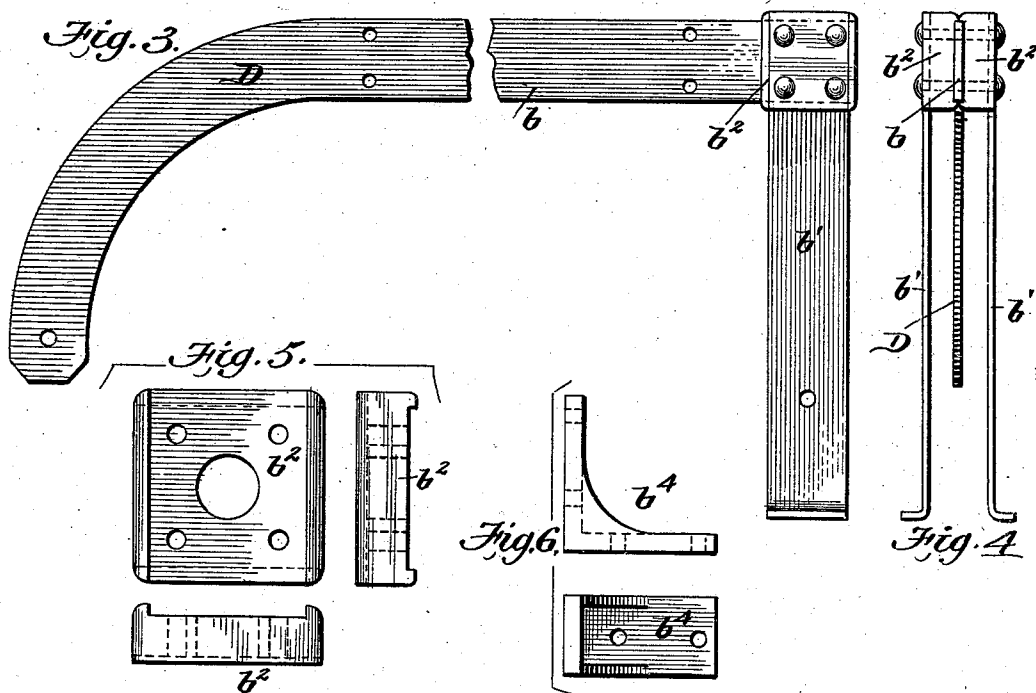
(No Model.)

4 Sheets—Sheet 3.

H. DANIELS.
LUMBER PILER.

No. 570,869.

Patented Nov. 3, 1896.



WITNESSES:

W. S. Blondel
P. B. Jorpin

INVENTOR

Howard Daniels

BY *Munn & Co.*

ATTORNEYS.

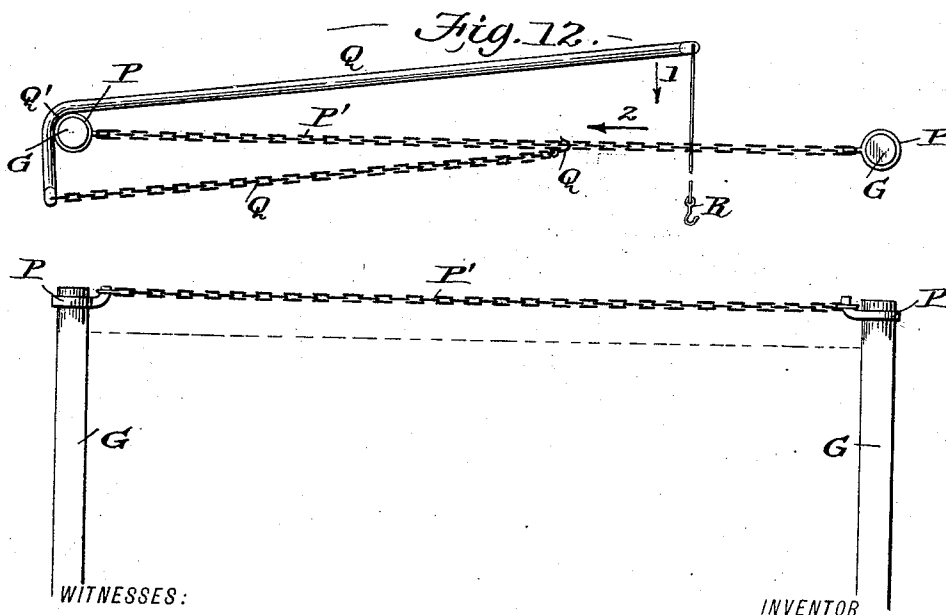
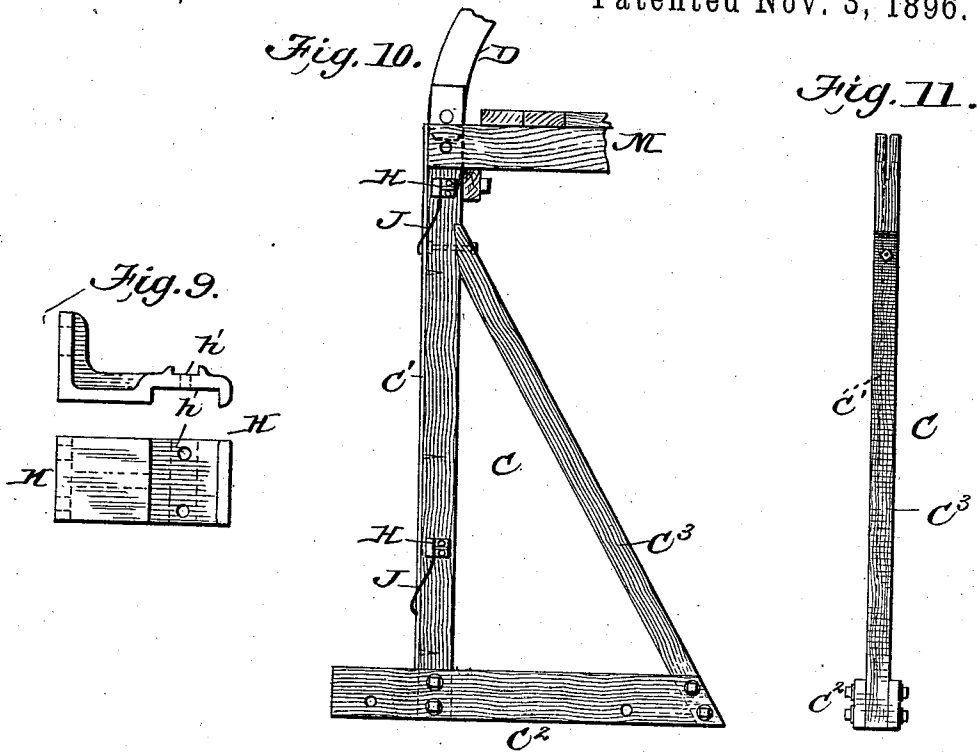
(No Model.)

4 Sheets—Sheet 4.

H. DANIELS.
LUMBER PILER.

No. 570,869.

Patented Nov. 3, 1896.



WITNESSES:

M. S. Bloude.
R. B. Jorpin.

INVENTOR

Howard Daniels.

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HOWARD DANIELS, OF ATLANTA, GEORGIA; ASSIGNOR OF ONE-HALF TO
JAMES H. SIMONSON, OF FORT WAYNE, INDIANA.

LUMBER-PILER.

SPECIFICATION forming part of Letters Patent No. 570,869, dated November 3, 1896.

Application filed March 30, 1896. Serial No. 585,418. (No model.)

To all whom it may concern:

Be it known that I, HOWARD DANIELS, residing at Atlanta, in the county of Fulton and State of Georgia, have invented a new and useful Improvement in Lumber-Pilers, of which the following is a specification.

My invention in an improvement in lumber-piling apparatus seeking to provide a simple, easily-operated construction of machine that can be operated by hand; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved apparatus. Fig. 2 is a side view thereof. Figs. 3 and 4 are respectively side and edge views of a part of the upper portion of the piling-carriage. Fig. 5 illustrates in detail the joint-plates employed at the angle in Fig. 3. Fig. 6 represents in detail the brace-brackets for the framing of the upper part of the piling-carriage. Fig. 7 illustrates in detail the pivot-brackets for the levers. Fig. 8 is a detail view of the lever. Fig. 9 is a detail view of the stake-guide and spring-support. Fig. 10 represents in detail the framing of the upright portion of the piling-carriage. Fig. 11 is an edge view of such framing, and Fig. 12 illustrates the devices for binding the load upon the car.

My improved hand-machine is so constructed that it can be built at such a price that one can be set at the head of each kiln when more than one is used, so that transfer cars or trucks can be dispensed with if desired, also so the machine can be adapted to those kilns which take the lumber through endwise without any expensive provision for changing the direction of the load. Some kilns are made to take the lumber through crosswise loaded on the trucks, as shown in Fig. 1, while others take it lengthwise. In this connection my improved machine has advantages, because it is adapted for use with either style of kiln.

An important feature of my machine is the carriage A, which has the upper receiving portion or loading-bench B and the upright piling portion C, arranged below and connected with the portion B, the part D, leading

to the upright portion, being curved to properly direct the lumber edgewise to the piling portion, as desired. The portion B is preferably formed with the bars *b* and the upright bars *b*, jointed at their upper ends to the rear ends of the bars *b* by means of the joint-plates *b*², (shown in Fig. 5,) and the fastening bolts or rivets, the whole being applied as best shown in Figs. 3 and 4. At their forward ends the bars *b* are bent downward, forming the curved parts D, the lower ends of which connect with the upright piling portions. As best shown in Fig. 1, I usually employ three of the bars *b*, connect them by cross-bars *b*³, to which they are secured by the brackets *b*⁴, (shown in detail in Fig. 6,) holding the several parts of the upper portion B firmly together. Near the lower ends of the uprights *b*¹ are journaled the wheels *b*⁵, which run upon rails *e* on the upper platform *e*¹ of the platform E. The lower platform *e*² is provided with rails *e*³ for the wheels of the pile-supporting truck, and with rails *e*⁴ for the wheels of the base truck of the piling-carriage.

The pile-supporting truck F may be of any suitable construction, being preferably provided at its ends with sockets *f* for the stanchions G. These stanchions being set from the outer edge of the pile only show at the top in the perspective view, Fig. 1.

The upright portions of the piling-carriage are preferably faced at C' by metal forming a wear-surface and also one which will offer but slight resistance to the boards as the same slide edgewise downward. These upright portions are fixed to the truck-base C² and are braced therefrom by the strut-braces C³, the truck-base having wheels C⁴, which run upon the rails *e*⁴. It will be noticed, especially in Fig. 1, that the pile-supporting truck and the truck-base of the piling-carriage interlap or slide one within the other, the upper side of the forwardly-projected portion of the truck-base (see Fig. 10) being slightly lower than the load-supporting truck, so as not to infringe on the under side of the load, so that when the car is in position to receive the first course of boards it will lie almost entirely under or below the upper receiving portion B of the carriage A, and as the suc-

cessive courses are applied the said carriage A will be moved backward in step-by-step fashion until the car F is full. It will be noticed that the piling-carriage moves bodily with respect to the car or support, as distinguished from swinging on a pivot, its piling force being thus retained at all times in a plane parallel with the layers of boards piled upon the truck. On the upright portion of the piling-carriage I secure the stake guides or brackets H, which are best shown in Fig. 9. As best shown in Fig. 10, these stake-guides are set slightly back from the piling face or edge, whereby the stakes may be inserted without interfering with the applied courses. These brackets H have grooves *h*, which form guides for the stakes or separating-cleats *i*, and also have grooves *h'*, in which are seated and secured one end of the springs J, the other or free ends of which springs bear in line with the guide-groove *h* and operate to press the stakes against the piled boards and to maintain such stakes in position as the piling-carriage is retracted.

In Fig. 8 I show in detail one of the levers K, which is pivoted in a bracket L, such bracket being shown in detail in Fig. 7. This lever has the handle portion K' and the point K², and being pivoted at K³ may be operated to cause its point K² to bear against the piled lumber and force the piling-carriage back to afford space for the addition of another course of boards to the truck. A platform M is supported on the upper portion of the piling-carriage below the loading-bench, and on this platform the operators stand, usually one at each side, in position to manipulate the levers K and also properly feed the boards down the curved portion D and into position to pass down in front of the upright portion of the piling-carriage. The upper part or loading-bench is intended to receive the lumber as it comes from the mill ready to be piled. The lumber can be delivered to this loading-bench, (shown in Fig. 1,) by the use of carts or cars, or it can be brought from the mill on a chain carrier, as shown in Fig. 2, which carrier can be arranged in any suitable way to suit the location of the piling-machine relative to the source of supply.

In operating, the car or truck F is run in and the stanchions G at one end thereof are applied, as shown in Figs. 1 and 2, when the said car or truck F is chocked by blocks F⁵ or otherwise suitably fastened in its place while the load is being made. The carriage A is then run forward to a stop which holds it at the right position, so the first course of boards can be put down on edge between the stanchions G and the upright portion C of the carriage A. The operators now take lumber from the loading-bench and slide it down in the space between the stanchions G and the upright portion C, until the course of boards is completed, when the separating sticks or stakes are put in by hand and are held in position by the guide *h* and the springs J, the

lower ends of said stakes resting on the top of the truck F and the piling-carriage being held forward against its stop by the weight N, connected by cord N' with such carriage, as shown in Fig. 2. To put in the second course, a board is placed as shown at O in Fig. 1, when the levers K may be operated to move the carriage A back from the load, so the board shown at O may slide down between the separating stick or stake and the upright portion C. After one board is in the others of the course are put in like those of the first course and such operations are repeated with the successive courses until the car is full, when the rear stanchions should be applied. On these stanchions I fit the hooked rings P, which are connected by the chains P', engaged with the hooks of rings P. One end of the chain P' is attached to the ring of one stanchion, and to draw the stanchions together I provide the bent binding-lever Q, fulcrumed at Q' on one stanchion and having a tightening-chain Q², provided with a hook Q³, which catches into one of the links of the chain P', when by forcing the lever Q in, as indicated by arrow 1 in Fig. 12, the chain P' will be strained in the direction indicated by arrow 2, Fig. 12, when the chain P' may be released from the ring P of the stanchion on which the lever Q fulcrums and be properly engaged with such ring to hold the load tightened up as desired. If desired, a short rope with a hook R may be secured to the handle end of the lever Q and engaged with the chain P', so the load can be left, if desired, before it is bound permanently.

It should be understood that when arranged to pile lumber to go through the kiln lengthwise the rails *e*³ are turned at right angles to the rails *e*⁴ and cross each other at the same level by means of a frog or crossing, and the wheels of the load-supporting car or trucks F are turned to correspond.

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

1. In a lumber-piling apparatus, a carriage having an upper lumber-receiving portion and an upright piling portion connected with and below said receiving portion, the receiving and piling portions being movable bodily, substantially as shown and described.

2. In a lumber-piling machine, the combination with the truck and means whereby the truck is held from moving back as the successive courses are applied, of a carriage having a piling portion which is movable bodily backward as the successive courses are applied, substantially as shown and described.

3. A lumber-piling apparatus having a piling portion which is movable bodily from the accumulating pile, substantially as shown and described.

4. A lumber-piling machine comprising a carriage having an upper receiving portion and a piling portion connected with and arranged below the receiving portion and plat-

forms or supports on which said receiving and piling portions are movable, substantially as shown and described.

5. A lumber-piling machine comprising a car and a piling-carriage, such carriage being movable bodily back from the car and the car and carriage being arranged to interlap substantially as shown and described.

6. A lumber-piling machine comprising the carriage having an upper receiving portion provided with a platform for the operator, a lower connected piling portion, such carriage being movable bodily and a support on which said carriage is movable, substantially as set forth.

7. In a lumber-piling machine, a carriage having upper receiving and lower piling portions connected and movable together as described, wheels upon said upper and lower portions and supports upon which said wheels rest, substantially as shown and described.

8. In a lumber-piling machine, a carriage having an upper receiving portion or loading-bench and a piling portion connected with said receiving portion, a curved guiding portion being provided by which to direct the lumber to the piling portion, substantially as set forth.

9. In a lumber-piling machine, a carriage-support having an upper portion and a lower portion projecting forward beyond the upper portion and the carriage having an upper and lower portion resting respectively on the upper and lower portions of the support, substantially as set forth.

10. In a lumber-piling machine, a carriage having an upper loading-bench or receiving portion, an upright piling portion depending from the front end of said receiving portions, a base-truck and brace devices between said truck and piling portion, substantially as shown and described.

11. In a lumber-piling apparatus, a carriage having the receiving portion curved downward at its delivery end provided with wheels below its opposite end and having a platform adapted to support the operator, substantially as shown and described.

12. The combination with the car or support for the piled lumber, of the piling-carriage movable bodily back and forth with re-

spect to said car or support and means by which to forcibly move said carriage in the use of the apparatus, substantially as set forth.

13. In a lumber-piling machine, the combination with the pile-support and the piling portion movable with relation to said pile-support, of the stake-retaining springs by which the stakes are held to the pile as the piling portion is retracted, substantially as shown and described.

14. The combination with the piling portion, of the brackets having guides for the stakes and the springs having their free ends arranged with relation to said stake-guides, substantially as shown and described.

15. The combination with the piling-carriage, of the retracting-levers pivoted to said carriage and operating substantially as and for the purpose set forth.

16. A lumber-piling machine comprising a piling-carriage having a piling portion and a receiving portion or bench connected therewith, and means for actuating said carriage toward the pile, substantially as shown and described.

17. In a lumber-piling machine, the combination of the car or truck and the stanchions thereof, of the chain connecting said stanchions and the lever fulcrumed on one of the said stanchions and connected with the other stanchion whereby to strain the two stanchions toward each other, substantially as shown and described.

18. In a lumber-piler, the combination with the piling portion adapted to hold the lumber courses in forming the same, of devices on said piling portion by which to hold the stakes to the pile when the parts are being adjusted to position to receive another course, substantially as shown and described.

19. In a lumber-piler, a piling portion having stake-guides arranged slightly back from the piling face or edge whereby the stakes may be inserted without interfering with the applied courses, substantially as shown and described.

HOWARD DANIELS.

Witnesses:

W. J. KENDRICK,
E. M. ROBERTS.