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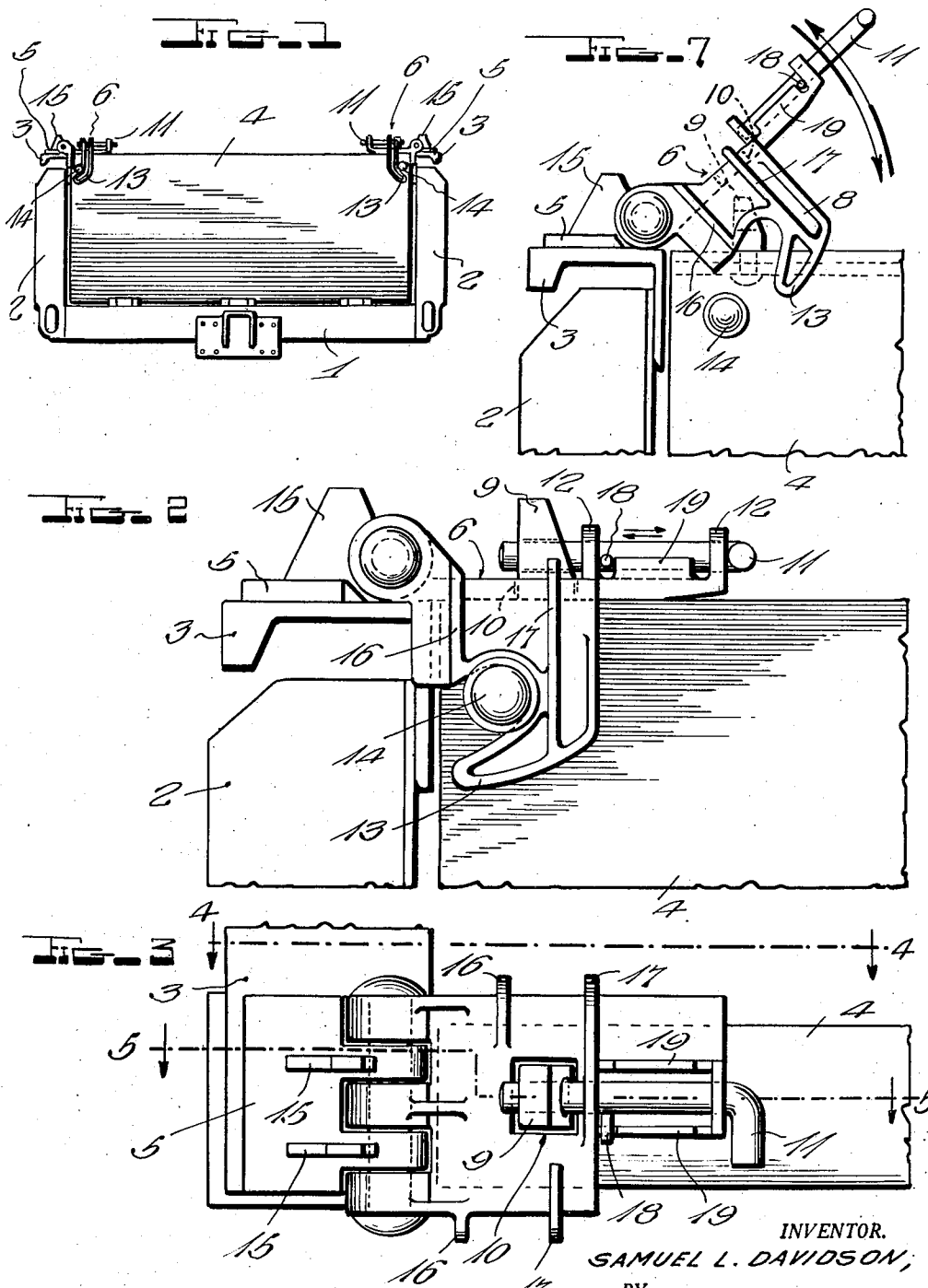
S. L. DAVIDSON

2,352,887

END GATE LOCK FOR FREIGHT CARS

Filed July 14, 1943

3 Sheets-Sheet 1



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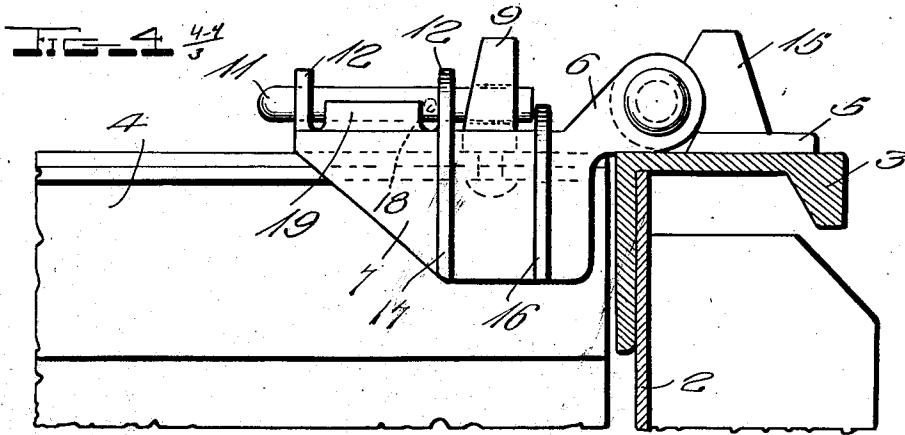
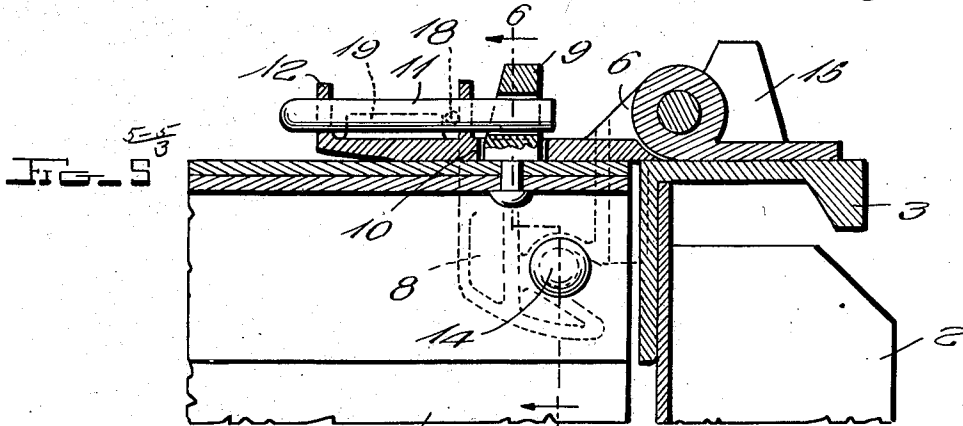
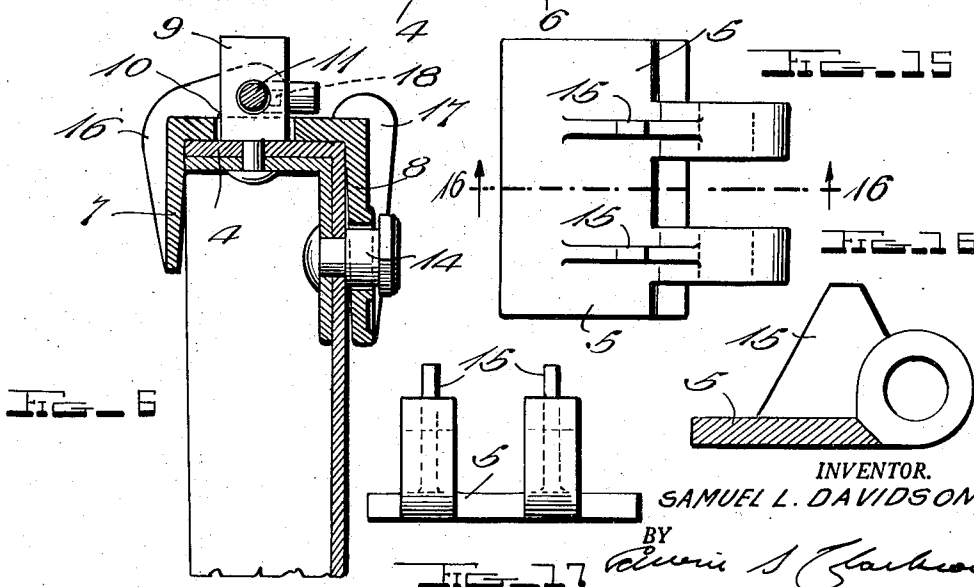
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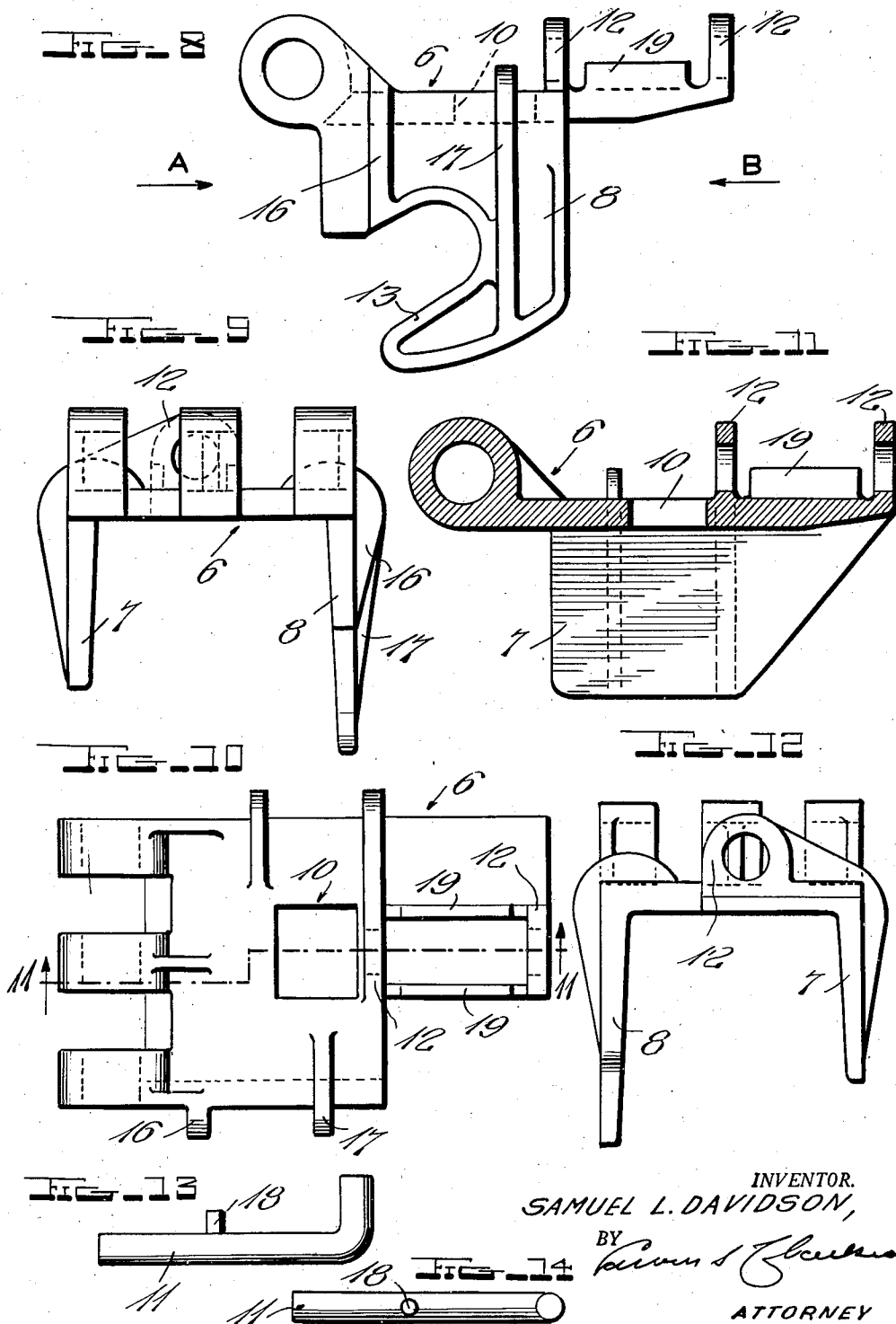
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END GATE LOCK FOR FREIGHT CARS

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3 Sheets-Sheet 3



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ENDGATE LOCK FOR FREIGHT CARS

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Application July 14, 1943, Serial No. 494,719

3 Claims. (Cl. 105—308)

As disclosed herein, my invention includes two cast-steel hasp members, each fastened to a hinge pin longitudinally disposed on a gondola car and carried in a hinge-butt member. Each hinge-butt member is secured by welding to the horizontal flange of an upper longitudinally disposed rail on a car side wall, at an end thereof. Each side wall is so equipped.

Each hasp member, when swung laterally and inwardly of the car, straddles and engages the upper edge of a hinged, inwardly opening, end door if it be raised to a vertical or closed position. Also, when each hasp member is so engaged, a staple, secured to the upper edge of the door, protrudes through an opening in the hasp. A horizontally disposed, slidable locking bolt, carried by a hasp member, is manually operable in a direction laterally, of the car to engage with or be disengaged from such staple.

The staples, carried by the door, co-operate with the hasps hingedly mounted on the side walls to prevent the side walls from spreading when the end doors are in closed position and the hasps are in engagement with the doors.

The hasps are formed with short side arms which extend downwardly in overlapping engagement with both inner and outer faces of the end doors. The outer side arm of each hasp, lapping over the outer face of the end door, is formed with a hook portion. The hook portion engages a lock pin which is secured to and projects from the outer face of the end door when the hasp is in locking engagement with the door.

In the drawings:

Figure 1 is an end elevation of a car body embodying my invention.

Figure 2 is an enlarged detail elevation looking at the outer face of the end door.

Figure 3 is a detail top plan view of lock and associated car body parts.

Figure 4 is a detail sectional view on the line 4—4 of Figure 3 looking at the inner face of the door with the lock in position.

Figure 5 is a detail vertical sectional view on the line 5—5 of Figure 3.

Figure 6 is a detail vertical sectional view on the line 6—6, Figure 5.

Figure 7 is a detail vertical elevation of a portion of the end door and car body, showing the lock in a partially raised position.

Figure 8 is a side elevation of the hasp detached.

Figure 9 is a rear end view of the hasp member.

Figure 10 is a top plan view of the hasp member.

Figure 11 is a vertical sectional view on the line 11—11, Figure 10.

Figure 12 is a front end view of the hasp hinge member.

Figure 13 is a plan view of the bolt.

Figure 14 is a top plan view of the bolt taken at right angles to Figure 13.

Figure 15 is a top plan view of the butt-hinge member.

Figure 16 is a sectional view on the line 16—16, Figure 15.

Figure 17 is an end elevation of the butt-hinge member.

The reference numeral 1 designates an open top car of any approved type, having side walls 2 on the top of which is a plate 3 extending from end to end of the car. The car is provided with end gates 4 adapted to swing inwardly and downwardly at right angles to their normal position to permit the loading of material of greater length than the car.

The principal object of my invention is to provide improved mechanism for maintaining these doors, which are commonly known as drop end doors, substantially upright and in a position on the floor of the car.

The hinge-butt member 5 is secured by welding, or in any other suitable manner, to the top horizontal flange of the plate 3, at each end of the plate.

Hasp members 6 are pivotally secured to the respective hinge-butts 5, and are provided with downwardly depending flanges 7 and 8 which are designed to straddle and engage the upper edge portion of the door 4, and when the hasp member is so engaged a staple 9, secured to the upper edge of the door, protrudes through an opening 10 in the hasp. A horizontally disposed, slidable lock bolt 11, carried by the hasp member and mounted in the perforated lugs 12, is manually operable in a direction laterally of the car to engage with, or be disengaged from, such staple.

The staples, carried by the door, co-operate with the hasps, hingedly mounted on the car side walls, to prevent the side walls from spreading when the end doors are in closed position and the hasps are in engagement with the doors.

The outer flange 8 of the hasp is formed with a hook portion 13 which is designed to engage a lock pin 14, which is secured to, and projects from, the outer face of the end door when the hasp is in locking engagement with the door.

When the hooks 13 are swung into engagement with the pins 14 to the position shown in Figure 2 they draw and hold the sides of the car to-

ward each other and further act as a top support for the corner post, thus reinforcing these parts against outward distortion.

When the hasp is in unlocked position it is folded back on top of the side plate and lies on the lugs 15. The flanges 7 and 8 of the hasp are reinforced by ribs 16, 17. The bolt 11 is bent at right angles at one end and is provided with a projection 18, which, when the bolt is in locked position, engages a stop 19 which holds the bolt in locked position as shown in Figure 2.

The outward flange 8 of the hasp member 6 bears against the end of the side top plate 3 which materially aids the hasp member 6 from distortion, due to tendency of the end door to swing inward under impact, or otherwise. This feature provides resistance in both flanges, thereby eliminating twist in the hinge portion with consequent shearing action on the hinge pin, hence adds greatly to the durability of the device.

What I claim is:

1. In a railroad car having drop end gates adapted when in open position to rest on the floor of the car, the combination with a hasp transversely pivoted on the top of the side wall of the car, and movable inwardly of the car in a plane at right angles to the inner face of the side wall, flanges depending from said hasp and designed to engage the inner and outer faces of

the end gate when the gate is in closed position, and means locking the hasp to the gate.

2. In a railroad car having drop end gates adapted when in open position to rest on the floor of the car, the combination with a hasp pivotally mounted on the top of the car side wall and extending transversely of the car with its movement entirely in a plane at right angles to the inner face of the side wall, flanges depending from the side edges of the hasp to engage the inner and outer faces of the end gate, a port through the hasp, an upwardly extending lug on the top of the gate adapted to enter the port of the hasp when the hasp is in closed position, and means to lock the hasp and lug together.

3. In a railroad car having drop end gates adapted when in open position to rest on the floor of the car, the combination with a hasp transversely pivoted on top of the side wall of the car, and movable inwardly of the car in a plane at right angles to the inner face of the side wall, flanges depending from said hasp and designed to engage the inner and outer faces of the gate when the gate is in closed position, a hook depending from the outer flange of the hasp, and a locking pin secured to and projecting from the outer face of the end gate and adapted to be engaged by said hook.

SAMUEL L. DAVIDSON.