No. 728,467. PATENTED MAY 19, 1903.

F. S. INGOLDSBY.

DUMP CAR.

APPLICATION FILED FEB. 14, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

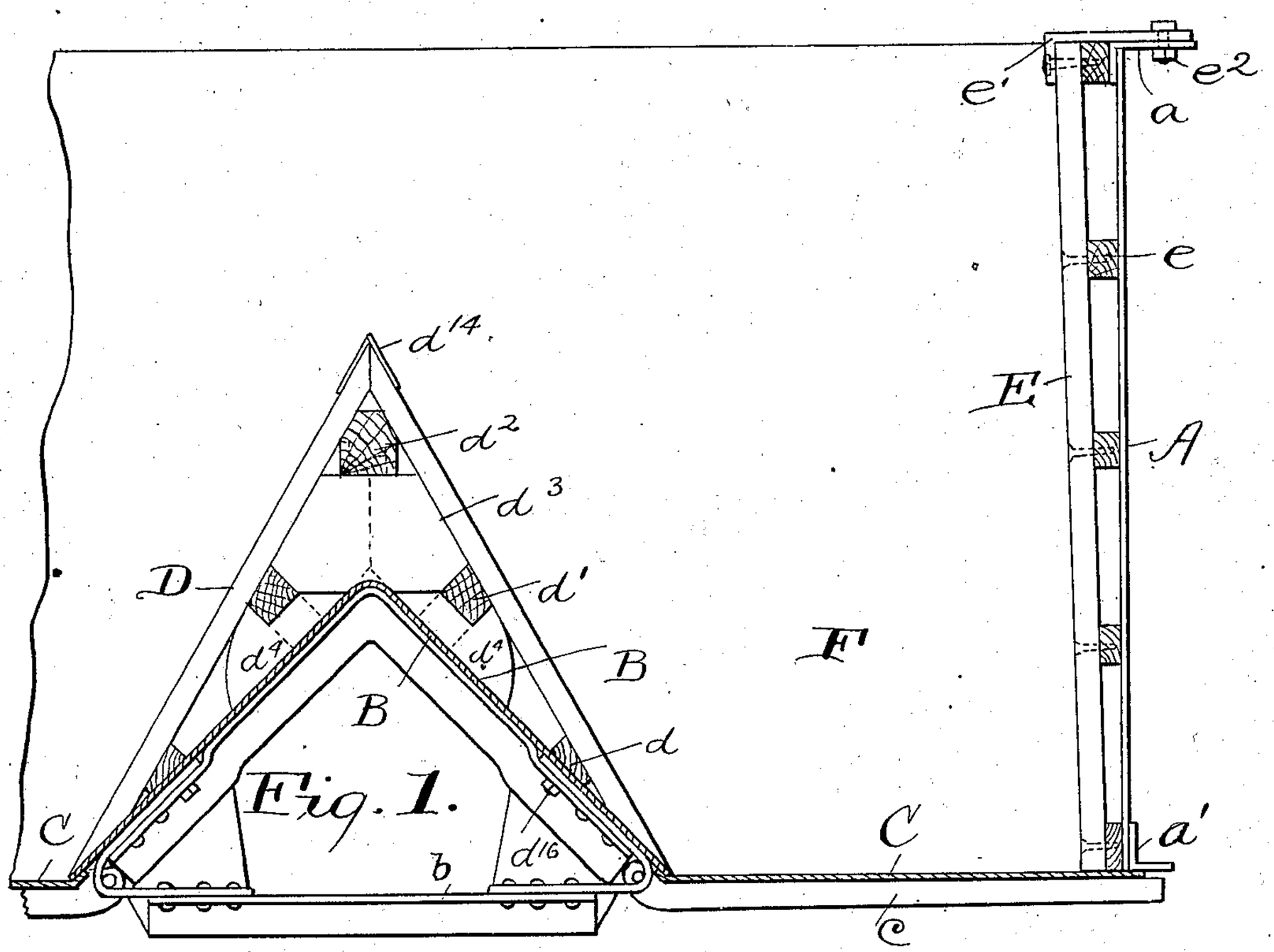


Fig. 1.

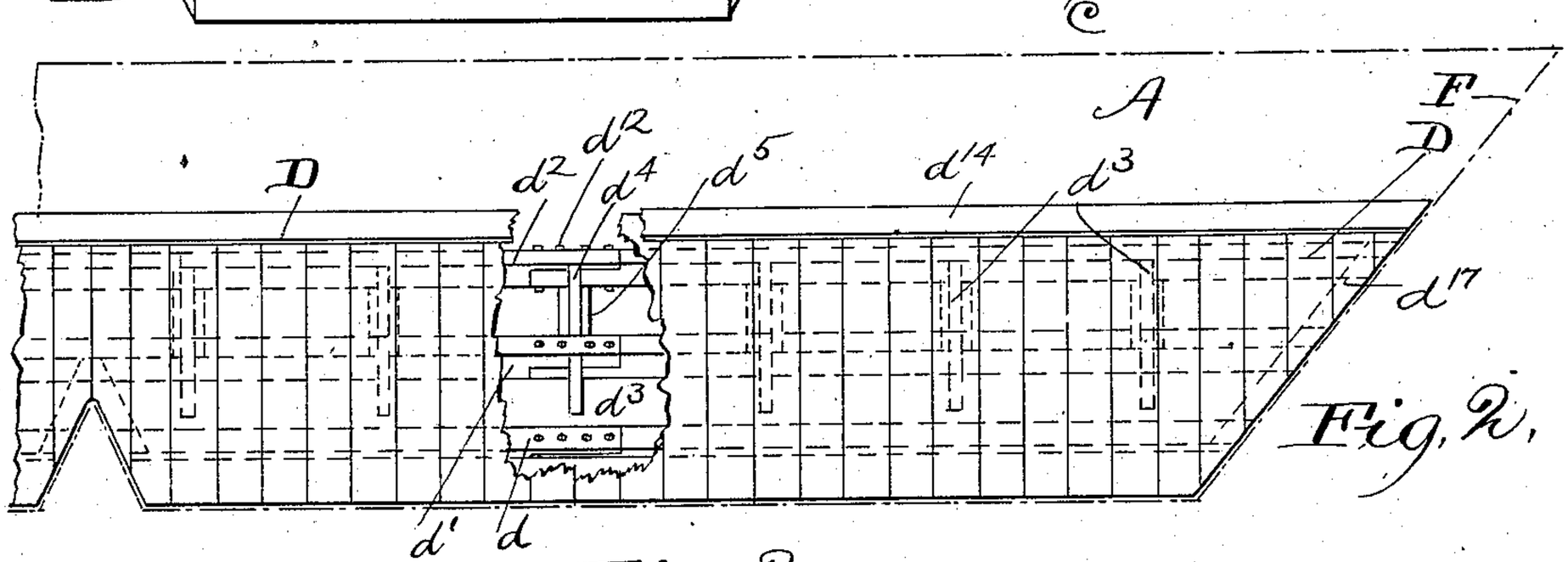
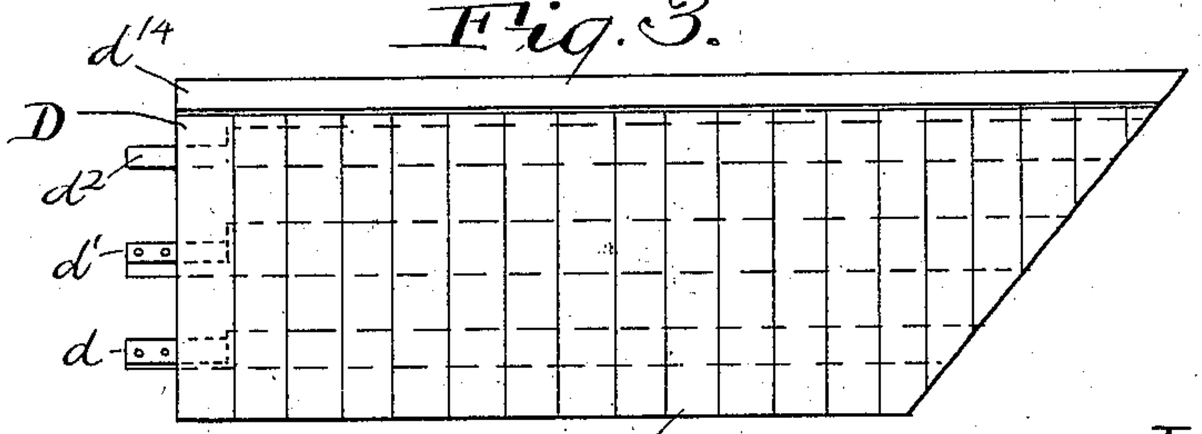


Fig. 2.

Fig. 3.



Witnesses.
E. B. Gilchrist
N. L. Brennan

Inventor.
Frank S. Ingoldsby.
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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

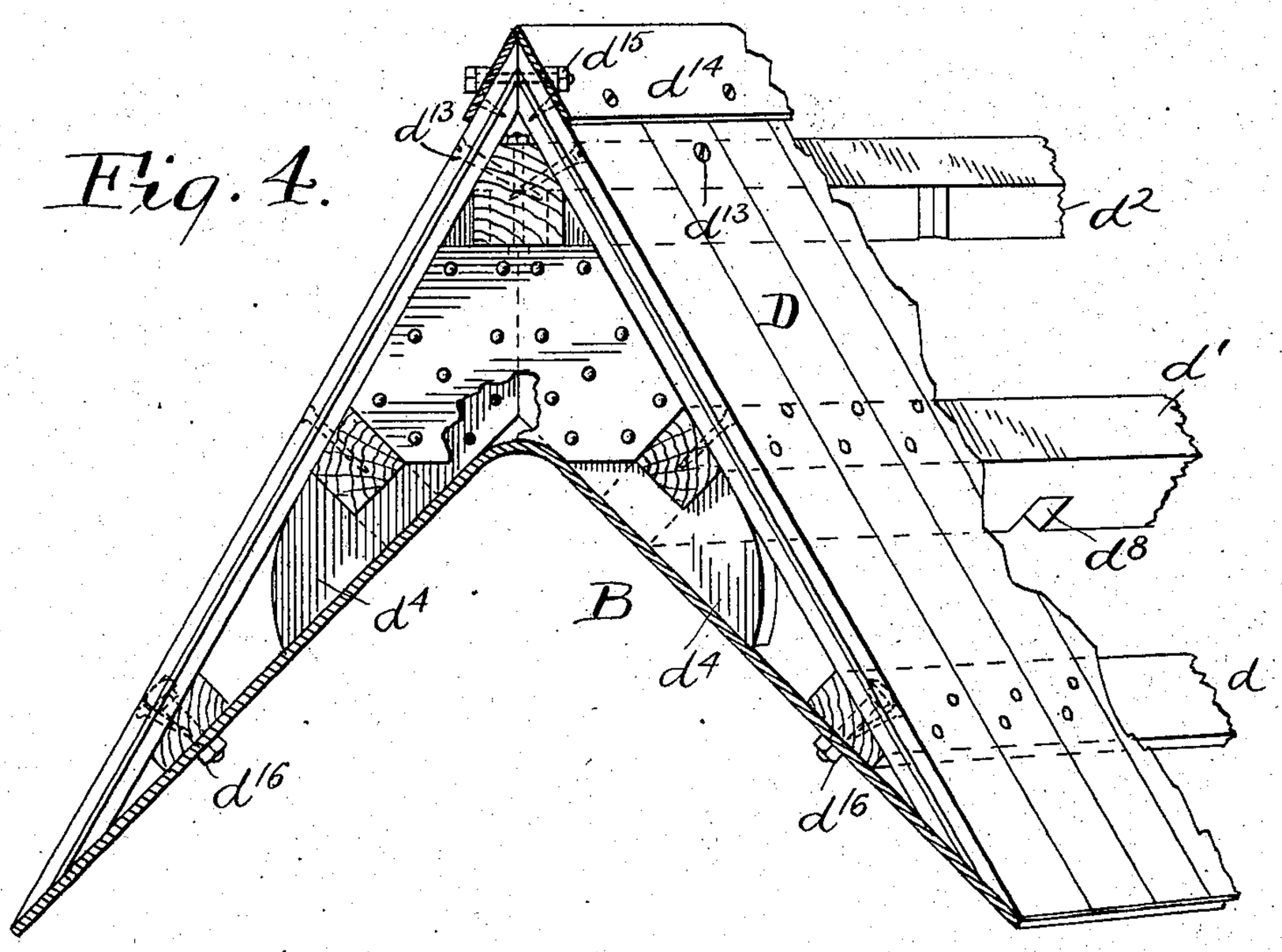


Fig. 7. Fig. 6.

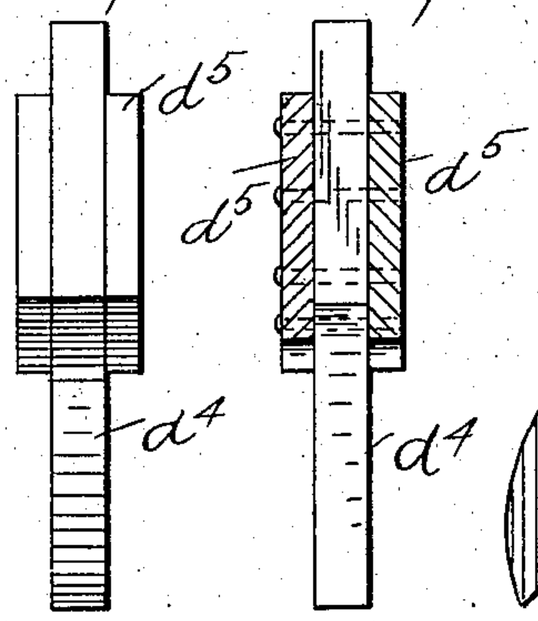


Fig. 5.

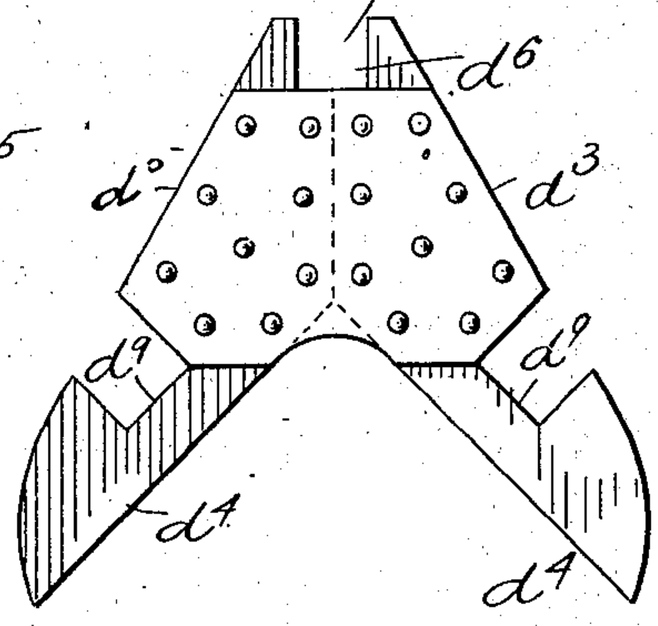


Fig. 9.

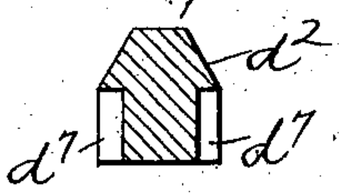
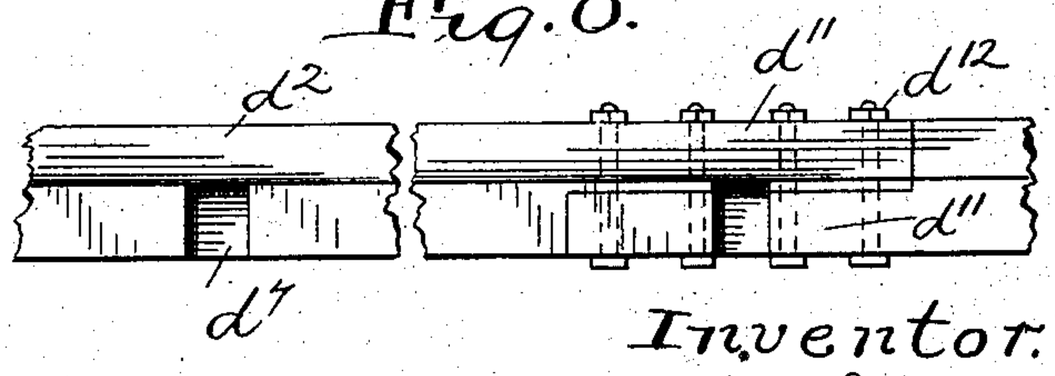


Fig. 8.



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UNITED STATES PATENT OFFICE.

FRANK S. INGOLDSBY, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE INGOLDSBY AUTOMATIC CAR COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF WEST VIRGINIA.

DUMP-CAR.

SPECIFICATION forming part of Letters Patent No. 728,467, dated May 19, 1903.

Application filed February 14, 1903. Serial No. 143,348. (No model.)

To all whom it may concern:

Be it known that I, FRANK S. INGOLDSBY, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Dump-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

In the operation of dump-cars in cold weather much difficulty is experienced from the load freezing to the car, thus greatly interfering with its being dumped.

The object of this invention is to provide simple and efficient means for preventing the adhering of the load to the car. Such means consists, essentially, of a sheathing within the car between its inner surface and the load, the sheathing being so held as to leave a closed space between it and the car. The sheathing is preferably made of wood. It may be applied to a metal car or otherwise, as desired.

The invention is very adaptable to dump-cars of the Ingoldsby type, one of the characteristics of which type is a central longitudinal beam having hinged at its lower edges dumping-doors which swing downward at their outer edges. I apply the sheathing to the walls of the car and to the central beam. In each case I prefer to make of the sheathing an additional factor in the easy discharge of the load, reducing the chance of the load's clinging—namely, when the sheathing is on the side walls of the car—by inclining it inward at the top, and when it is on the central beam by causing it to increase the sloping of that beam. The sheathing is made in such form that it may be removed at any time when it is not desired.

This invention also comprehends the particular embodiment of my sheathing hereinafter more fully described.

In the drawings, Figure 1 is a cross-section through a portion of a dump-car of the Ingoldsby type. Fig. 2 is a longitudinal section of the same, showing the sheathing on the central beam. Fig. 3 is a side elevation of the end panel of said sheathing. Fig. 4 is an enlarged cross-section of the central beam and the surmounting sheathing. The remaining figures illustrate details of such surmounting sheathing, Fig. 5 being a side elevation of one of the saddles for supporting it; Fig. 6, a vertical central section across said saddle; Fig. 7, an edge view of said saddle; Fig. 8, a side elevation of the ridge-stringer for the sheathing, and Fig. 9 a cross-section of such ridge-stringer.

The car side is designated A. It is shown as a plate-girder having at its upper edge a flange *a* and at its lower edge a flange *a'*. The central longitudinal beam consists of a sheet-metal ridge-plate B, having beneath it suitable bracing members *b*.

C represents the dumping-doors, having floor-beams *c*, by which they are pivoted to the braces beneath the central beam. These doors and their floor-beams project beneath the side of the car and are adapted to be there secured by suitable means. (Not shown.)

F represents the end of the car, which may be sloping.

The sheathing for the car sides consists, preferably, of vertical planks E, secured at various points to longitudinal stringers *e*. These stringers increase in width from the bottom of the car upward to cause the top of the sheathing to project inwardly to more effectively free the load. At its upper end this sheathing may be supported by brackets *e'*, secured thereto and extending over the flange *a* and there secured by bolts, as e^2. The load will hold the sheathing against the car side, though it may be further secured at its lower end by suitable bolts through the car side. (Not shown.) The space between the stringers *e* provides a closed air-chamber, which to a very great extent prevents the freezing of the load to the planking E. A similar construction may be used on the car ends F. The sheathing which surmounts the central beam is designated D. As shown, it consists of up-and-down planking tongue-and-grooved together and presenting a ridge at a considerably-steeper angle than that of the central beam B. This sheathing D is made in suitable panels, of which three for each side of the beam is a convenient number. The planking D is secured to longitu-

dinal stringers d and d' on its under side, and at the ridge the planking on each side is secured to a common ridge-stringer d^2. These stringers rest on suitable saddles d^3, which straddle the central beam B. These saddles, as shown, consist of the two boards d^4 d^4, held together by the two splicing-boards d^5 d^5 on opposite sides thereof. Numerous nails or screws hold these parts together. These saddles have at their upper ends recesses d^6, which are occupied by the ridge-stringer d^2, the side pieces d^4 at the beam projecting into notches d^7, formed therein. The stringers d' have formed on their under sides notches d^8, extending about half-way through them, and these notches embrace the boards d^4 opposite the notches d^9 therein, the stringers crossing the boards at these notches. The splice-boards d^5 are arranged so that they have edges at the boundaries of the notches d^6 and d^9, as shown, to form a more efficient seat for the stringers.

By the above means the stringers are each interlocked with the saddles, the saddles holding these longitudinal members and the latter holding the saddle. The stringers are made in sections secured together by spliced joints, as indicated in the case of the ridge-stringer in Fig. 8, by the overlapped ends d^{11} d^{11} and the bolts d^{12}.

Near the upper edge the sheathing D is removably secured by screws d^{13} to the ridge-stringer, while at its extreme upper edge the sheathing carries protecting-plates d^{14}, and through these plates are passed bolts d^{15}. Near its lower edge the sheathing is held to the central beam by bolts d^{16}, passing through that beam and receiving nuts on their lower ends. These bolts are countersunk in the sheathing, so as not to form any projection on which the load might clog. At the inclined ends F of the car there are provided saddles d^{17}, similar in construction and operation to the saddles d^3, but inclined.

By making the sheathing in sections and constructing it in the separable manner above set out it is very easy to take it off at the end of the winter season or replace it when desired. In replacing it the saddles are placed along the central beam at about the right intervals. Then the ridge-stringer d^2 is put in place and the saddles shifted to bring them to accurate position to interlock with the notches d^7 in the stringer. Then one side of the sheathing is put in place, the lower ends of the saddles being slightly shifted, if necessary, to make them interlock with the notches d^8 in the stringers d'. The saddles are thereby held accurately in place and the other half of the sheathing is put on, its stringer d' interlocking with the saddles. The screws d^{13} are then turned in and the bolts d^{15} and d^{16} are put in place.

The sheathing on the central beam providing a closed air-chamber through which the air cannot freely circulate, but is retained as a heat-insulator, effectively prevents the freezing of the load to the upper surface. It also gives that upper surface in a steeper form, so that the load will more easily slide off of it. When the car is loaded, the load itself calks any openings between the planking of the sheathing, thus making virtually sealed air-chambers.

I claim—

1. A dump-car having its sides protected by a sheathing separated from the car side by an air-space, the sheathing inclined inward at its upper edge.

2. In a dump-car, the combination with a car-wall, of an inner sheathing therefor, having a member at its upper edge adapted to extend over the car-wall and be there secured.

3. In a dump-car, the combination of a plate-girder side having a flange at its upper edge and a sheathing adapted to stand on the inner side of the car side, a bracket carried at the upper edge of the sheathing projecting over the flange of the girder, and bolts securing the bracket and flange together.

4. In a dump-car, a ridge-beam combined with an inverted-V-shaped sheathing surmounting the same and leaving an air-space between them.

5. In a dump-car, an inverted-V-shaped ridge-beam surmounted by an inverted-V-shaped sheathing having a more acute angle than the ridge-beam.

6. In a dump-car, a ridge-beam combined with an inverted-V-shaped sheathing therefor of a steeper angle than the ridge-beam, said sheathing being above the ridge-beam and engaging it near the latter's lower edge.

7. In a dump-car, a ridge-beam and an inverted-V-shaped sheathing above the ridge-beam and engaging it near its lower edge, said sheathing extending from end to end of the car and leaving a closed air-space between it and the ridge-beam.

8. In a dump-car, the combination of a ridge-beam, saddles adapted to rest thereon, and a sheathing carried by said saddles.

9. In a dump-car, the combination of a ridge-beam, saddles adapted to rest thereon, a sheathing carried by said saddles, said sheathing forming a steeper ridge than the ridge-beam and providing an air-space between them.

10. The combination with the ridge-beam of a dump-car, of saddles adapted to rest thereon, longitudinal beams adapted to be supported by said saddles, and a sheathing adapted to be supported by said beams.

11. The combination with the ridge-beam of a dump-car, of saddles adapted to rest thereon, longitudinal beams adapted to be supported by said saddles, and a sheathing adapted to be supported by said beams, said sheathing and beams being separable into longitudinal panels.

12. In a dump-car, in combination, a ridge-beam of inverted-V shape, saddles having two

depending wings and adapted to straddle said ridge-beam, longitudinal stringers interlocking with said saddles, and sheathing carried by said stringers.

13. The combination of saddles having notches in their edges, longitudinal beams adapted to occupy said notches and having notches adapted to interlock with the saddles, and sheathing secured to said beams.

14. In a dump-car having an inverted-V-shaped ridge-plate, a series of saddles straddling the same and composed of boards set on edge and having secured to them cross splice-boards, there being notches in the saddles, combined with longitudinal stringers coöperating with the saddles and seated in said notches, and sheathing carried by the stringers.

15. A saddle for a dump-car consisting of a pair of main boards projecting in V shape and splice-boards secured to the sides of the main boards, there being notches in the edges of said main boards which notches have some of their boundaries alining with edges of the splice-boards.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

FRANK S. INGOLDSBY.

Witnesses:
ALBERT H. BATES,
N. L. BRESNAN.