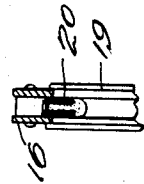
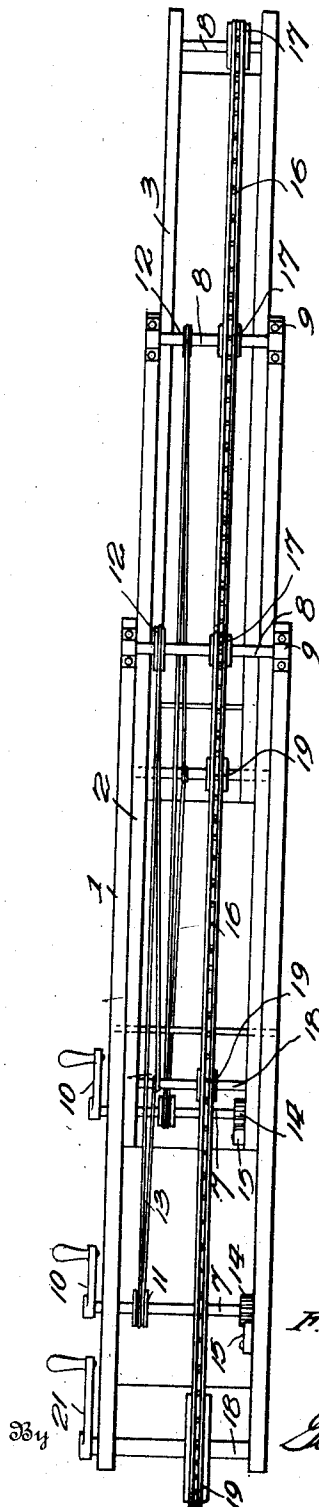
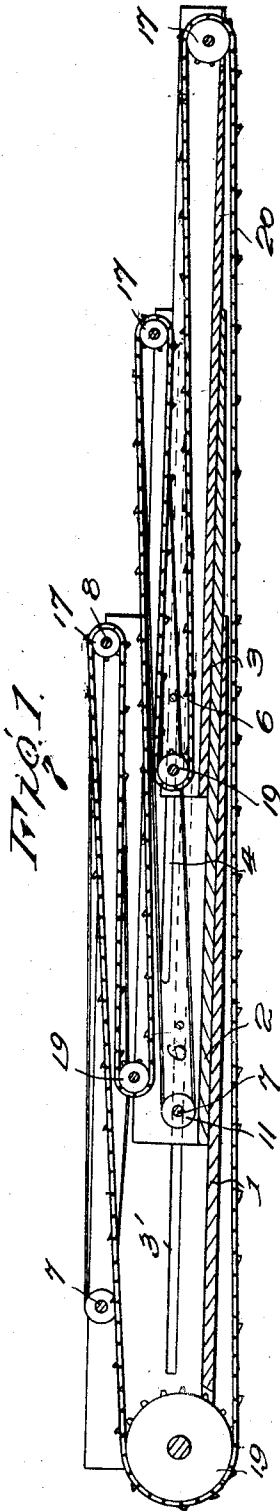


F. E. TREFREN.
LUMBER PILING DEVICE.
APPLICATION FILED FEB. 18, 1918.

1,343,799.

Patented June 15, 1920.



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FRANK E. TREFREN, OF BUTTE FALLS, OREGON.

LUMBER-PILING DEVICE.

1,343,799.

Specification of Letters Patent. Patented June 15, 1920.

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To all whom it may concern:

Be it known that I, FRANK E. TREFREN, a citizen of the United States, residing at Butte Falls, in the county of Jackson and State of Oregon, have invented certain new and useful Improvements in Lumber-Piling Devices, of which the following is a specification.

This invention relates to new and useful improvements in elevating devices, and more particularly my invention consists of a new and improved device particularly adapted for piling lumber in high piles, in such as it is ordinarily stored in large lumber yards. The device consists of a longitudinally extensible main supporting member, having an endless conveyer connected therewith, adapted to compensate itself to the various changes in the supporting member, so that the device may be extended as the size of the lumber pile increases.

Another object of the invention is to provide a device of this character which is easily and simply constructed, inexpensive to manufacture, and one which will be very efficient in operation.

With these and numerous other objects in view, my invention consists of the novel features of construction, combination and arrangement of parts which will be herein referred to and more particularly pointed out in the specification and claim.

In the accompanying drawings:

Figure 1 is a vertical section of the device, one side being removed,

Fig. 2 is a front elevation of the same, and

Fig. 3 is a detail view of one of the sockets over which the conveyer passes.

In describing my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views.

The main supporting device, which is longitudinally extensionable, to accommodate the elevator to the increasing size of the material which is being stored, is formed of a plurality of sections, which are designated by the numerals 1, 2, and 3. These sections, may be of any desired number, but are preferably formed three in number, as illustrated in the accompanying drawings. The section 1, is the main outer section, and the lowermost section of the device, all sections being formed with an open outer face, and ends, and the sections being graduated, so

that they are slidable one within the other. The lower section 1 is stationary, but the other sections are mounted to slide therein, namely, the section 2 sliding within the section 1, while the section 3 slides within the section 2. The outer section 1, and the intermediate section 2, are provided with longitudinally extending slots 3' and 4, in their opposite sides, which are adapted to receive the ends of transversely extending guide members 5 and 6, carried by the sections 2 and 3 respectively, and adapted to have their projecting ends positioned in said slots to guide the sliding movements of the sections as will be hereinafter more fully described.

Each of the sections 1 and 2 have mounted adjacent their opposite ends, transversely extending axles 7 and 8, the lower axles 7 extending through the opposite sides of the sections, while the upper axles 8, are mounted in bearing plates 9 disposed on the outer edges thereof. The lower axles 7 are rotatable through the medium of cranks 10 connected with one end thereof, and it is obvious, that the lower axles 7 of the intermediate section 2, extends outwardly through the slot 3' in one side of the main section 1. Secured to the lower axles 7, are pulleys 11, while loosely mounted on the upper axles 8, are pulleys 12. These alining pulleys are adapted to have trained thereover cables 13, which cables, being connected with the adjacent slidable sections that is the one slidably mounted within the said section, for instance the cable carried by the section 1 is connected with the section 2, while the cable connected with the section 2 is secured to the section 3. From this construction it is obvious that upon the rotation of the axles 7, through the crank 10 being moved, the inner sections will be caused to raise or lower. Each of the lower axles 7 has mounted thereon adjacent one side a pinion 14, coöperatively connected with a locking pawl 15, so that when the inner section is raised or lowered to the desired degree, the device may be locked to hold the same in said position.

The elevating means employed in this device comprise a plurality of sprockets that are carried adjacent the opposite ends of said sections, over which is trained an endless chain 16 in a manner to be hereinafter more fully described. The sprockets disposed adjacent the upper ends of each sec-

tion, are designated by the numeral 17 and are each loosely mounted on the axles 8 upon which the pulleys 12 are mounted. The sprockets disposed adjacent the lower
5 ends of each of the sections, are mounted on separate axles 18, said sprockets being designated by the numeral 19. To one of these sprockets is trained the endless chain
10 elevator 16 which has projecting therefrom linked spurs 20 adapted to engage the lumber or articles to be lifted to elevate the same. The lower axle 18 which is on the main section 1 has a crank 21 positioned on one end thereof, whereby the lower
15 sprocket 19 may be rotated to move the endless carrier chain. The construction of the upper sprockets 19 is clearly shown in Fig. 3 of the drawings, and they have to be hollowed as shown, so as to permit the spurs
20 to readily pass thereover.

In operation, this device is primarily intended to be positioned at an angle of from 30° to 45°, at which inclination it is best operated. When the parts of the device are
25 positioned as clearly shown in Figs. 1 and 2 of the drawings, upon rotation of the axle 18 through the crank 21, the sprocket 19 will be rotated, and the endless carrier moved to raise or lower the lumber or material being stored or taken down. If the
30 device is used as a stacker, and when the height at which the material may be stored has been reached according to the fixed position of the sections, and it is desired to
35 elevate the height a short distance, preferably the lower axle 7 of the main section 1 is rotated, and consequently through the medium of the pulleys 11 and 12, and cable 13 the intermediate section 2 will be raised
40 if the rotation is in that direction. When the intermediate section has been moved the desired distance, the same is locked through the locking pinion and pawls 15 as has been described. The movement of the inner and
45 outermost section 3 is accomplished in the same manner only the axle 7 carried by the intermediate section 2 is rotated to accomplish this object. The novel arrangement of the pairs of pulleys on each section, and the
50 way the endless conveyer chain is trained over each of the pulleys and then over the

outer section 3 back to the sprocket 19 allows the device to be extended as is obvious without materially affecting the endless conveyer.

Although this device is intended primarily for storing lumber in large piles, it may be applied to various other purposes for which it is found adaptable. The novel arrangement of sprockets permits the endless conveyer to be longitudinally extended to the desired height, hence increasing the usefulness and efficiency of an endless conveyer elevating device of this character.

From the above description taken in connection with the accompanying drawing, it is thought that a clear and comprehensive understanding of the construction, operation, and advantages of my invention may be had, and while I have shown and described the device as embodying a specific structure, I desire that it be understood that such changes may be made in said structure as do not depart from the spirit and scope of the invention as claimed.

Having fully described my invention, what I claim is new, and desire to secure by Letters Patent, is:

A lumber piling device, comprising a plurality of sections forming front, rear and intermediate frames disposed in telescopic overlapped relation to each other, the intermediate and the rear frames being formed with longitudinally slotted sides, transverse shafts journaled in each frame near the opposite ends thereof, certain of said shafts being engaged in the slotted sides for slidably connecting the front, rear and intermediate frames together, an endless conveyer disposed longitudinally about the frames and having the upper stretch thereof reversely trained about the shafts in said frames to provide stepped portions in the upper stretch of the conveyer between the outer end of the front and rear frames, and means for extending the frames to render the conveyer taut in its trained relation to the shafts in said frames.

In testimony whereof I affix my signature hereto.

FRANK E. TREFREN.