

10 A HANDBOOK FOR LIGHT ARTILLERY.

RANGE TABLE FOR 16-POUND HOWITZER MOUNTAIN GUN.

Kind of powder, Dupont H. N. Initial velocity, 1,298 ft. sec.
Weight of charge, 34 lb. Angle of jump, 4° 22' minutes
Weight of shell, 116 lb. 15 oz. Length of base of sight, 17.93 inches

Range.	Elevation.	Angle of Fall.	Sight marks.	Drift.	Drift marks.	Time of Flight.	Remaining Velocity.	Dangerous Space for Infantry.
100	0 12	0 12	0.000	0.1	0.008	0.1	1,243	100
200	0 00	0 23	0.000	0.1	0.002	0.4	1,191	200
300	0 11	0 35	0.037	0.2	0.012	0.7	1,125	300
400	0 23	0 48	0.129	0.3	0.014	1.0	1,059	400
500	0 35	1 02	0.183	0.4	0.014	1.3	1,006	500
600	0 49	1 16	0.257	0.5	0.015	1.6	1,037	600
700	1 03	1 31	0.328	0.7	0.018	1.9	1,007	700
800	1 17	1 43	0.401	0.9	0.020	2.2	984	800
900	1 32	2 16	0.479	1.2	0.024	2.5	961	900
1,000	1 48	2 39	0.562	1.5	0.026	2.8	943	1,000
1,100	2 04	3 02	0.646	2.0	0.033	3.1	923	1,100
1,200	2 21	3 27	0.735	2.5	0.037	3.4	902	1,200
1,300	2 39	3 53	0.829	3.2	0.044	3.8	886	1,300
1,400	2 57	4 22	0.923	3.9	0.050	4.1	869	1,400
1,500	3 16	4 48	1.023	4.6	0.055	4.5	853	1,500
1,600	3 36	5 13	1.127	5.5	0.063	4.9	837	1,600
1,700	3 57	5 39	1.237	6.1	0.065	5.3	823	1,700
1,800	4 18	6 22	1.347	7.0	0.070	5.7	810	1,800
1,900	4 39	6 55	1.457	8.0	0.076	6.1	797	1,900
2,000	5 01	7 28	1.572	9.0	0.081	6.5	784	2,000
2,100	5 23	8 02	1.688	10.0	0.086	6.9	771	2,100
2,200	5 47	8 36	1.814	11.0	0.090	7.3	758	2,200
2,300	6 11	9 14	1.941	13.0	0.102	7.7	748	2,300
2,400	6 36	9 57	2.073	15.0	0.113	8.1	735	2,400
2,500	7 01	10 36	2.205	17.0	0.123	8.5	722	2,500
2,600	7 27	11 19	2.342	20.0	0.139	8.9	712	2,600
2,700	7 53	12 09	2.480	22.0	0.151	9.3	702	2,700
2,800	8 20	12 42	2.621	24.0	0.155	9.8	689	2,800
2,900	8 48	13 36	2.773	26.0	0.163	10.2	670	2,900
3,000	9 17	14 10	2.928	28.0	0.170	10.6	669	3,000
3,200	10 15	15 29	3.239	35.0	0.199	11.6	650	3,200
3,400	11 16	17 11	3.589	41.0	0.221	12.6	630	3,400
3,600	12 20	18 45	3.917	48.0	0.245	13.5	610	3,600
3,800	13 27	20 20	4.284	57.0	0.277	14.5	591	3,800
4,000	14 35	22 00	4.996	70.0	0.325	15.5	571	4,000

If the axle of the carriage be not horizontal, multiply the difference of level of the wheels in inches (for the inclination of the trunnions in degrees) by the elevation in degrees for the given range; the result will be the deflection in minutes to be applied on the side of the higher wheel.

No. 4 saddles the gun-mule and acts as driver.
No. 5 saddles the first ammunition-mule and acts as driver.
No. 6 saddles the second ammunition-mule and acts as driver.

FIRST ANIMAL.
(See Fig. 10.)

Gun and Wheels.—The gunner removes the tangent-sight, placing it in the haversack, and puts on the breech-cover.
No. 1 throws back the right cap-square and puts on the muzzle-cover and grasps gun by maneuvering-handle.
No. 2 throws back the left cap-square and grasps end of breech-block.

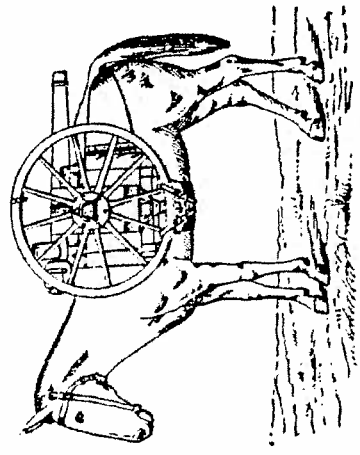


FIG. 10.

No. 4 leads the gun-mule to the gun and places him three yards to the rear of the trail, facing to the rear.
The gunner, grasping the muzzle, commands "Lift," and all lift the gun from the carriage and place it in its bearings, breech in front, sight down.

No. 1 places harness (in its sack) on left side with pole-yoke under flap of harness sack, and secures them in position with the two straps which are attached to the saddle. No. 2 places pole (butt end in front) and splinter-bar on right side and secures them in position with the two straps which are attached to the saddle, passing the straps twice around the pole and bar. The front strap passes once in front and once in rear of the pintle-pin.

The gunner at the trail and Nos. 1 and 2 at the axle lift the carriage and place it in position on top of saddle, bottom down, trail to the rear, so that special shapes of saddle arch-irons will engage in the carriage. The front arch-iron enters the slot just in rear of carriage-axle.

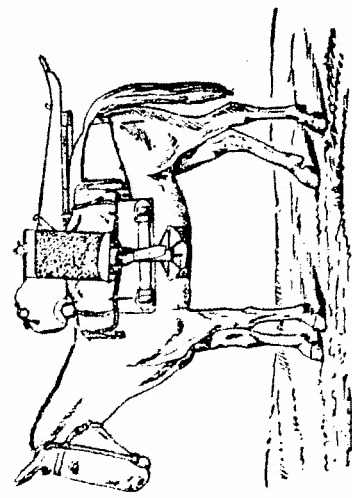


FIG. 11.

The gunner passes the cargo-cincha over the carriage, the wooden block down, and in between side flanges of trail, elevating-screw passing through hole in cincha and wooden block; then receives from No. 1 the ammunition-pack and places it in position; cinches securely, fastens the primer-pouch and haversack containing accessories around gun-carriage cheek, and this pack is complete.

NOTE.—The harness, pole-yoke, and splinter-bar are not necessary to this pack, and the carriage packs equally well without them. If on the saddle, they are to be left on it in coming into action; that is, the carriage can be unpacked and repacked without disturbing them.

THIRD OR FOURTH ANIMAL.
(See Fig. 12.)

Ammunition.—Each animal carries four ammunition boxes, each containing 18 rounds of ammunition: total rounds 72. Nine cartridges and ten primers are packed in each end of each box. The gunner and Nos. 1, 2, and 3 put the ammunition-boxes in position, the two top ones first, simultaneously, and then the two bottom ones in the same way. No. 3 then returns to his mule, which he had turned

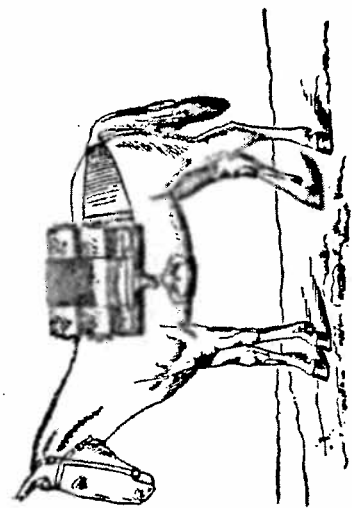


FIG. 12.

over to No. 4; and Nos. 1 and 2 secure the boxes in position by the straps fastened to the clips, and the gunner cinches them securely with the cargo-cincha. He then passes a lashing-rope around the iron handles on the ends of the boxes and over the pack, and the whole is securely fastened in place.

