

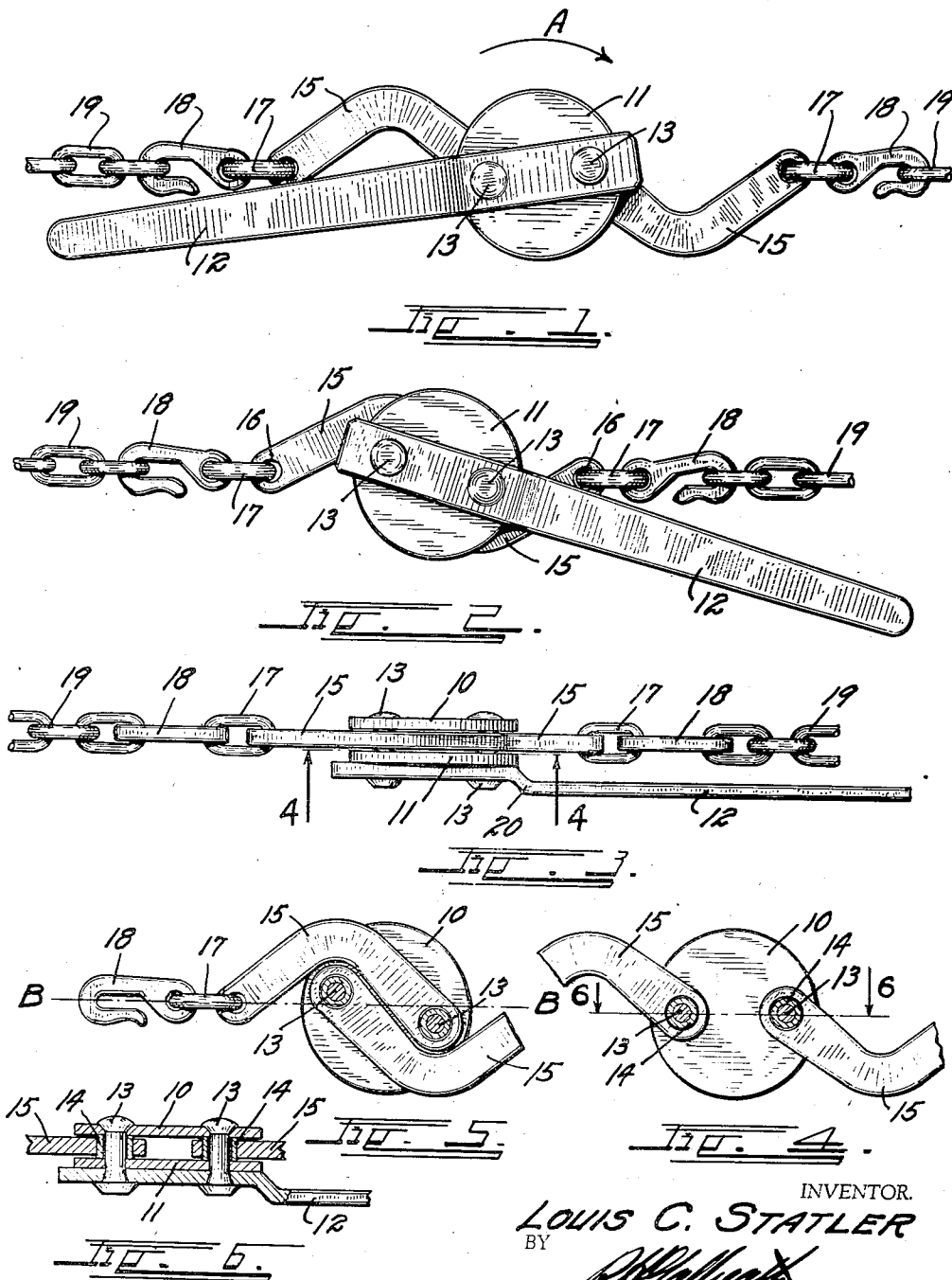
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CHAIN TIGHTENER

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CHAIN TIGHTENER

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4 Claims. (Cl. 254-78)

This invention relates to a chain tightener and is more particularly designed for use in tying loads of logs on trucks, cars, etc.

The principal object of the invention is to provide a device which can be employed by fastening the extremities of a tying chain and which will act to increase the tension in the chain.

In loading trucks and cars with logs, forming log rafts, etc., it is necessary to place a heavy chain about the pile of logs. Due to the weight of the load, the size of the logs, and the size of the chain, it is exceedingly difficult to pull these chains tight and fasten the ends thereof.

This invention provides means which can be quickly and easily attached to the extremities of a tying chain and which will draw the chain tight and automatically lock it in the tight position without the use of latches, rings, and auxiliary apparatus.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:—

Fig. 1 is a plan view of the improved chain tightening device in the extended position.

Fig. 2 is a similar view in the closed or locked position.

Fig. 3 is an edge view thereof.

Figs. 4 and 5 are sectional views, taken on the line 4-4, Fig. 3, illustrating the device in the open and closed positions, respectively.

Fig. 6 is a cross section, taken on the line 6-6, Fig. 4.

The device consists of two similar plates or discs 10 and 11. The discs are preferably, but not necessarily, circular in shape as illustrated. A hand lever 12 is secured against the disc 11. The three members 10, 11 and 12 are permanently secured together by means of rivets 13.

Spacing sleeves 14 are placed about the rivets between the plates 10 and 11 to hold the latter separated. An angularly bent arm member 15 is mounted upon each of the spacing sleeves 14. These arms terminate in eyes 16 to which the chain to be tightened may be attached in any suitable manner. It is preferred to place a link 17 through each of the eyes 16 and attach a hook member 18 to each of the links 17.

The chain to be tightened, indicated at 19 on the drawing, is attached directly to the hooks 18 while the device is in the open position of Fig. 1. The lever 12 is then swung in a clockwise direction, as indicated by the arrow "A", in Fig. 1, to the position of Fig. 2. This causes the two rivets 13 to rotate about the axis of the discs until they pass the center line of pull, as indicated by the line B-B, in Fig. 5. The tension in the chain due to the "past-center" position of the rivets now tends to rotate the discs still further in a clockwise direction. This is impossible, however, due to the fact that the two arms are in contact with each other, as shown in Fig. 5, so that the device is automatically locked in the tight position.

To release the device, it is only necessary to swing the lever 12 in the counter-clockwise direction to the line B-B. The tension of the chain will then pull the lever back to the position of Fig. 1.

It will be noted that the lever is offset as shown in Fig. 5, to allow it to pass the chain and to allow ample finger grip space. When in place on a load of logs, the device lies flat against the logs with the lever uppermost so that it may be easily reached and rotated.

The discs 10 and 11 serve as guide plates for the arms 15 and prevent the latter from becoming bent, twisted or distorted by the extreme tension and torsion to which they are subjected during the tightening operation. The discs are separated just sufficiently to allow the arms to move and slide between them.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:—

1. A chain tightening device comprising: a pair of side plates; a handle member; rivets attaching said plates and said handle member together to form a unit; spacing sleeves between said plates to maintain them separated; a pair of bent arms, one arm being secured about each spacing sleeve; and means for attaching the free extremities of said arms to a chain to be tightened.

2. A chain tightening device comprising: a pair of side plates; a handle member; rivets attaching said plates and said handle member together to form a unit; spacing sleeves between said plates to maintain them separated; a pair of bent

arms, one arm being secured about each spacing sleeve; and means for attaching the free extremities of said arms to a chain to be tightened, the bends in said arms being oppositely placed sufficient to allow said rivets to pass the center line of pull when said arms are overlapped.

3. A chain tightening device comprising: a pair of side plates; a handle member; rivets attaching said plates and said handle member together to form a unit; spacing sleeves between said plates to maintain them separated; a pair of bent arms, one arm being secured about each spacing sleeve; and hook members secured to the free

extremities of said arms for attachment to the chain to be tightened.

4. A chain tightening device comprising: a pair of side plates; a handle member; rivets attaching said plates and said handle member together to form a unit; spacing sleeves between said plates to maintain them separated; a pair of bent arms, one arm being secured about each spacing sleeve; and means for attaching the free extremities of said arms to a chain to be tightened, said lever being offset outwardly from said plates so that it will be separated from said hooks.

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