1036

HANDBOOK

OF THE

3-INCH FIELD GUN TRAILER

MODEL 1918

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The following publication, entitled "Handbook of the 3-Inch Field Gun Trailer, Model 1918," is published for the information and guidance of all concerned.

[062 A. G. O.]

BY ORDER OF THE SECRETARY OF WAR.

W. M. WRIGHT,
Brigadier General, Acting Chief of Staff.

OFFICIAL:
P. C. HARRIS,
The Adjutant General.

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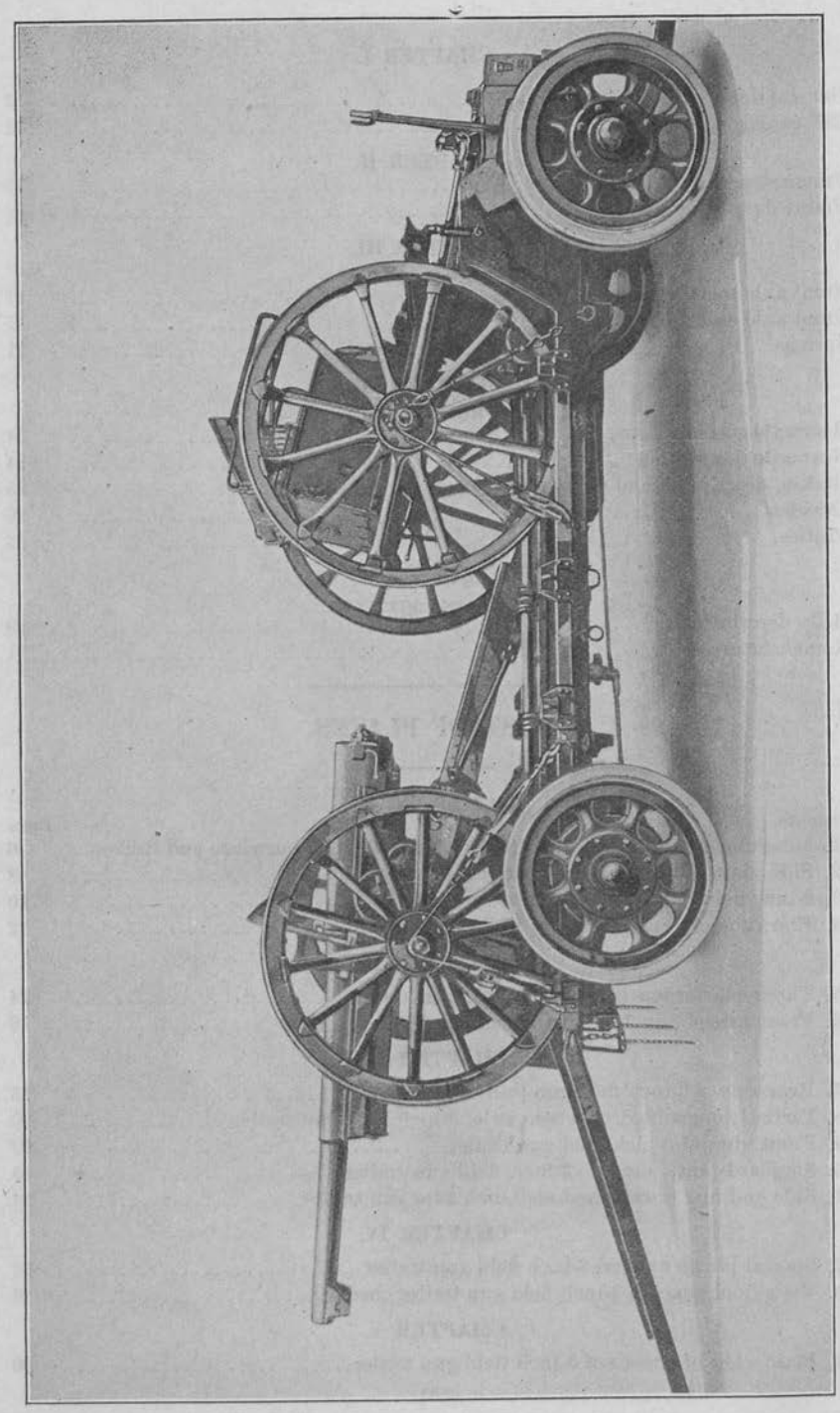
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PLATE No. 1



3-INCH FIELD GUN TRAILER WITH FRENCH 75 MM. FIELD GUN CARRIAGE AND LIMBER

HANDBOOK OF THE 3-INCH FIELD GUN TRAILER.

CHAPTER I.

GENERAL DESCRIPTION AND INSTRUCTIONS.

GENERAL SPECIFICATIONS.

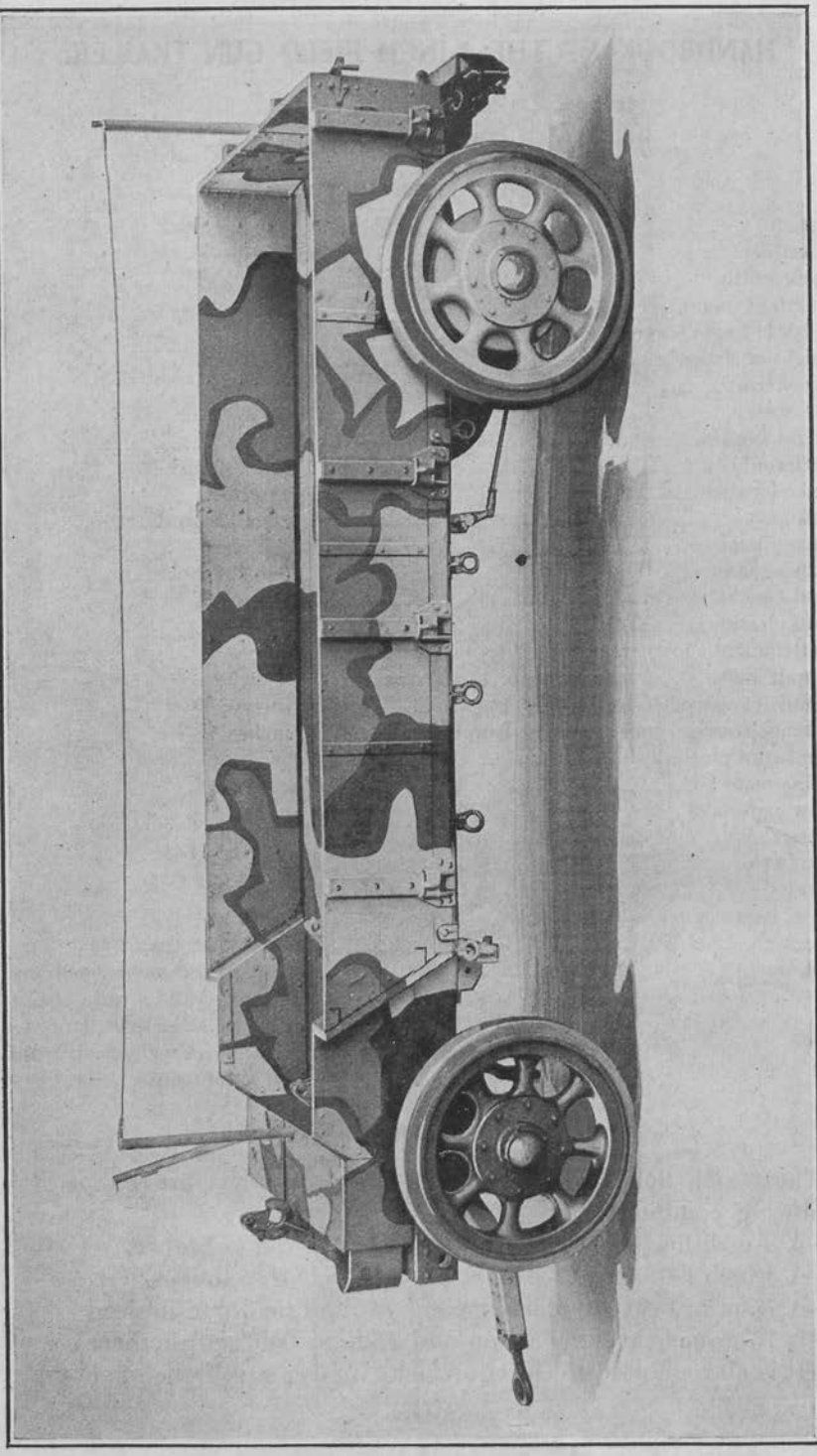
Capacity	9,000 pounds.
Wheelbase	120 inches.
Track width	77½ inches.
Length of frame, overall	169 inches.
Width of frame, overall	85 inches.
Weight of chassis	4,700 pounds.
Wheel size	36 inches.
Tire size	36 by 6 inches.
Height from ground to drawbar center	14 inches.
Platform height	26.5 (26½) inches.
Brake location	Rear wheel.
Brake type	Internal expanding.
Brake diameter	19⅜ inches.
Turning radius	23 feet 2¾ inches.
Road clearance under front axle	19 $\frac{17}{32}$ inches.
Road clearance under rear axle	10⅝ inches.
Pintle height above ground	28 inches.
Overall width	90⅜ inches.
Distance between spring centers, front	42 inches.
Distance between spring centers, rear	44 inches.
Number of pintles	Four.
Frame material	Pressed steel.
Floor material	Oak plank.
Springs	Semielliptic.
Front axle	I-beam.
Rear axle	Rectangular.
Wheel bearings	Roller.
Steering	Through drawbar.
Equipment	Ax, block and tackle, tool box, buckets, safety can, chains, crowbar, flash light, lanterns, mattock, shovels, sledge, and full set of tools.

GENERAL DESCRIPTION.

The 3-inch field gun trailer is designed to transport any of the following combinations:

1—A 3-inch field gun carriage and 3-inch field gun limber.
2—A 3-inch field gun caisson and 3-inch field gun limber.
3—A 75-m/m field gun carriage and 75-m/m field gun limber.
4—A 75-m/m field gun caisson and 75-m/m field gun limber.
5—It is also adapted to the equivalent British and French field guns.

PLATE NO. 2



SIDE VIEW 3-INCH FIELD GUN TRAILER

The 3-inch field gun trailer is a four-wheel type having a single-end steer. The steering is accomplished through the drawbar by means of a flexible connection with the steering lever, which is in turn connected with the steering arms.

The trailer is built up on a pressed-steel frame, mounted on semi-elliptic springs on the I-beam front axle and the rectangular dead rear axle. The floor is of oak planks carried on wood bolsters with proper mounting to support the floor at the required height above the frame cross members. A horizontal channel is provided along the center of the floor and there are floor recesses provided to leave clearance for the gun trail. To provide for the different guns this trailer can be adapted to, there are three special pintles which can be mounted at definite points along the platform to accommodate the guns.

The front axle is an I-beam section, to which is bracketed a central supporting member to carry the steering lever. Pivoted to the steering lever on the center line of the trailer are the two steering cross arms; these connect, in turn, with the steering knuckles and are so laid out that the trailer will track accurately behind the tractor which pulls it. The wheels are mounted on the spindles on roller bearings.

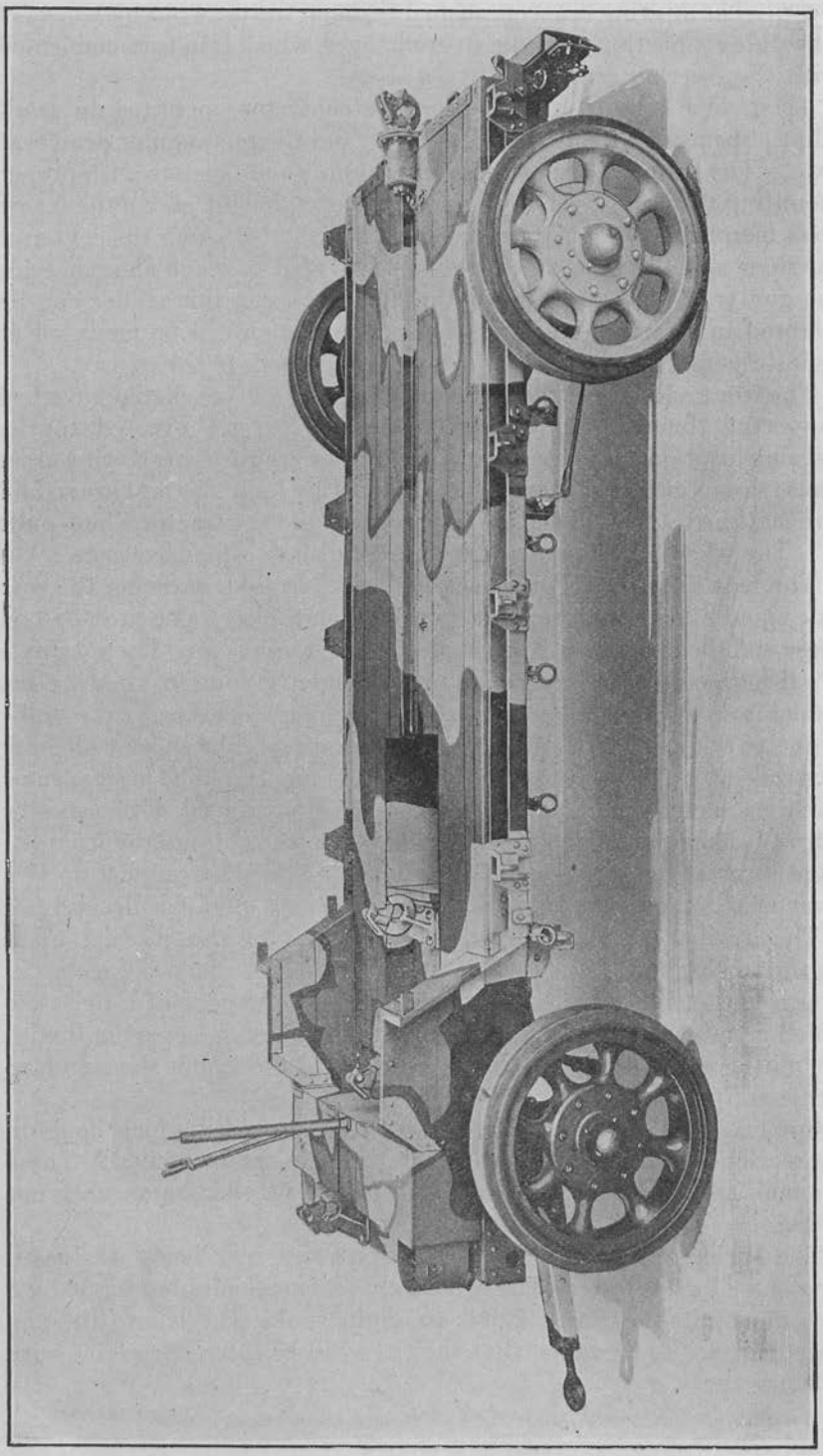
The rear axle is a forging rectangular in section, carrying the rear axle spindle as an integral unit. Roller bearings are also provided on these spindles to support the load of the rear wheels. The rear axle is a dead member and is dropped just inside the spindle, allowing the semielliptic springs to be overslung. The rear wheels carry the brake drums in which operate the internal expanding brake shoes which are controlled by a lever at the front end of the trailer. The brake drums are 19⅜ inches in diameter and the shoes are faced with asbestos fabric. The brake linkage is controlled by a straight pull rod from the hand lever at the front end of the trailer. There is a ratchet on this lever which allows the brake to be locked on in case it is desired.

The drawbar has a double coiled spring housed within it which takes up the towing shock in either direction. The drawbar is 42 inches in length and connects with the steering lever by means of a pin yoke which allows the drawbar I to be raised or lowered in engaging it with the pintle on the tractor. On the rear end of the trailer the standard pintle is fitted, which permits the towing.

For loading the trailer, two channels are provided which hook on the rear end, forming ramps up which the guns can be hauled. These channels are detachable and are carried on the trailer frame when not in use.

The springs are interchangeable, front and rear being 42 inches long and 3 inches wide. The wheels are cast steel adapted for 36 by 6 inch demountable tires. These are eight spoke wheels and the tire fastenings are so arranged that the tires will be interchangeable with

PLATE No. 3



LEFT SIDE VIEW 3-INCH FIELD GUN TRAILER, WITH SIDES REMOVED

those used on the Nash and F. W. D. trucks. Throughout this trailer is designed to be interchangeable with the trailer used for the 3-inch antiaircraft gun in so far as similar parts are employed.

OILING AND MAINTENANCE.

The grease cups indicated on the drawings shown in plate No. 6 should be turned up every day, or after the trailer has been in use for any period of time equivalent to a day's work. The wheel hubs should be packed with grease to take care of the roller bearings upon which the wheels are mounted, and the clevises for the brake linkage and all wearing parts should be given an occasional squirt of cylinder oil.

It is advisable about every three months to remove the load from the springs by jacking up the trailer and inserting between the leaves a graphite lubricating mixture for the purpose. If graphite is not available, any good lubricant will answer the purpose. A grease the equivalent of 600-W makes a good spring lubricant.

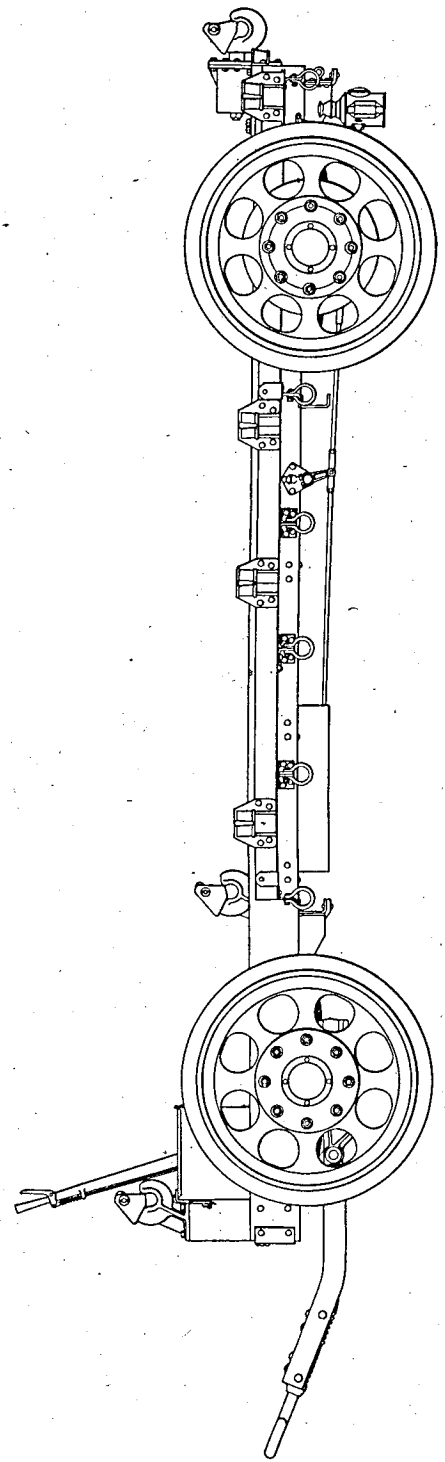
REMOVING SLUSH.

If it is desired to remove the slush from tools and parts which are packed in it when the truck is shipped, this can be done by a dry rag or if necessary it can be loosened with kerosene oil.

INSPECTION.

A monthly inspection should be given all the nuts and bolts on the trailer. The spring clip nuts should be kept tight to prevent breakage of the spring leaves. The wheels should be inspected for excessive play and adjustments made by removing the hub caps and tightening up on the castellated nuts on the end of the spindle. This adjustment should not be made so tight as to jam the bearings, but a small amount of play which will be just perceptible to the hand left in each wheel. A good way of testing this is to release the wheel and see if the heavy part swings to the bottom and then swings back and forward as a pendulum several times before the wheel comes to rest.

PLATE No. 4



DRAWING SHOWING ELEVATION OF 3-INCH FIELD GUN TRAILER

CHAPTER II.

FRAME STRUCTURE.

GENERAL SPECIFICATIONS.

Frame material	Commercial flange steel.
Side channel length	168¾ inches.
Channel section	7 inches by 2¼ inches by ¼ inch.
Number of cross members	Eight.
Center member (longitudinal)	Horizontal channel.
Center member length	91½ inches.
Center member section dimensions	6 inches by 1¾ inches by ¼ inch.
Structural material thickness	¼ inch.

FRAME DESCRIPTION.

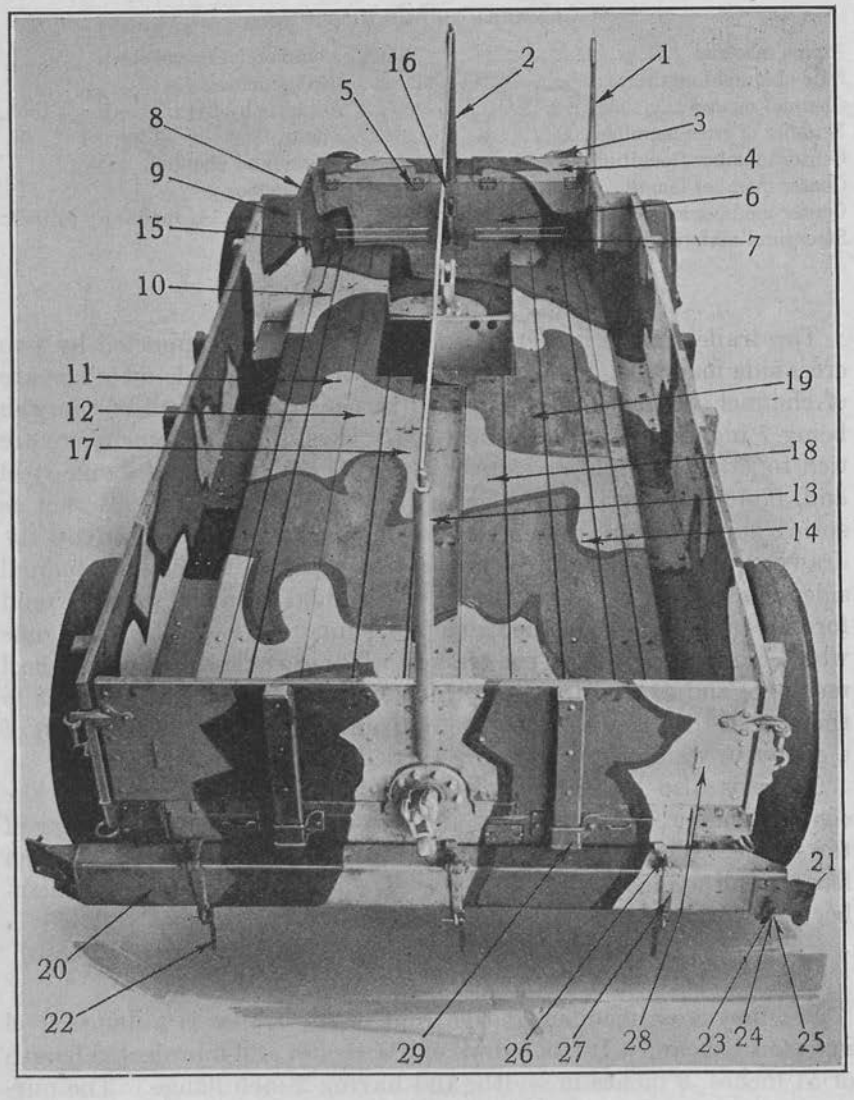
The trailer frame is a structural steel platform supported by two cross side members, 168¾ inches in length. These side members are of channel section with the flanges turned in, the depth of the web being 7 inches and of the frame, 2¼ inches. The side members are tied together by eight cross members. These are also of flange steel and, beside acting as part of the structure of the frame, also act as spring supports and stiffeners to take the stresses imposed by the drawbar, pintle, and gun supports. In addition to the longitudinal side members there are two outer longitudinal members which extend for part of the length of the frame and support the wheels of the guns which are transported on the trailers. These are known as gun wheel members and extend from the third cross member from the front to the rear of the frame. They are horizontal channels, forming sort of a gutter in which the wheels are carried.

There is also an additional longitudinal member, known as the center member, which extends a length of 91½ inches to the rear of the frame. This is also a U-beam, 6 inches in width, with 1¾-inch flanges and made of ¼-inch stock. The purpose of the center member is to form a rest for the gun trail.

CROSS MEMBERS.

The first cross member at the front of the trailer is a flange steel inverted U-beam. It has a drop of 8¼ inches and a projected length of 51 inches, 6 inches in width, and having 2-inch flange. The purpose of this member is to tie together the ends of the side members. The side members are toed in a distance of 1½ inches, just behind the front wheels, in order to reduce the turning radius, so that the front cross member is shorter than the rear. This member also supports the front spring brackets.

PLATE No. 5



TOP VIEW 3-INCH FIELD GUN TRAILER

PLATE NO. 5.—TOP VIEW 3-INCH FIELD GUN TRAILER.

Ref. No.	Part No.	Name.	Ref. No.	Part No.	Name.
1	.....	Brake lever assembly.	15	29A	Board, front side, board, lower.
2	BK33H	Pole tent.	16	BK33A	Cable canopy.
3	HB1B	Bracket lantern body.	17	35A	Board, floor, right side, center.
4	24C	Cover tool box, R. H.	18	35D	Board, floor, left side, center.
5	BK30B	Hinge tool box.	19	36C	Board, floor main, inner, R. H.
6	25A	Body tool box.	20	12C	Skid.
7	14D	Angle tool box support.	21	39B	Gusset skid.
8	29B	Board, front side board, upper.	22	38A	Chain skid bracket clasp lock.
9	RH30E	Board, front side, inclined, R. H.	23	38C	Bolt skid chain.
9	LH30F	Board, front side, inclined, L. H.	24	38D	Lock skid chain connection.
10	36B	Board, floor side.	25	38B	Chain skid.
10	35C	Board, floor side, L. H.	26	14B	Bracket skid.
11	.....	Board, floor main, outer.	27	12D	Clasp skid bracket.
12	36C	Board, floor main, inner, L. H.	28	NB1L	Strap fastener.
13	BK33K	Pole tent (rear).	29	31D	Bracket, tailboard, stake.
14	29C	Board, floor main, outer, L. H.			

The second cross member is directly above the front axle and is a channel beam, 51 inches long, with a 6-inch web and 2½-inch flange. It is reinforced in the center by a plate to carry the forward pintle. The four holes to take the pintle bolts are in this plate, which is fastened by four rivets to the cross member. The pintle bolts are ¾ inches S. A. E. size, and the reinforcing plate is 8¼ inches by 5⅜ inches by ¼ inch.

The third cross member has upper and lower units, the upper being the supporting cross member, while the lower is the rear support of the front spring. The upper part of the third cross member is identical with the fourth and fifth cross members, being flange steel, 53½ inches in length, 5-inch depth, with a 2-inch flange. These structural parts are all of ¼-inch stock.

As stated, the fourth and fifth cross members are identical, while the sixth has an upper and lower member, similar to the third, the lower member acting as a support for the front brackets of the rear springs.

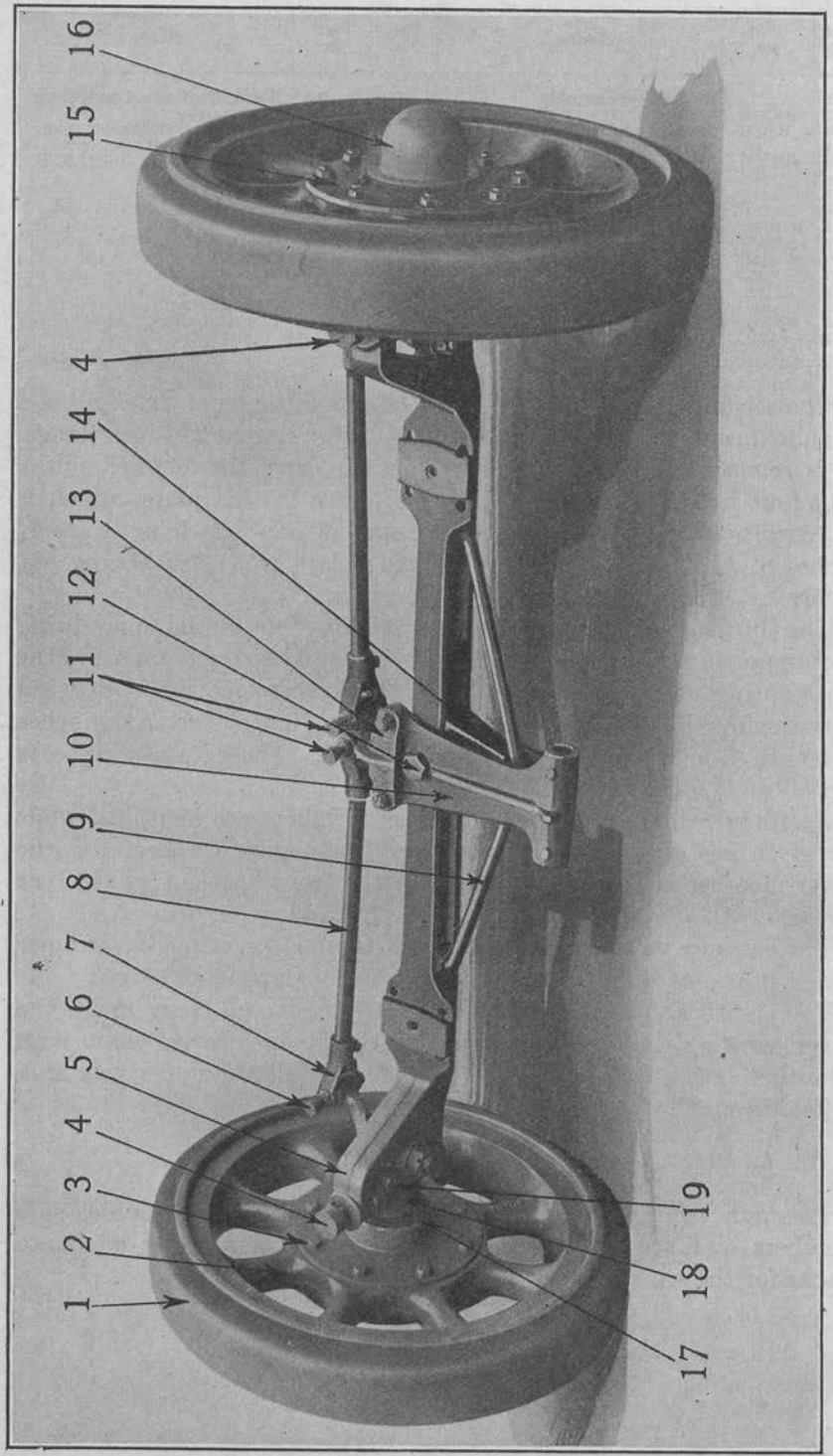
The seventh member is a horizontal channel carrying the bumper spring brackets of flange steel riveted in the channel.

The eighth and rear member has both upper and lower units, the lower carrying the rear spring rear brackets which, in common with the other spring bracket, are of cast steel, while the upper acts as a stiffening and tying member.

GUN WHEEL MEMBERS.

The gun wheel members are located outside the channel side members and are formed of horizontal channels, giving adequate tracks for the wheels.

PLATE No. 6



FRONT AXLE

PLATE NO. 6.—FRONT AXLE.

Ref. No.	Part No.	Name.	Ref. No.	Part No.	Name.
1	BK21A	Tire.	9	BK11D	Cup grease.
2	BK18A	Wheel.	10	BK4B	Yoke tie-rod.
3	BK19A	Hub wheel.	11	49E	Rod, front axle, tie.
4	BK8D	Cup grease.	12	26C	Rod, front axle, truss.
5	45A	Axle I beam, front.	13	BK11A	Lever, front, steering.
6	BK14H	Washer steering spindle thrust, upper.	14	BK17A	Bolt steering lever.
7	BK22A	Spindle, R. H.	15	BK13D	Bolt tie-rod yoke.
7	BK22A	Spindle, L. H.	16	BK10A	Lever, front, steering, rear.
8	BK14G	Washer steering spindle thrust, lower.	17	BK24A	Strut axle truss rod, front.
			18	BK20A	Flange, front axle hub.
			19	BK27A	Cap hub.

CHAPTER III.

FRONT AXLE.

GENERAL SPECIFICATIONS.

Axle section.....I beam.
Spring pads.....2½ inches by 3⅝ inches integral.
Steering lever.....Pivoted at axle center.
Tie-rod length.....25½ inches.
Tie-rod diameter.....1¼ inches.
Steering pivot bolt.....7⅛ inches long by 1¼ inches diameter.
Steering arm lever length.....8 inches.
Steering lever length.....C to C, 4½ inches.
Spindle length.....11⅞ inches.
Wheel bearings.....Roller.
Wheel material.....Malleable iron.
Spring length.....42 inches.
Spring type.....Semielliptic.

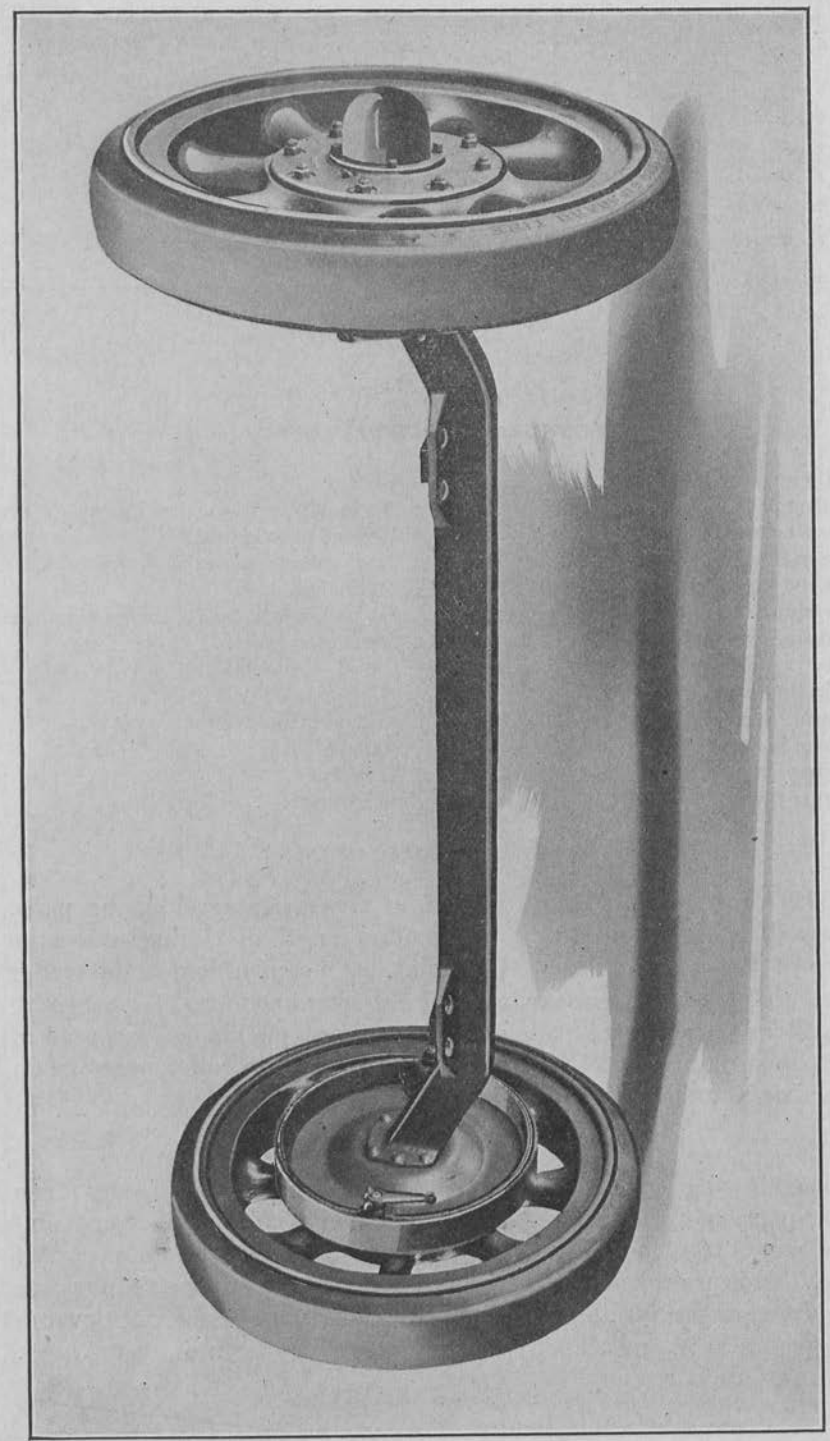
FRONT AXLE DESCRIPTION.

The front axle is a drop-forged I-beam with integral spring pads. The axle is also bossed at the center for a length of 4½ inches to take care of the steering lever attachment, by means of which the trailer is steered through the drawbar. The spring pads are 2¼ inches by 3⅝ inches, and ⅞ inch thick. The steering knuckle has a spread of 10¾ inches outside. The wheels are mounted on roller bearings on the axle spindles.

STEERING LEVER.

The steering lever is pivoted at the center of the front axle. The front portion of the steering lever takes the drawbar at the front, and the lever is 10½ inches from the front and to the center and is of cast steel. It is provided with two grease cups at the front end to lubricate the drawbar pin forming the flexible coupling. The steering lever is 8½ inches wide and the drawbar pin is 1½ inches in diameter.

PLATE No. 7



REAR AXLE 3-INCH FIELD GUN TRAILER—MODEL 21

The rear part of the steering lever is 4½ inches long, center to center, and has two holes drilled to take the front axle tie rods. These are forged steel, 25½ inches in length and 1¼ inches in diameter, jointed to the steering arms and arranged to transmit the steering motion from the drawbar and steering lever to the steering arms. The pivot bolt which passes through the center of the steering lever into the front axle is 7⅛ inches long and 1¼ inches in diameter. The head of the bolt is $1\frac{3}{16}$ inches across the flats of the hex. and is knurled beneath the head.

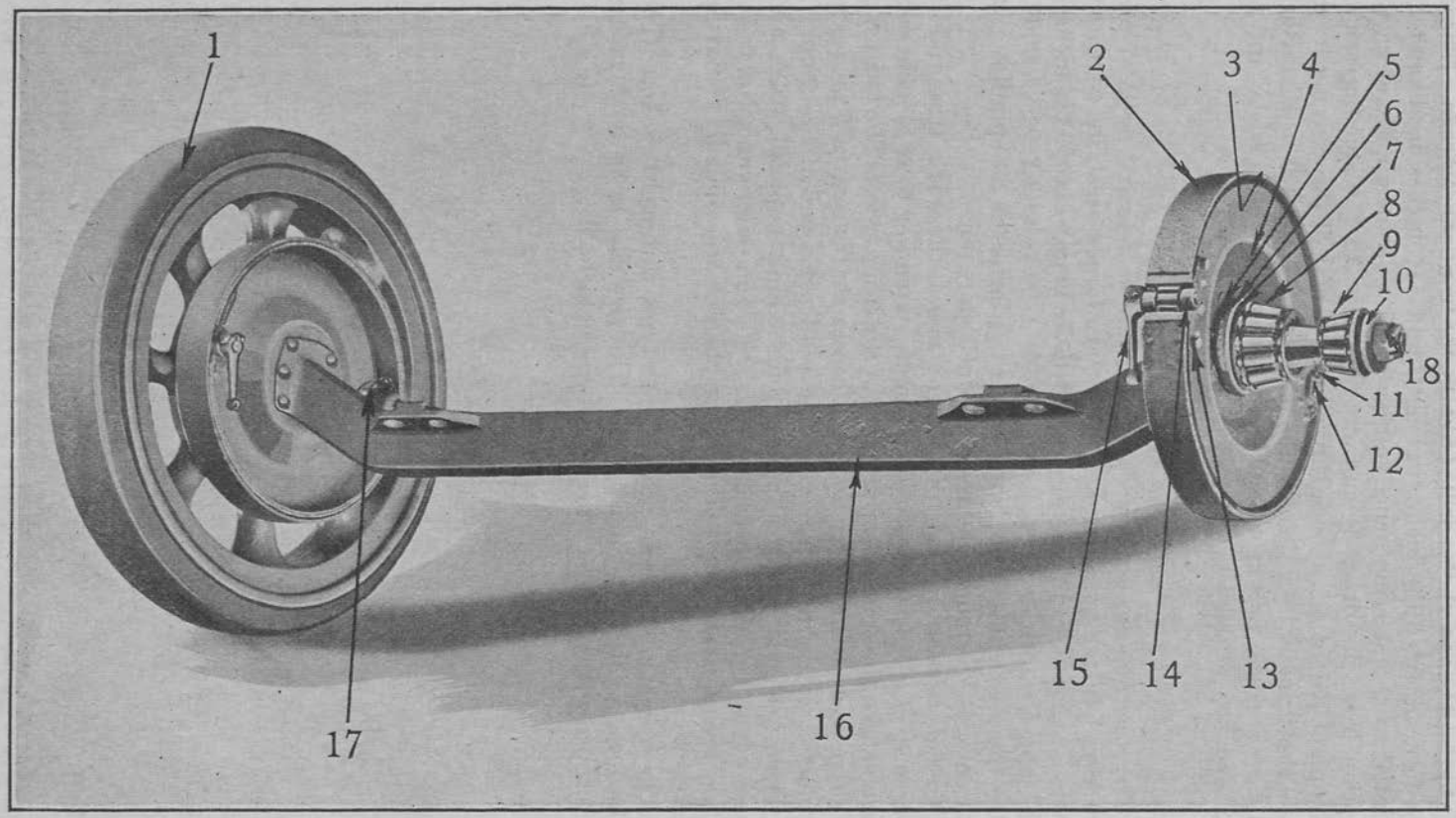
STEERING ARMS.

The steering arms are forged and have an 8-inch lever length. They are keyed to the axle spindles, which are forged steel, heat-treated parts, having a length from the center of the king bolts of 11⅞ inches. The spindles are tapered from 2.5615 ±.0005 to 1.7491 ±.0004. This taper extends through the center $2\frac{1}{16}$ inches of the spindle. At the end of the spindle there is a $\frac{3}{16}$-inch split pin.

To relieve the front axle of towing stresses, there is a truss rod of forged steel, 33 inches in projected length, extending to 16½ inches on each side of the center forward face of the front axle. The truss rod is supported at the center by a cast steel axle truss strut 5 inches in projected width and 7 inches in projected length; and of T section.

The wheel bearings are Timken rollers, inner cup, No. 6320, and inner cone, No. 6358; outer cup, No. 5320, and outer cone, No. 5354. These are adjustable by taking up on the nut accessible by removing the hub cap.

The wheels are malleable iron, Smith type, with eight spokes. The wheel material is $\frac{3}{16}$ inch thick. The tire size is 36 by 6 inches solid, pressed-on. The wheel hubs are detachable.



REAR AXLE, 3-INCH FIELD GUN TRAILER—MODEL 21

PLATE NO. 8.—REAR AXLE.

Ref. No	Part No.	Name.	Ref. No.	Part No.	Name.
1	.....	Tire.	10	BK25B	Washer steering spindle.
2	BK15G	Lining brake.	11	BK15A	Anchor brake band.
3	BK16C	Band brake.	12	BK17E	Pin brake anchor.
4	BK16B	Disk brake support.	13	BK13B	Bracket brake cam.
5	BK25E	Washer felt retainer, thin.	14	BK15D	Cam brake, L. H.
6	BK25D	Washer dust.	14	BK15B	Cam brake, R. H.
7	BK25A	Washer felt retainer, thick.	15	BK26A	Lever brake cam.
8	BK23A	Bearing, inner (roller).	16	46A	Axle, rear.
9	BK23B	Bearing, outer (roller).	17	BK13A	Bracket brake carrier.

SPRINGS.

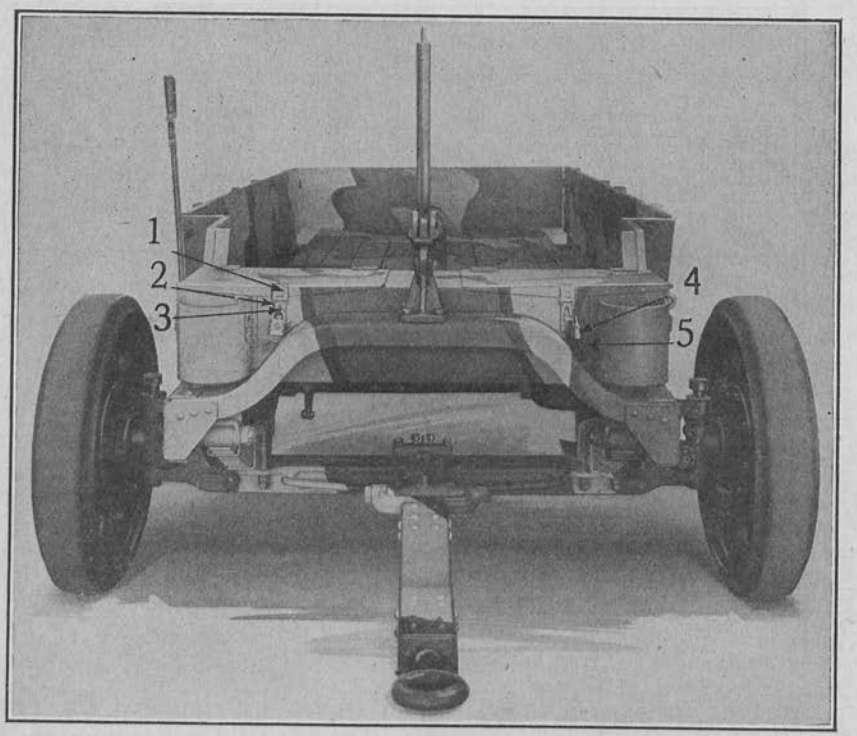
SPECIFICATIONS.

Type.....Semielliptic.
Length.....42 inches.
Pounds per inch deflection.....1,180.
Load to load at dimension length.....3,100 pounds.
Center bolt.....$\frac{9}{16}$-inch diameter.
Width.....3 inches.
Number of leaves.....11.
Main leaf thickness.....$\frac{3}{8}$-inch.
Bushings.....Dannite (graphite and bronze).

SPRING DESCRIPTION.

All four springs on the field gun trailer are similar. They are bushed with self-lubricating bushings and are 42 inches long under a load of 3,100 pounds. The springs are chrome vanadium steel, with the center bolt 20 inches from the front spring and 22 inches from the rear. The main leaves are $\frac{3}{8}$ inch thick, and there are eleven leaves, 3 inches wide.

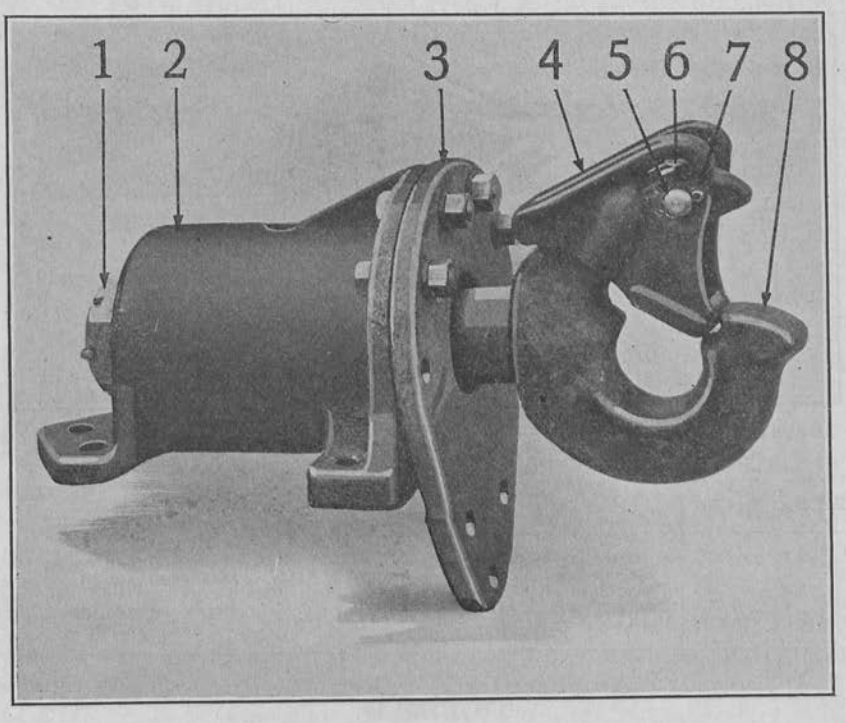
PLATE No. 9



TOOL BOX FASTENING.

Ref. No.	Part No.	Name.	Ref. No.	Part No.	Name.
1	BK29B	Angle tool box cover latch.	4	BK15D	Chain, Yale lock.
2	BK29A	Hasp tool box cover latch.	5	BK29C	Eye tool box cover latch.
3	BK30F	Lock, Yale No. 840.			

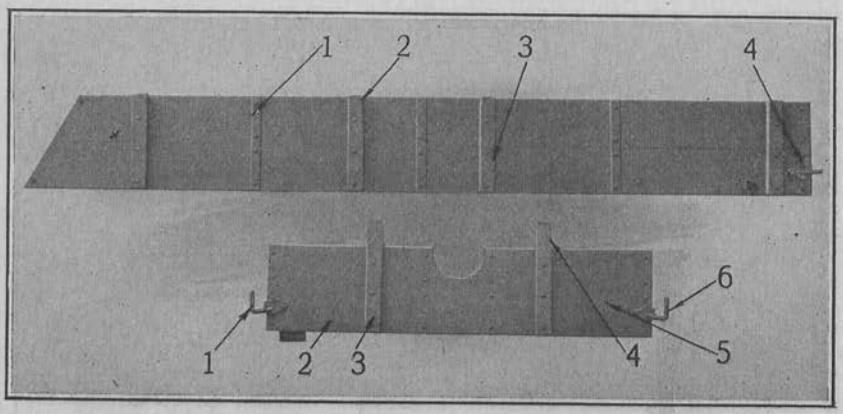
PLATE No. 10



PINTLE.

Ref. No.	Part No.	Name.	Ref. No.	Part No.	Name.
1	.....	Pintle nut.	5	.....	Latch spring.
2	.....	Pintle housing.	6	.....	Pin, latch.
3	BK5D	Cover, pintle housing.	7	.....	Pin, split.
4	.....	Latch, pintle.	8	FF37A1	Pintle.

PLATE No. 11



SIDE AND END BOARDS, 3-INCH FIELD GUN TRAILER.

Ref. No.	Part No.	Name.	Ref. No.	Part No.	Name.
1	33A	Strap rear side board.	2	34E	Board—tail gate, upper.
2	34A	Stake side board.	3	34D	Stake—tail gate.
3	34A	Stake side board.	4	33B	Strap stake.
4	BK3A	Eye body corner hook.	5	34C	Board—tail gate, lower.
1	BK3B	Hook body corner.	6	BK3C	Hook—body corner.

CHAPTER IV.

REAR AXLE.

SPECIFICATIONS.

Length over all.....89¼ inches.
Depth.....4 inches.
Width.....2½ inches.
Spring pads.....Integral.
Spindle length.....10⅛ inches.
Brake diameter.....19⅜ inches.

REAR AXLE DESCRIPTION.

The rear axle is a forged rectangular dead member with integral spindles and spring pads. The wheels are mounted on the spindles in the same manner as the front wheels are mounted on the front axle spindles and by means of the same types of bearings. The springs on the rear axle are identical with those on the front.

BRAKE STRUCTURE.

The brakes are carried on the rear wheels, however, the drum being mounted on the wheel and the brake shoe being supported by a brake supporting disk, located on the inner end of the spindle.

This circular disk is riveted to the axle. The disk carries the brackets which support the brake levers operating the brake cams. The brake shoes are 18 15/16 inches in diameter, giving a total brake band length of 57 7/16 inches. The brake band width is 2½ inches, the band being flanged steel, 3/16 inch thick. The brake drum, which is 19⅜ inches in diameter and 3¼ inches wide, is mounted on the rear wheel. The brake carrier bracket which connects the brake to the disk is malleable iron. The internal cam which operates the expanding brake is forged steel, having a 1-inch cam face. The cam has a lift of 1 3/32 inches.

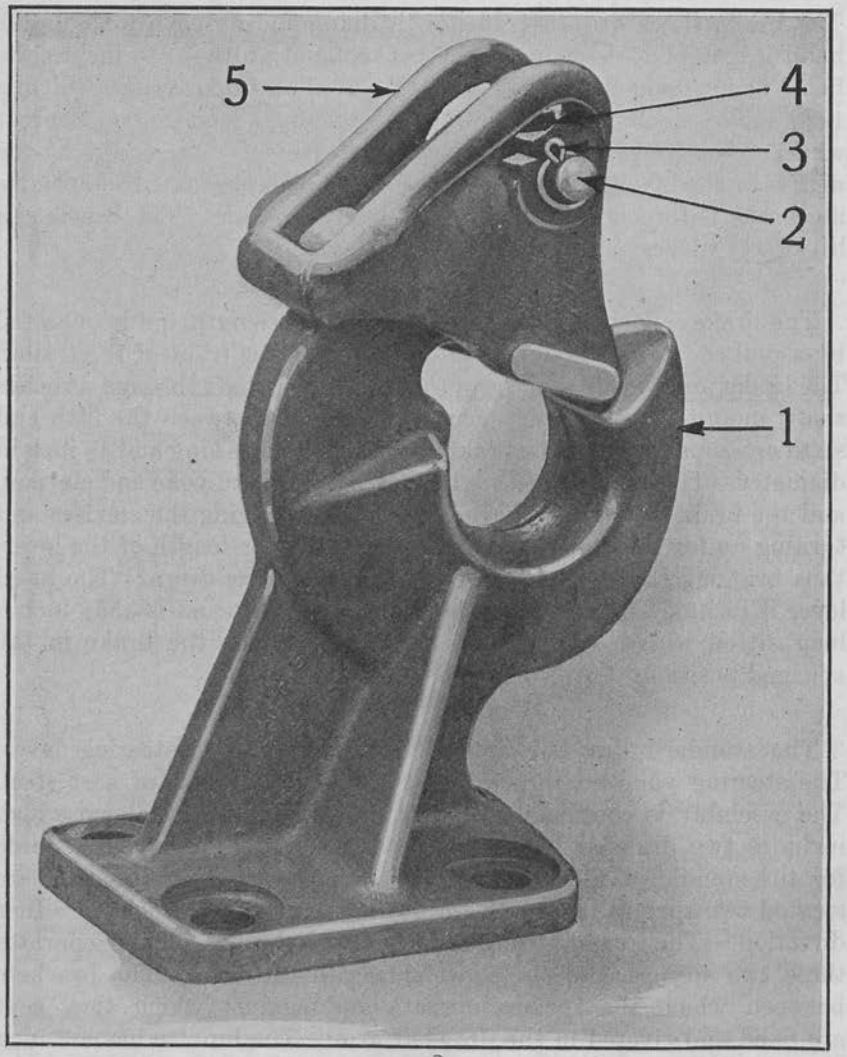
BRAKE ADJUSTMENT.

The brake cam shaft lever has a 4-inch lever length and is operated by a pull rod from the hand brake located at the front of the trailer. The brake pull rods extend from the front lever shaft through a rocker shaft, mounted transversely across the chassis between the fifth and sixth cross members. The brake rod is 92½ inches long and ½ inch in diameter. The connections are by S. A. E. standard yoke and clevises, and the brake adjustments are made by disengaging the clevises and turning up for the desired distance to shorten the length of the lever, thus bringing the shoes in closer contact with the drum. The hand lever is located on the right side of the front seat and is 35¾ inches long, fitted with a ratchet and latch rod to lock the brake in the engaged position.

DRAWBAR.

The standard drawbar is attached to the front steering lever. The steering yoke on the rear end of the drawbar is of cast steel. The assembly is contained in a channel-shaped drawbar arm which includes two drawbar brackets of cast steel. These act as a guide for the spindle of the lunette. Between the drawbar brackets are located two springs to absorb the towing or pushing shocks in either direction. The longer spring is in front of the nut which separates these two springs, and the short spring in the rear. The brackets between which the springs operate and against which they seat are fixed and riveted in the drawbar arm. The lunette has a 3-inch eye diameter and is 15 inches long from the center of I to the end of the lunette spindle. An end piece is fitted in and broached, giving a broached connection 4½ inches deep and 13/32 inch wide. The diameter of the lunette shaft is 1½ inches and of the insert, 1⅜ inches. The nut between the two springs is 1½ inches S. A. E. castellated type. The long spring in the drawbar assembly is 7 inches in length when not loaded, and 4⅞ inches when closed. The load on this spring when closed is 3,000 pounds. The short spring is 4 inches open, 1⅝ inch diameter, and 3½ inches closed, under a load of 2,350 pounds.

PLATE No. 12



SPECIAL PINTLE.

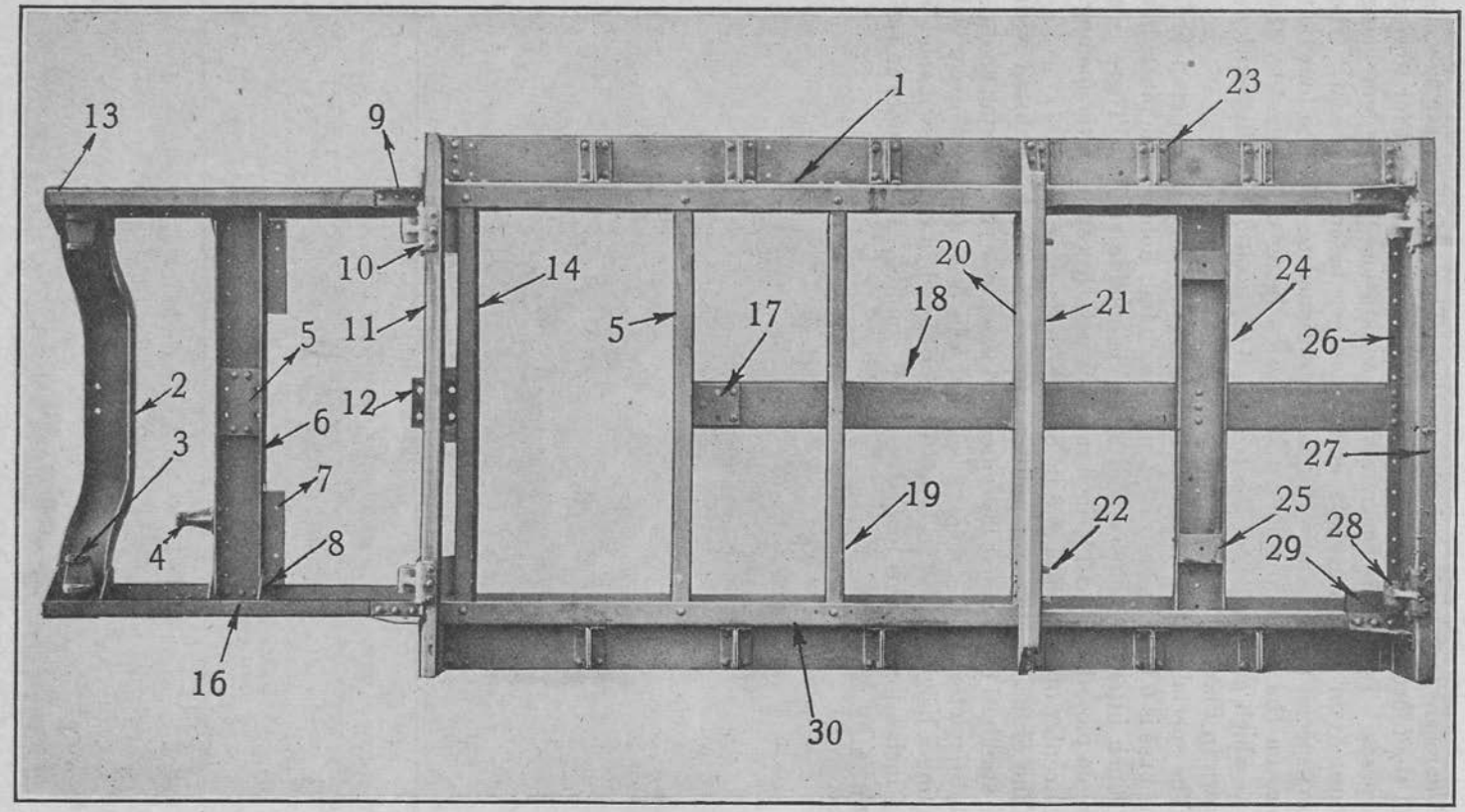
Ref. No.	Part No.	Name.	Ref. No.	Part No.	Name.
1	48A	Pintle (special).	4	.....	Pin, cotter.
2	.....	Latch, pintle.	5	.....	Pin, latch.
3	.....	Spring, pintle latch.			

PINTLES.

There are four pintles on this trailer. Three of them are specials and the fourth a standard pintle mounted on the rear end for towing purposes. Two of the special pintles are stationary types, one being mounted on the front seat and the other behind the seat. The third special pintle is movable and is designed to take the four bolt holes on the center member, the location being determined by the guns which are loaded on the trailer. One position for this pintle is shown in Plate 1.

The special pintles have forged hooks, the same as the standard. The base is 6 by 5 inches with four ¾-inch bolt holes. The pintle has a 1-inch internal radius and a 3⅝-inch outside radius. There is a tongue piece having a 2¾-inch radius which closes the pintle opening. The center of the pintle is 6 inches above its base.

The ordnance standard pintle, ordnance No. 31–37, is fitted with the standard hook above described and two guide rings having an outside diameter of 4½ inches, between which a spring is assembled having a height of 4⅞ inches. This spring when compressed solid is 4⅛ inches long and is loaded to 5,500 pounds. It is square in section, ¾ by ¾ inches.



PLAN VIEW CHASSIS FRAME

PLATE NO. 13.—PLAN VIEW CHASSIS FRAME.

Ref. No.	Part No.	Name.	Ref. No.	Part No.	Name.
1	6B	Member, left side.	16	6A	Member, right side.
2	10C	Member, first cross.	17	16E	Plate center member, P. T.
3	37C	Bracket, front spring, front.	18	11A	Member, center.
4	37D	Bracket hand brake lever.	19	8B	Member, cross sixth, upper.
5	15C	Plate, second cross member P. B.	20	8A	Member, cross fifth.
6	15B	Member, cross second.	21	37A	Bracket, rear spring, front.
7	17A	Angle floor support.	22	13A	Bracket gun wheel member, L.
8	17C	Gusset third and rear cross member.	23	13B	Bracket gun wheel member, R.
9	17E	Gusset, third rear lower, R. H.	24	7B	Member, seventh cross.
10	37B	Bracket, front spring.	25	10A	Bracket bumper spring.
11	8D	Member, third lower cross.	26	7A	Member cross rear, lower.
12	16C	Bracket, pintle supporting.	27	7C	Member rear cross.
13	11C	Gusset, first member, L. H., front.	28	37B	Bracket rear spring, rear.
14	8C	Member, cross third, upper.	29	17C	Gusset third and rear cross, R. H.
15	15A	Member, fourth cross.	30	9A	Member gun wheel, right.

CHAPTER V.

BODY AND FITTINGS.

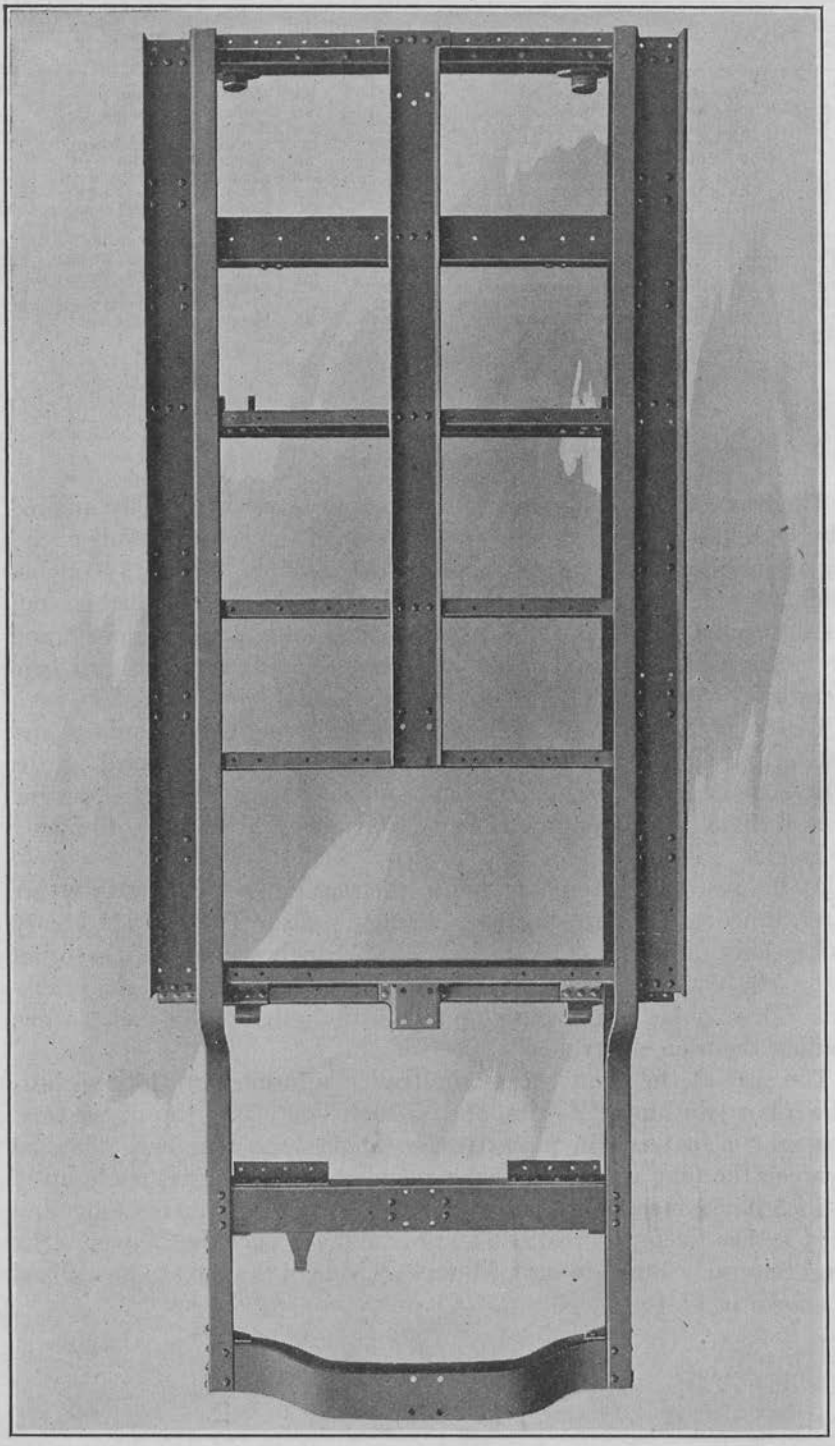
The frame of the field gun trailer is planked over with oak planking. There are five of these planks on each side of the center member, giving a symmetric planking arrangement, the oak plank being 1¾ inches thick. At the forward end of the planking is a pan which is not planked over. The floor pan is 24½ inches long, 22 inches deep, and 12 inches wide. The planking does not extend over the gun field members.

The body is equipped with stake sides, giving side members and also a rear end plank piece which fits around the standard pintle. Straps are provided to hold the end and side down when it is desired to lash them to the body platform. The sides and ends are 16 inches in height.

At the rear of the body riveted to the rear cross members there are three brackets for carrying two channel skids. These skids are 72 inches long, and one of them is 6 by 2¾ inches channel, the other being 5½ by 2¾ inches, allowing them to nest together in the brackets. These skids form ramps up which the guns can be rolled when loading them on the trailer.

The seat at the front end of the trailer is formed by the tool box, which has two hinged covers, one on each side of the top of the box. The seat is fastened in place by two angles, the rear being located between the first and second cross members. The box is made up of $\frac{3}{32}$-inch flange steel, and the box is 52 inches wide, 13 inches long, and 10½ inches deep. A padlock is provided for each box cover. Six rings for gun lashing are supplied on each side of the box, to be utilized as shown in Plate 1.

PLATE No. 14



TOP VIEW OF 3-INCH FIELD GUN TRAILER FRAME

NOMENCLATURE.

PROPERTY CLASSIFICATION—PART I, CLASS IV, SECTION 9.

Piece mark.	Number required.	Name of part.
BK15A	2	Anchor, brake band.
17B	1	Angle, floor support, L. H.
17A	1	Angle, floor support, R. H.
42C	1	Angle, front side board, L. H.
42B	1	Angle, front side board, R. H.
30B	1	Angle, front side board, inclined, L. H.
30A	1	Angle, front side board, inclined, R. H.
10B	3	Angle, skid bracket.
BK29B	2	Angle, tool box cover latch.
14D	2	Angle, tool box supporting.
BK12A	1	Arm, draw bar.
47D	1	Arm, steering, L. H.
47C	1	Arm, steering, R. H.
45A	1	Axle, front.
46A	1	Axle, rear.
BK16C	2	Band, brake.
BK23A	4	Bearing, roller, inner.
BK23B	4	Bearing, roller, outer.
35D	1	Board, center, L. H.
35A	1	Board, center, R. H.
35E	2	Board, floor, concealed.
36A	1	Board, floor, main inner, L. H.
36C	1	Board, floor, main inner, R. H.
35C	1	Board, floor, main outer, L. H.
29C	1	Board, floor, main outer, R. H.
36B	2	Board, floor, side.
30F	1	Board, front side, inclining, L. H.
30E	1	Board, front side, inclining, R. H.
29A	2	Board, front side, lower.
29B	2	Board, front side, upper.
32B	2	Board, rear side, lower.
32A	2	Board, rear side, upper.
34C	1	Board, tail gate, lower.
34E	1	Board, tail gate, upper.
25A	1	Body tool box.
30D	96	Bolt, carriage 0.312" (5/16) by 1.5" (1½)
30C	16	Bolt, carriage 0.312" (5/16) by 1.75" (1¾).
34B	24	Bolt, carriage 0.312" (5/16) by 3.25" (3¼).
35B	60	Bolt, carriage 0.375" (⅜) by 2.5" (2½).
36E	12	Bolt, carriage 0.375" (⅜) by 2.75" (2¾).
13F	12	Bolt, carriage 0.5" (½) by 2".
		Bolt, carriage.
BK8F	1	Bolt, draw bar 1.248" (1¼) by 13.375" (13⅜).
47A	4	Bolt, spring 1.234" (1 11/16) by 5.812" (5 13/16).
41R	4	Bolt, spring center 0.375" (⅜) by 4.5" (4½).
38C	4	Bolt, skid chain eye 0.375" (⅜) by 0.875" (⅞).
BK33E	16	Bolt, 0.25" (¼) by 1.625" (1⅝).
	16	Bolts, stove 0.187" (3/16) by 1.5" (1½).
	8	Bolts, carriage 0.25" (¼) by 1.5" (1½).
BK17A	1	Bolt, steering lever 1.248" (1¼) by 0.375" (6⅜).
14E	21	Bolt, stove 0.25" (¼) by 0.75" (¾).
21B	34	Bolt, stove 0.25" (¼) by 0.5" (½).
BK31A	16	Bolt, cable clamp 0.375" (⅜) diameter.
JB5J	2	Bolt, snap.
BK13D	4	Bolt, tie rod yoke 0.999" by 4.5" (4½).
14C	6	Bolt, plow 0.5" (½) by 1.25" (1¼).
15D	4	Bolt, tap 0.75" (¾) by 1.5" (1½) S. A. E.
16B	4	Bolt, tap 0.75" (¾) by 1.25" (1¼) S. A. E.
41P	16	Bolt, 0.375" (⅜) by 3.75" (3¾).
BK26F	2	Bolt, 0.312" (5/16) by 1.5" (1½).
BK13C	4	Bolt, 0.375" (⅜) by 1.125" (1⅛).
12E	2	Bolt, 0.5" (½) by 1.875" (1⅞).
48B	4	Bolt, 0.75" (¾) by 1.875" (1⅞).
BK4C	4	Bolt, 0.375" (⅜) by 1.625" (1⅝) S. A. E.
BK4F	5	Bolt, 0.375" (⅜) by 1.75" (1¾) S. A. E.
30B	2	Bolt, 0.5" (½) by 1.25" (1¼).
BK2B	1	Bolt, 0.375" (⅜) by 2" S. A. E.
BK17D	1	Bolt, 0.375" (⅜) by 2.25" (2¼) S. A. E.
31E	4	Bolt, 0.5" (½) by 1.125" (1⅛) S. A. E.
31C	32	Bolt, 0.5" (½) by 1.375" (1⅜) S. A. E.
BK5E	9	Bolt, 0.5" (½) by 1.75" (1¾) S. A. E.
BK19C	16	Bolt, 0.375" (⅜) by 1".
BK5C	3	Bolt, 0.625" (⅝) by 1.75" (1¾) S. A. E.

PROPERTY CLASSIFICATION—PART I, CLASS IV, SECTION 9—Continued.

Piece mark.	Number required.	Name of part.
BK5B	2	Bolt, 0.625" (5/8) by 2" S. A. E.
BK19B	16	Bolt, 0.625" (5/8) by 4.5" (4 1/2).
BK19D	16	Bolt, 0.625" (5/8) by 4.75" (4 3/4).
BK13B	2	Bracket, brake cam, inner.
BK13F	2	Bracket, brake cam, outer.
BK13A	2	Bracket, brake carrier, lower.
BK26B	2	Bracket, brake rocker shaft.
BK17B	1	Bracket, brake hand lever, small.
10A	2	Bracket, bumper spring.
BK9A	1	Bracket, draw bar, front.
BK7A	1	Bracket, draw bar, rear.
37D	1	Bracket, front brake shaft, large.
BK17B	1	Bracket, front brake shaft, small.
37C	2	Bracket, front and rear spring, front.
37B	4	Bracket, front and rear spring, rear.
16D	4	Bracket, gunwheel cable.
13A	10	Bracket, gunwheel member, L. H.
13B	9	Bracket, gunwheel member, R. H.
12A	3	Bracket, gunwheel member, L. H. zee.
13G	1	Bracket, gunwheel member, R. H.
12B	3	Bracket, gunwheel member, R. H. zee.
17G	2	Bracket, lower third cross member.
16C	1	Bracket, pintle supporting.
37A	2	Bracket, rear spring, front.
31B	8	Bracket, side board stake.
14B	3	Bracket, skid.
31D	2	Bracket, tail board stake.
BK23C	1	Bracket, tail lamp.
BK33D	16	Bracket, tent pole.
24E	1	Bracket, tool box cover.
BK27D	2	Bushing, brake rocker shaft bracket.
BK27B	2	Bushing, spring bracket and brake rocker.
BK27F	4	Bushing, steering arm.
BK27C	1	Bushing, drawbar bolt.
BK27F	4	Bushing, steering arm.
BK27E	2	Bushing, front steering lever, small.
BK27D	2	Bushing, hand lever brake shaft.
BK9B	2	Bushing, king pin, lower.
BK9C	2	Bushing, king pin, upper.
39C	8	Bushing, spring eye.
BK33A	1	Cable, canopy.
	2	Chain, Yale lock.
BK15D	1	Cam, internal brake, L. H.
BK15B	1	Cam, internal brake, R. H.
29E	4	Cable.
BK27A	4	Cap, hub.
38B	2	Chain, skid.
38A	2	Chain, skid bracket clasp lock.
12D	2	Clasp, skid bracket.
JB5G	2	Clevis, chain, Yale lock.
49B	2	Chain, cable.
BK14L	4	Clip, brake band spring.
BK31B	16	Clip, cable clamp.
42A	8	Clip, spring.
41M	8	Clip, spring leaf, large.
41S	8	Clip, spring leaf, small.
BK14C	2	Collar, brake band stop pin.
BK4D	2	Cover, king pin.
BK5D	1	Cover, pintle housing.
24B	1	Cover, tool box, left hand.
24C	1	Cover, tool box, right hand.
BK13E	4	Cup, grease No. 00 0.125" (1/8)" pipe thd.
BK8D	2	Cup, grease 2 ounces, 0.125" (1/8) pipe thd.
BK16B	2	Disk, brake support.
BK11B	2	Dowel, front steering lever.
BK14D	4	Dowel, steering spindle washer.
BK16A	2	Drum, brake.
BK3A	2	Eye, body corner hook.
BK3D	1	Eye, brake latch rod.
BK31F	4	Eye, cable, L. H.
BK31C	4	Eye, cable, R. H.
BK29C	2	Eye, tool box cover latch.
BK3D	1	Eye, hand brake latch rod.
NB1L	12	Fasteners, strap.
10D	2	Filler, sixth and rear cross member.
BK20A	2	Flange, front axle hub.
BK14B		Filler, spindle, thin.
BK20A	4	Flange, front axle hub.
BK14A		Filler, spindle, thick.
17F	3	Gusset, rear left.
17E	3	Gusset, rear right.
11C	1	Gusset, first cross member, L. H. front.

PROPERTY CLASSIFICATION—PART I, CLASS IV, SECTION 9—Continued.

Piece mark.	Number required.	Name of part.
11B	1	Gusset, first cross member, R. H. front.
17D	2	Gusset, third cross and rear member, L. H.
17C	2	Gusset, third cross and rear member, R. H.
39B	2	Gusset, skid.
BK30B	4	Hinge, tool box.
BK3B	1	Hook, body corner, R. H.
BK3C	1	Hook, body corner, L. H.
BK29A	2	Hasp, tool box cover latch.
BK28C	4	Hook, cable tightener.
BK31E	4	Hook, cable.
BK5A	1	Housing, pintle.
BK19A	4	Hub, wheel.
BK15C	2	Key, No. 9 Woodruff.
13D	3	Key, No. 18 Woodruff.
47E	2	Key, No. 28 Woodruff.
BK38A	1	Lamp, tail.
BK2E	1	Latch, hand brake.
AB19C	1	Latch, pintle.
41G	4	Leaf, chassis spring, eighth.
41L	4	Leaf, chassis spring, eleventh.
41D	4	Leaf, chassis spring, fifth.
41C	4	Leaf, chassis spring, fourth.
40A	4	Leaf, chassis spring, main.
41H	4	Leaf, chassis spring, ninth.
41A	4	Leaf, chassis spring, second.
41F	4	Leaf, chassis spring, seventh.
41E	4	Leaf, chassis spring, sixth.
41K	4	Leaf, chassis spring, tenth.
41B	4	Leaf, chassis spring, third.
BK26A	2	Lever, brake cam.
BK4E	3	Lever, brake rocket shaft.
BK28A	4	Lever, cable tightener.
BK2A	1	Lever, hand.
BK2C	1	Lever, hand brake rod.
BK17C	1	Lever, hand brake lever shaft.
BK11A	1	Lever, front steering, front.
BK10A	1	Lever, front steering, rear.
BK15G	2	Lining, internal brake.
38D	4	Link, skid chain.
BK30F	2	Lock, Yale, No. 840.
BK7B	1	Lunette.
11A	1	Member, center frame.
8A	1	Member, cross, fifth.
10C	1	Member, cross, first.
15A	1	Member, cross, fourth.
9B	1	Member, cross gun wheel, L. H.
9A	1	Member, cross gun wheel, R. H.
7C	1	Member, cross, rear, upper.
7A	1	Member, cross, rear, lower.
15B	1	Member, cross, second.
7B	1	Member, cross, seventh.
7D	1	Member, cross, sixth, lower.
8B	1	Member, cross, sixth, upper.
8D	1	Member, cross, third, lower.
8C	1	Member, cross, third, upper.
6B	1	Member, left side.
6A	1	Member, right side.
	4	Nut, Castle 0.375" (3/8) S. A. E.
	2	Nut, Castle 0.5" (1/2) S. A. E.
	2	Nut, Castle 0.75" (3/4) S. A. E.
	4	Nut, Castle 0.875" (7/8) S. A. E.
	6	Nut, Castle 1.25" (1 1/4) S. A. E.
	4	Nut, Castle 1.375" (1 3/8) S. A. E.
	2	Nut, 0.312" (5/16).
	48	Nut, 0.375" (3/8).
	32	Nut, 0.625" (5/8).
	4	Nut, 0.75" (3/4).
	4	Nut, Crown, 0.375" (3/8).
	2	Nut, Crown 0.75" (3/4) S. A. E.
	2	Nut, Crown 1.5" (1 1/2) S. A. E.
	1	Nut, Crown 1.625" (1 5/8).
	11	Nut, 0.375" (3/8) S. A. E.
	50	Nut, 0.5" (1/2) S. A. E.
	5	Nut, 0.625" (5/8) S. A. E.
	34	Nut, 0.75" (3/4) S. A. E.
	2	Nut, 0.875" (7/8) S. A. E.
	4	Nut, 0.375" (3/8) standard blank (S. A. E. thread).
BK31D	4	Nut, wing 0.625" (5/8).
21A	1	Pan, floor body, front.
20A	1	Pan, floor body, rear.
BK17E	2	Pin, brake anchor.

PROPERTY CLASSIFICATION—PART I, CLASS IV, SECTION 9—Continued.

Piece mark.	Number required.	Name of part.
BK13H	2	Pin, brake band stop.
BK31H	4	Pin, cable tightener yoke.
BK8C	2	Pin, king.
BK8E	2	Pin, king pin locking.
39A	4	Pin, skid.
BK29E	2	Pin, tool box cover latch eye.
BK30E	4	Pin, yoke end.
	6	Pin, split 0.125" (1/8) by 0.75 (3/4).
	6	Pin, split, 0.125" (1/8) by 1".
	1	Pin, split, 0.187" (3/16) by 2".
	2	Pin, split, 0.25" (1/4) by 2".
	2	Pin, 0.25" (1/4) by 0.875" (7/8), Type B.
33C	20	Pin, 0.25" (1/4) by 3", Type B.
BK7C	1	Pin, 0.375" (3/8) by 0.562" (9/16), Type B.
BK28B	4	Pin, 0.5" (1/2) by 1.75" (1 3/4), Type B.
FF37A1	1	Pintle.
48A	3	Pintle special.
16A	1	Plate, center member pintle, bottom.
16E	1	Plate, center member pintle, top.
21E	1	Plate, end front floor pan, front.
21C	1	Plate, end rear floor pan, front.
21D	1	Plate, end rear floor pan, rear.
24D	1	Plate, end tool box, L. H.
24A	1	Plate, end tool box, R. H.
36D	2	Plate, floor board end.
15C	1	Plate, second cross member pintle, bottom.
	1	Plate, name.
15E	1	Plate, second cross member pintle, top.
47B	4	Plate, spring top.
	4	Plug, 0.25" (1/4), standard pipe.
49E	2	Plug.
BK33H	1	Pole, long.
BK33K	1	Pole, short.
BK14K	4	Ring, dust.
FF37B	2	Ring, pintle guide.
13E	12	Ring, rope fastener.
47F	2	Rod, brake.
BK26C	1	Rod, front axle truss.
39D	1	Rod, hand brake, front.
BK2D	1	Rod, hand brake latch.
39E	1	Rod, tie.
	283	Rivets, button head, 0.5" (1/2) by 1.25" (1 1/4).
	6	Rivets, button head, 0.5" (1/2) by 1.75" (1 3/4).
	50	Rivets, button head, 0.187" (3/16) by 0.625" (5/8).
	36	Rivets, button head, 0.25" (1/4) by 0.625" (5/8).
	32	Rivets, button head, 0.375" (3/8) by 1".
	6	Rivets, button head, 0.375" (3/8) by 1.25" (1 1/4).
	6	Rivets, button head, 0.5" (1/2) by 2".
	1	Rivet, button head, 0.187" (3/16) by 1.5" (1 1/2).
	126	Rivets, button head, 0.5" (1/2) by 1.5" (1 1/2).
JB5L	2	Rivets, chain.
JB5E1	2	Rivets, clevis.
	81	Rivets, No. 10 tinners.
	28	Rivets, 0.187" (3/16) by 0.375" (3/8) tubular brass.
BK3F	2	Screws, hand brake latch rod.
45B	2	Screws, set, 0.5" (1/2) by 2.5" (2 1/2), oval point S. A. E.
20B	36	Screws, wood, No. 14.
BK26D	2	Seat, bumper spring.
BK4A	1	Sector, brake ratchet.
42D	4	Shackle, spring.
13C	1	Shaft, brake rocker.
14A	1	Shaft, hand brake lever.
BK15E	4	Shoe, brake band end.
12C	2	Skid.
BK26E	2	Spacer, brake sector.
41N	16	Spacer, spring clip.
		Socket, tent pole.
BK22B	1	Spindle, steering, left hand.
BK22A	1	Spindle, steering, right hand.
BK14E	4	Spring, brake band.
BK14F	2	Spring, brake band release.
42E	2	Spring, bumper.
BK8A	1	Spring, draw bar, long.
BK8B	1	Spring, draw bar, short.
BK3E	1	Spring, hand brake rod.
FF37C	1	Spring, pintle.
	1	Spring, pintle latch.
34A	8	Stake, side board.
34D	2	Stake, tail gate.
BK24A	1	Strut, front axle rod.

PROPERTY CLASSIFICATION—PART I, CLASS IV, SECTION 9—Continued.

Piece mark.	Number required.	Name of part.
30L	1	Strap, front side board, upper, L. H.
30K	1	Strap, front side board, upper, R. H.
33A	6	Strap, rear side board, center.
33C	2	Strap, rear side board, front.
33D	2	Strap, rear side board, rear.
30H	1	Strap, side board, front lower, L. H.
30G	1	Strap, side board, front lower, R. H.
33B	10	Strap, stake.
31F	2	Strap, tailboard center.
29D	6	Strap.
31A	2	Strap, tailboard end.
BK11C	2	Stud, front steering lever.
BK33C	2	Thimble.
BK31G	4	Thimble cable.
BK21A	4	Tire.
49A	2	Turnbuckle, cable.
BK25A	4	Washer, axle felt retaining, thick.
BK25E	4	Washer, axle felt retaining, thin.
BK15F	4	Washer, cam thrust.
BK25D	4	Washer, dust.
BK25B	4	Washer, steering spindle.
BK14A	.....	Washer, steering spindle filler, thick.
BK14B	.....	Washer, steering spindle filler, thin.
BK14G	2	Washer, steering spindle thrust, lower.
BK14H	2	Washer, steering spindle thrust, upper.
BK25C	4	Washer, spring center bolt.
BK29D	2	Washer, tool box cover latch eye.
	30	Washer, 0.312" ($\frac{5}{16}$).
	38	Washer, 0.375" ($\frac{3}{8}$), S. A. E. standard heavy lock.
	38	Washer, 0.5" ($\frac{1}{2}$), S. A. E. standard heavy lock.
	2	Washer, 0.875" ($\frac{7}{8}$), S. A. E. standard heavy lock.
	18	Washer, 0.75" ($\frac{3}{4}$), S. A. E. standard heavy lock.
	18	Washer, 0.375" ($\frac{3}{8}$), S. A. E. lock.
	5	Washer, 0.625" ($\frac{5}{8}$), S. A. E. standard lock, heavy.
	23	Washer, 0.5" ($\frac{1}{2}$), S. A. E. lock.
	38	Washer, 0.375" ($\frac{3}{8}$), U. S. standard plain.
	16	Washer, 0.187" ($\frac{3}{16}$), U. S. standard plain.
BK18A	4	Wheel, Smith type.
BK28D	4	Yoke, cable tightener.
BK6A	1	Yoke, front steering.
BK4B	4	Yoke, tie rod.
BK30D	3	Yoke, end adjustable, S. A. E.

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