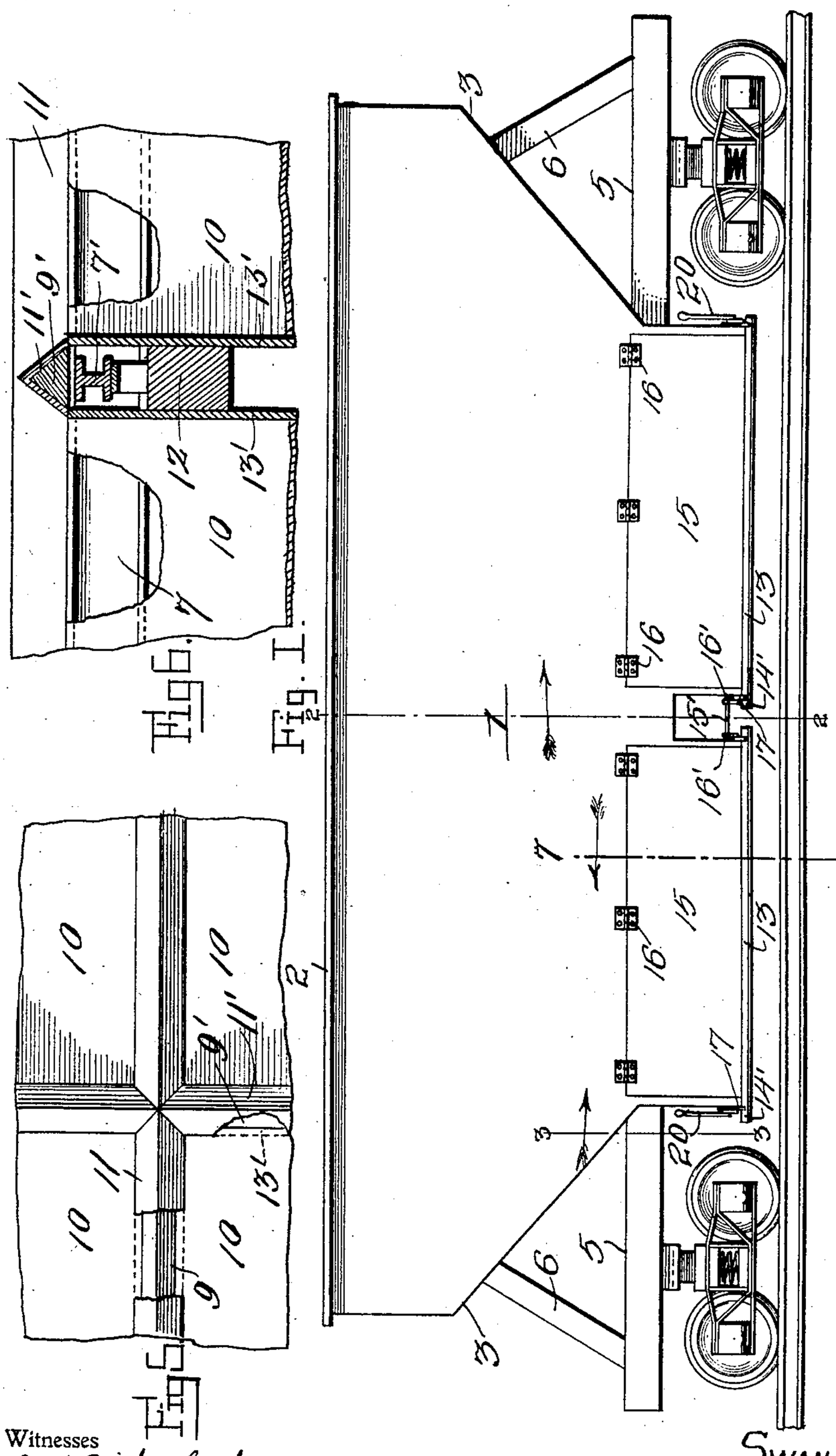
No. 771,684. PATENTED OCT. 4, 1904.

S. F. SWANSON.

DUMPING CAR.

APPLICATION FILED OCT. 5, 1903.

NO MODEL. 2 SHEETS—SHEET 1.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

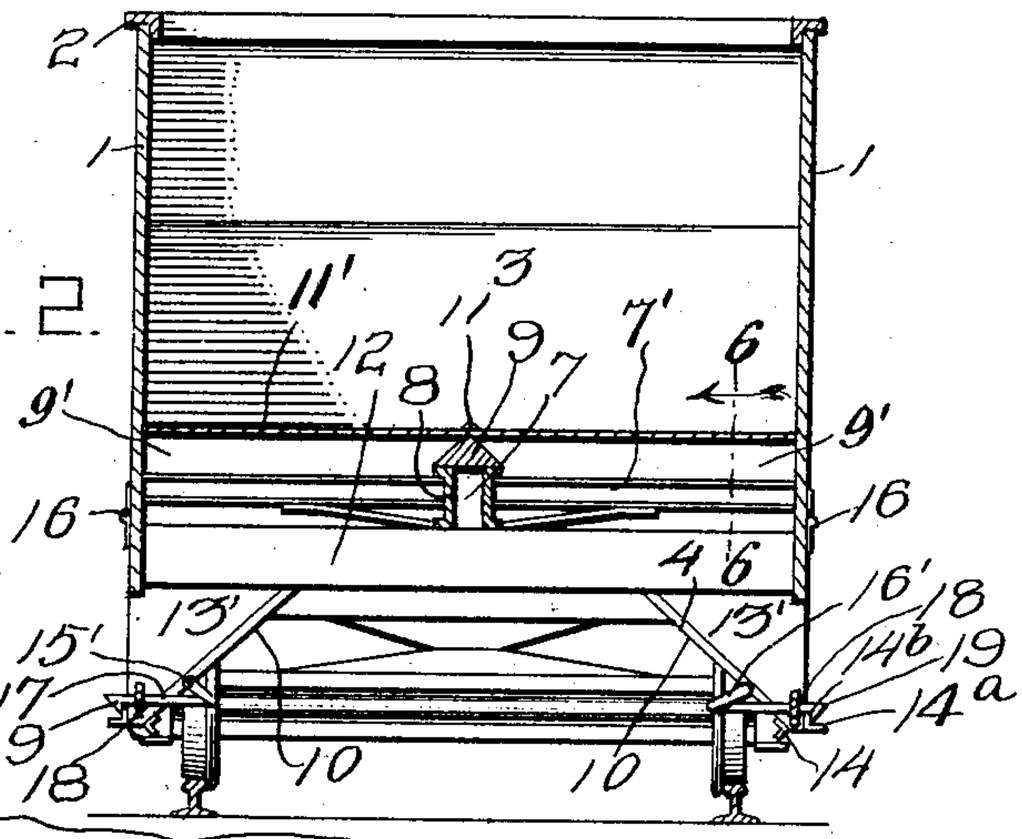


Fig. 7.

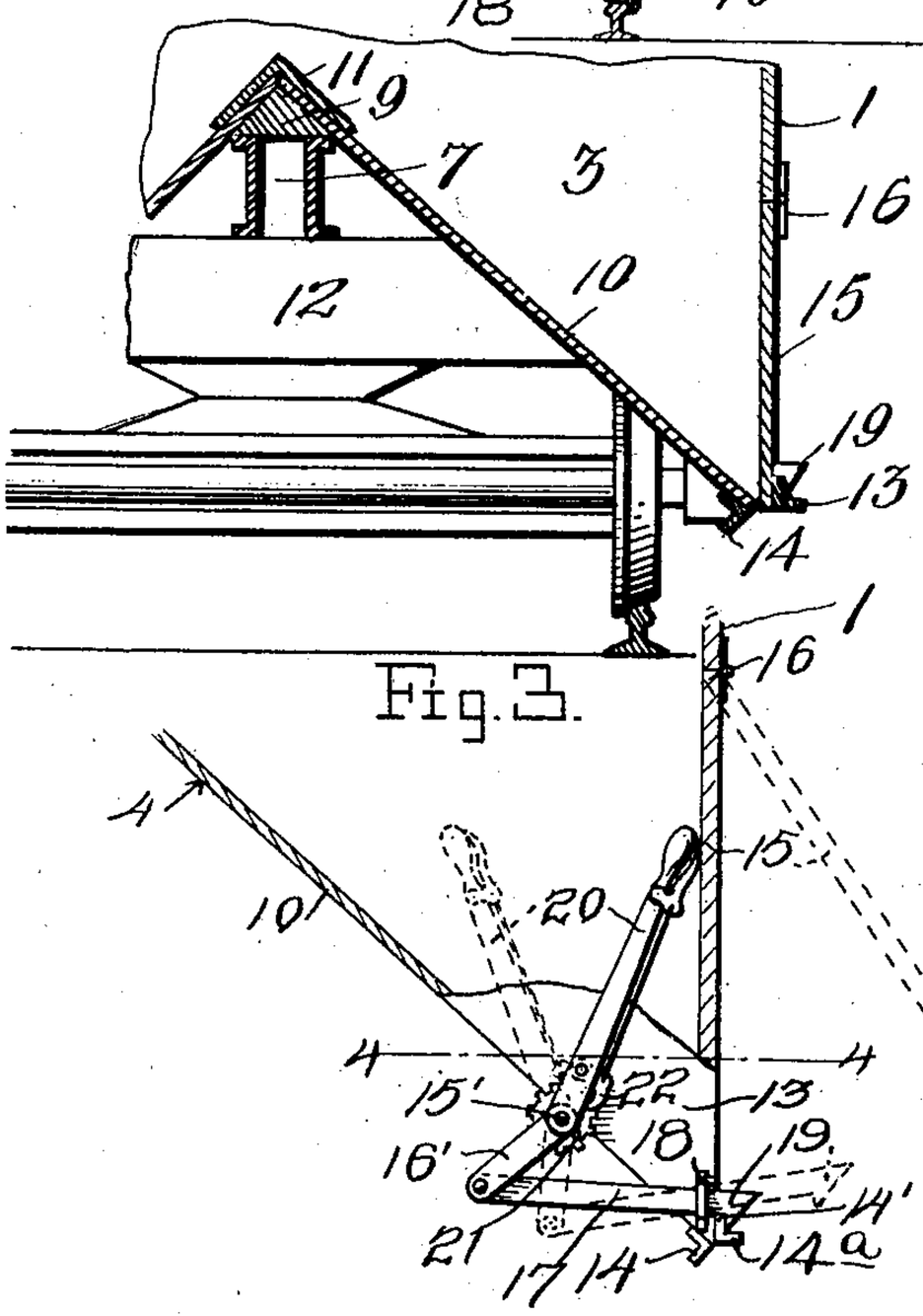
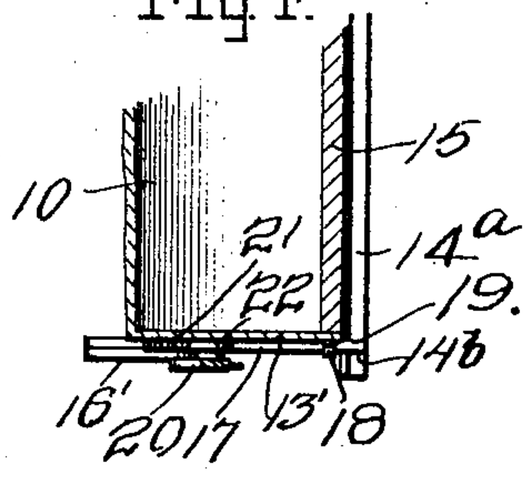


Fig. 3.

Fig. 4.



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No. 771,684. Patented October 4, 1904.

UNITED STATES PATENT OFFICE.

SWAN F. SWANSON, OF PUEBLO, COLORADO.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 771,684, dated October 4, 1904.

Application filed October 5, 1903. Serial No. 175,797. (No model.)

To all whom it may concern:

Be it known that I, SWAN F. SWANSON, a citizen of the United States, residing at Pueblo, in the county of Pueblo and State of Colorado, have invented certain new and useful Improvements in Dumping-Cars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to dumping-cars; and its object is to provide an improved construction of car-body and means for dumping the load.

The invention consists of certain novel features of construction and combinations of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side view of a car embodying my invention. Fig. 2 is a vertical transverse section of the same, taken on the line 2 2 of Fig. 1. Fig. 3 is a cross-section through one of the platform ends on the line 3 3 of Fig. 1, showing the operating mechanism in elevation with the adjacent end of the body broken away to show the interior thereof. Fig. 4 is a horizontal section taken on the line 4 4 of Fig. 3. Fig. 5 is a top plan view of a portion of the car-bottom. Fig. 6 is a vertical transverse section taken on the line 5 5 of Fig. 1, and Fig. 7 is a detail section taken on the line 7 7 of Fig. 2.

Referring now more particularly to the drawings, 1 represents the sides of the car-body, the upper edge of which is protected by an angle-iron strip 2. 3 represents the ends of the body, and 4 the bottom thereof. The body is supported upon a truck-frame consisting of the end platforms 5, suitably connected and braced and carrying struts 6 for bracing the ends 3.

The bottom 4 of the body comprises a central longitudinal bolster or girder 7, formed of side channel-irons 8, suitably secured to the truck-frame and supporting a triangular-shaped stringer 9, to which are attached the walls 10 of the bottom, which inclines downwardly and outwardly in opposite directions, thus forming inclined planes to facilitate the discharge of the goods. A V-shaped ridge-piece 11 crowns the stringer 9 and protects the upper edges of the walls 10, which are preferably made of sheet iron or steel. Intermediate of the length of the body is a cross-beam 12, which is connected to said central girder and to the sides 1 and serves to keep the latter from spreading. Above the cross-beam are cross bolsters or girders 7′, formed by I-beams, which extend between the longitudinal bolster or girder 7 and the sides 1. This girder 7′ supports triangular cross-stringers 9′, extending from the stringer 9 to the sides 1, which cross-stringers are capped by V-shaped caps or ridge-pieces 11′. Depending triangular plates or end walls 13 and 13′ are respectively secured to the beam 12 and cross-stringers 9′ at the center of the car and to the platforms 5 at the ends of the car and close the spaces at the inner and outer ends of the walls 10. It will thus be seen that the walls 10 on opposite sides of the longitudinal and transverse centers of the body form inclined planes, down which the contents of the car are adapted to move by gravity laterally or toward the sides of the car.

The outer edges of the plates forming the walls 10 are reinforced by angle-metal strips 14 and lie a sufficient distance below the walls 1 to form comparatively deep discharge-outlets. These outlets are governed by outwardly-swinging gates or doors 15, connected by the hinges 16 to the side walls 1. Two of these gates or doors are used on each side of the car, the same controlling the outlets on opposite sides of the central cross-beam 12. Angle-metal wear-strips 13′ stiffen the free edges of the door and project it beyond the same to form engaging members 14^b.

Journaled in the end walls or plates 13 13′ on either side of the car is a rock-shaft 15′, provided with crank-arms 16′, to which are pivoted catches 17. These catches consist of rods, bars, or plates, which slide in loop-guides 18 and have outer hooked free ends 19 to engage the engaging members 14^b of the strips 13. When the rock-shaft is in one position, these hooks engage the members 14^b and hold the doors closed, and the parts as-

sume the full-line position shown in Fig. 3; but when the shaft is moved in the opposite direction the hooks will release the portions 14^b and allow the doors to swing open under the pressure of the load. The shaft is operated by a fixed lever 20, arranged in proximity to one of the platforms 5, and fixed to the end of the body is a ratchet-wheel 21, adapted to be engaged by a pawl 22 on the said lever to lock said shaft in adjusted position. Normally the doors are held closed by the engagement of the catches 17 with the engaging members 14^b, and when it is desired to dump the load the pawls 22 are released from engagement with the ratchet-wheels 21, whereupon the pressure of the load will force the doors open and the load will discharge down the inclined sides of the bottom through the outlets. Upon the discharge of the load the doors will close by gravity, and the parts 14^b will move past the hooks of the catches 17, so that upon reversely turning the shafts the catches will be drawn back into engagement with the parts 14^b to again lock the doors in closed position. The inclined sides of the stringers 9 9′ and ridge-pieces 11 11′ operate as deflectors to guide the discharging material at the center of the body to the several pockets formed by the walls 10 and 13 13′

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. In a dumping-car, the combination of a car-body provided with an outlet, a door closing said outlet and carrying a stiffening-strip having extended portions, sliding pivoted catches to engage said extended portions to hold the door closed, a crank-shaft for actuating said catches, and means for actuating the crank-shaft, substantially as described.

2. In a dumping-car, the combination of a car-body having an outlet, a door closing said outlet, sliding catches to engage the door and hold the same closed, a rock-shaft provided with crank-arms for actuating said catches, and means for operating the rock-shaft.

3. In a dumping-car, the combination of a car-body provided with side outlets and a bottom, the walls of which incline from the center downwardly to said outlets, swinging gravity-closing doors controlling said outlets, pivoted sliding catches to engage the doors to hold the same closed, a crank-shaft for actuating the said catches, and means for controlling the crank-shaft.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

SWAN F. SWANSON.

Witnesses:
R. A. CROSSMAN,
GEO. M. DAVIES.