UNIT EQUIPMENT MANUAL
AVIATION SECTION
SIGNAL CORPS

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WAR DEPARTMENT
OFFICE OF THE ADJUTANT GENERAL

UNIT EQUIPMENT MANUAL

FOR THE

Aviation Section

Signal Corps

JULY, 1917

WASHINGTON
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WAR DEPARTMENT,
WASHINGTON, *July 13, 1917.*

The following Unit Equipment Manual for the Aviation Section, Signal Corps, is published for the information and guidance of all concerned.

[062.11 A. G. O.]

By order of the Secretary of War:

TASKER H. BLISS,
Major General, Acting Chief of Staff.

OFFICIAL:

H. P. McCAIN,
The Adjutant General.

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INITIAL EQUIPMENT FOR AN AERO SQUADRON.

SMALL TOOLS NECESSARY FOR THE EQUIPMENT OF AN AERO SQUADRON.

2 anvils, Hay-Budden, 50-pound.
2 anvils, Hay-Budden, 58-pound.
2 arbors, cutting, screw slotting, $\frac{7}{8}$-inch, No. 2 Morse taper shank, and adapted to use between centers.
2 axes, medium weight, Jack Frost.
2 bars, Armstrong, self-hardening steel, $\frac{5}{16}$-inch.
4 bars, Armstrong, self-hardening steel blades, $\frac{1}{8}$ by $\frac{3}{4}$ inch.
2 bars, boring, Armstrong, No. 10.
12 bevels, carpenter, Stanley.
1 binder, $\frac{1}{4}$-inch, for Singer sewing machine.
12 bits, auger, $\frac{1}{2}$-inch, Jennings.
2 bits, expansion, $\frac{1}{2}$ inch to $1\frac{1}{2}$ inches, Clark's, sets.
1 bit, screw driver, 4-inch, No. 4.
1 bit, screw driver, 6-inch, No. 4.
2 bits, wood, 4 to 16, in sixteenths, in canvas roll, sets.
2 blocks, drill and clamps, No. 271–C, Starrett.
2 blocks, snatch, $5\frac{1}{2}$ by $1\frac{7}{8}$ inches by $\frac{7}{8}$ inch, Hartz's.
60 boxes, tool, steel, 36 by 18 by 18 inches (Cleveland Wire & Spring Co.).
28 braces, Stanley, 8-inch.
8 brushes, file with card and scorer.
2 brushes, glue, No. 2, Manning, Maxwell & Moore.
2 brushes, wheel, circular scratch.
12 calipers, double, Starrett, No. 44.
10 calipers, pocket slide, Starrett, No. 425, 3-inch.
7 calipers, pocket slide, Starrett, No. 425, 6-inch.
6 cards, file.
16 chisels, cold, $\frac{1}{4}$-inch.
2 chisels, cold, $\frac{3}{8}$-inch.
38 chisels, cold, $\frac{1}{2}$-inch.
2 chisels, cold, $\frac{5}{8}$-inch.
2 chisels, cold, $\frac{3}{4}$-inch.
2 chisels, cold, 1-inch.
2 chisels, cold, with handle, $1\frac{1}{4}$-inch bit.
2 chisels, hot, with handle, $1\frac{1}{4}$-inch bit.
12 chisels, wood, Stanley, $\frac{1}{2}$-inch.
2 chisels, wood, each set in fourths, $\frac{1}{4}$-inch to $1\frac{3}{4}$ inches, sets.
4 clamps, iron, C, 4-inch.
28 clamps, iron, C, 6-inch.
4 clamps, iron, C, 8-inch.
4 clamps, Armstrong, drop-forged, light design, C No. 4.
4 clamps, toolmaker's, 5-inch.
2 clippers, bolt, Porter's New Easy, No. 3.
4 combination sets, Starrett, No. 433, hardened, No. 4 graduation.
12 coppers, soldering, $\frac{1}{2}$-pound.

14 coppers, soldering, 1½-pounds.
12 countersinks, 30°, ¼-inch.
12 countersinks, 60°, ¼-inch.
6 calipers, micrometer, set No. 135, B. & S., with standard and ratchet stop, with case.
2 calipers, micrometer, No. 221 (pocket sheet-metal gauge), with ratchet stops and case.
2 calipers, outside, 3-inch, B. & S., No. 801.
2 calipers, outside, 6-inch, B. & S., No. 801.
2 calipers, inside, 3-inch, B. & S., No. 802.
2 calipers, inside, 6-inch, B. & S., No. 802.
2 calipers, inside, transfer, firm joint, 10-inch, B. & S., No. 827.
2 calipers, outside, transfer, firm joint, 10-inch, B. & S., No. 826.
8 clamps, toolmaker's, 1½-inch, No. 754, B. & S.
8 clamps, toolmaker's, 3½-inch, No. 754, B. & S.
2 combination sets, 12-inch blade, B. & S., No. 438, No. 7 graduation, square heads, hardened and tempered blades.
2 cutters, angular, J-10, 2½ by ½ inch, 45-degree, high speed, right hand, ⅞-inch hole, B. & S.
2 cutters, angular, J-10, 2½ by ½ inch, 60-degree, high speer, right hand, ⅞-inch hole, B. & S.
2 cutters, convex, ⅛ by 2 inches, No. C-10, high speed, ⅞-inch arbor, B. & S.
2 cutters, convex, ¼ by 2 inches, No. C-12, high speed, ⅞-inch arbor, B. & S.
2 cutters, convex, ⅜ by 2 inches, No. C-14, high speed, ⅞-inch arbor, B. & S.
2 cutters, convex, ½ by 2 inches, No. C-16, high speed, ⅞-inch arbor, B. & S.
4 cutters, side milling, ¼ by 2½ inches, No. S-16, high speed, ⅞-inch arbor, B. & S.
4 cutters, side milling, ⅜ by 2½ inches, No. S-18, high speed, ⅞-inch arbor, B. & S.
4 cutters, side milling, ½ by 2½ inches, No. S-20, high speed, ⅞-inch arbor, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, right hand, No. E-100, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, right hand, No. E-103, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, right hand, No. E-105, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, right hand, No. E-108, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, right hand, No. E-113, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, right hand, No. E-117, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, right hand, No. E-125, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, left hand, No. E-100, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, left hand, No. E-103, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, left hand, No. E-105, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, left hand, No. E-108, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, left hand, No. E-113, B. & S.

2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, left hand, No. E-117, B. & S.
2 cutters, spiral end mill, with No. 2 Morse taper shank, spiral flute, high speed, left hand, No. E-125, B. & S.
2 cutters, "T" slot, high speed, right hand, No. 2, Morse, taper shank, diameter ½ inch, thickness $\frac{3}{32}$ inch, B. & S.
2 cutters, "T" slot, high speed, right hand, No. 2, Morse, taper shank, diameter $\frac{11}{16}$ inch, thickness $\frac{7}{32}$ inch, B. & S.
2 dogs, lathe, drop forged, Armstrong, No. 11.
2 dogs, lathe, drop forged, Armstrong, No. 13.
2 dividers, 3 inch, No. 800, B. & S.
2 dividers, 6 inch, No. 800, B. & S.
12 drills and countersinks, combined, No. 109-B, $\frac{15}{64}$ by 0.073 by 0.082 inch, Morse.
12 drills and countersinks, combined, No. 109-B, $\frac{3}{16}$ by 0.093 by 0.128 inch, Morse.
12 drills and countersinks, combined, No. 109-B, $\frac{7}{16}$ by 0.157 by 0.157 inch, Morse.
2 drifts, drill, Armstrong, No. 1-A.
2 drills, automatic, Yankee, No. 42.
22 drills, breast, Yankee, No. 1530.
2 drills, hand, ratchet with chain drill attachment, Yankee, No. 555.
124 drills, S. S., $\frac{3}{8}$ inch.
320 drills, S. S., $\frac{3}{16}$ inch.
440 drills, S. S., $\frac{1}{16}$ inch.
440 drills, S. S., ¼ inch.
320 drills, S. S., ⅛ inch.
60 drills, S. S., $\frac{5}{16}$ inch.
120 drills, S. S., 0.161, No. 20.
120 drills, S. S., 0.152, No. 24.
120 drills, S. S., $\frac{7}{32}$ inch.
2 drills, Morse, S. S., $1\frac{1}{32}$ inch.
2 drills, Morse, S. S., $1\frac{1}{16}$ inch.
2 drills, Morse, S. S., $1\frac{1}{8}$ inch.
2 drills, Morse, S. S., $1\frac{3}{16}$ inch.
2 drills, Morse, S. S., $1\frac{1}{4}$ inch.
2 drills, Morse, S. S., $1\frac{5}{16}$ inch.
2 drills, Morse, S. S., $1\frac{3}{8}$ inch.
2 drills, Morse, S. S., $1\frac{7}{16}$ inch.
2 drills, Morse, S. S., 1½ inch.
2 drill sets, Morse, style 106, No. 16–B, A to Z, straight shank, without holder.
2 drill sets, Morse, style 106, No. 15-B, A to Z, straight shank, folding holder.
2 drill sets, Morse, style 107, No. 8-B, 1 to 60, straight shank, folding holder.
2 drill sets, Morse, style 107, No. 8-B, 1 to 60, straight shank, without holder.
2 drill sets and revolving stand, Morse, taper shank, style 102, sets to be from $\frac{3}{16}$ to 1 inch by sixty-fourths.
2 dressers, Huntington, with 8 extra blades.
2 edges, straight, hardened steel, 39 inch, No. 527, B. & S.
2 figures, Standwell, $\frac{5}{32}$ inch, steel, sets.
4 files, Nicholson, 8 inch, half round, coarse, with handles.
4 files, Nicholson, 8 inch, half round, smooth, without handles.
8 files, Nicholson, 8 inch, mill bastard, with handles.
4 files, Nicholson, 8 inch, mill smooth, without handles.
10 files, Nicholson, 8 inch, round bastard, with handles.
4 files, Nicholson, 8 inch, round, smooth, without handles.
24 files, Nicholson, flat bastard, 8 inch.

14 files, wood, rasps, 10 inch.
12 files, cabinet, wood, 10 inch.
12 files, wood, bastard, 10 inch.
12 files, rat tail, 8 inch.
12 files, knife edge, bastard, 8-inch.
12 files, smooth cut, 8-inch.
12 files, smooth cut, 6-inch.
12 files, smooth cut, half round, 8-inch.
12 files, rat tail, second cut, 8-inch.
12 files, rat tail, smooth, 6-inch.
12 files, three cornered, 6-inch.
12 files, half round, smooth, 4-inch.
2 files, half round, smooth, 10-inch.
2 files, half round, bastard, 12-inch.
2 files, hand, smooth, safe edge, 10-inch.
2 files, Nicholson, mill, 8-inch.
2 files, Nicholson, mill, 12-inch.
2 files, round, bastard, 4-inch.
2 files, round, second cut, 6-inch.
4 files, fine feather edge, 4-inch.
4 files, fine, round, Grobet, 4-inch.
4 files, fine, three cornered, Grobet, 4-inch.
4 files, fine, square, Grobet, 4-inch.
4 files, bastard, round, 6-inch, Grobet.
2 files bastard half round 6-inch, Grobet.
2 files, bastard, key, 6-inch, Grobet.
2 files, bastard, mill flat, 6-inch, Grobet.
4 files, bastard, square, 6-inch, Grobet.
2 files, bastard, three cornered, 6-inch, Grobet.
2 files bastard, half round, 8-inch, Nicholson.
2 files, bastard, square, Nicholson, 8-inch.
2 files, bastard, three cornered, Nicholson, 8-inch.
2 files, dead smooth, flat, 6-cut, 8-inch, Nicholson.
4 files, mill bastard, flat, 8-inch, Nicholson.
4 files, second cut, flat, Nicholson, 8-inch.
4 files, smooth, flat, 4-cut, 8-inch, Nicholson.
2 files, mill bastard, half round, Nicholson, 10-inch.
2 files, mill bastard, round, Nicholson, 10-inch.
4 files, mill bastard, flat, Nicholson, 12-inch.
2 files, rasp, wood, half round 12-inch.
2 flatters square, 2-inch.
2 forges, Buffalo, No. 625.
26 frames, hacksaw, Starrett, No. 145, 10-inch.
2 gauges, center, tempered, No. 650, English, B. & S.
2 gauges, compressometer.
2 gauges, screw, No. 630, English, B. & S.
2 gauges, screw, No. 636, metric, B. & S.
6 gauges, screw pitch, Starrett, No. 5.
2 gauges, thickness, No. 640, English, B. & S.
2 gauges, thickness, No. 641, metric, B. & S.
22 gauges, thickness, Starrett, No. 72.
2 gauges screw thread, standard, No. 724, B. & S.
4 grinders, valve, oscillating.
12 grinders, wheel, 6-inch, carborundum.
14 hammers, ball peen, machinists, ½-pound.
4 hammers, ball peen, machinists, ¼-pound.
2 hammers, ball peen, machinists, 10-ounce.
2 hammers, ball peen, machinist's, ¾-pound.
2 hammers, machinist's, ball peen, 1-pound.
2 hammers, ball peen, machinist's, 1½-pound.

12 hammers, brass, 8-ounce, with handles.
2 hammers, brass, solid, 2-pound, with handles.
20 hammers, claw, Maydole, adz-eye.
2 hammers, cross peen, machinist's, ½-pound.
2 hammers, cross peen, machinist's, 2-pound.
2 hammers, riveting, 7-ounce, No. 1.
2 hammers, machinist's, plain riveting, ½-pound, No. 2.
2 hammers, hand sledge, cross peen, 2½-pound.
48 handles, file, assorted.
24 handles, hammer, assorted to fit Maydole hammers.
6 hatchets, claw, half.
12 hatchets, claw, 2½-inch.
2 hatchets, claw, 2-pound.
2 hammers, solid copper, 2-pound, with handles.
2 hardies, straight shank, ¾-inch shank.
12 hoists, chain, differential, ½-ton, Yale & Towne.
1 hoist, chain, differential, 1½-ton, Yale & Towne.
1 hydrometer, battery syringe, Autocrat.
2 hydrometers, gasoline, with connection scale and thermometer
2 indicators, speed, Veeder.
2 indicators, tool post, B. & S.
14 knives, drawing, folding handle.
36 knives, pocket, 3-bladed, 3-inch blade.
2 ladles, cast iron, 2-gallon, with shanks.
2 ladles, hand, with shanks.
2 letters, steel, Standwell, $\frac{5}{32}$-inch, sets.
12 levels, carpenter's, steel, 18-inch.
2 levels, machinist's, Eclipse, No. 34–V–4.
2 mandrels, Champion, No. 1, ½-inch to $\frac{9}{16}$-inch.
2 mandrels, Champion, No. 2, $\frac{9}{16}$-inch to $\frac{21}{32}$-inch.
2 mandrels, Champion, No. 3, $\frac{21}{32}$-inch to ¾-inch.
2 mandrels, Champion, No. 4, ¾-inch to ⅞-inch.
2 mandrels, Champion, No. 5, ⅞-inch to 1-inch.
2 mandrels, Champion, No. 6, 1-inch to 1⅛-inch.
2 mandrels, Champion, No. 7, 1¼-inch to 1⅜-inch.
2 mandrels, Champion, No. 7, 1½-inch to 2-inch.
2 mandrels, old, No. 123, ¼-inch, B. & S.
2 mandrels, old, No. 123, $\frac{5}{16}$-inch, B. & S.
2 mandrels, old, No. 123, ⅜-inch, B. & S.
2 mandrels, old, No. 123, $\frac{7}{16}$-inch, B. & S.
4 mallets, brass, ¾-inch.
2 mallets, rawhide, No. 4, Manning, Maxwell & Moore.
2 micrometers, inside, Starrett, No. 124–B, with case and handle.
2 nail pullers, Jumbo.
12 nail sets.
4 nail sets, B. & S., No. 762 (5 in set).
12 nippers, end cut, 10-inch, 1½-inch end cut, with 2 extra blades each.
4 oilstones, Hard Arkansas, 1 by 1½ by 6 inches.
25 picks.
2 picks, mattock, No. 6.
12 planes, block, Stanley, 2⅜-inch.
2 planes, wood, Bailey's, No. 1.
2 planes, wood, Bailey's, No. 5.
2 planes, block, Bailey's, No. 15.
2 planes, Jack, Bailey's, No. 27½.
8 padlocks, R. F. D., with 2 keys each and 1 master key for the lot.
68 pliers, auto combination, Billings & Spencer, 6-inch, nickel-plated.
50 pliers, auto combination, Billings & Spencer, 8-inch, nickel-plated.
13 pliers, side cutting, 8-inch, pairs.
6 pliers, Klein, Swedish oblique, cutting, No. 3167–A, 5½-inch.

40 pliers, diagonal cutting, 6-inch, pairs.
12 pliers, long nose, 5½-inch, Klein, pairs.
13 pliers, round nose, 6-inch, Klein, pairs.
12 pliers, round nose, 6½-inch, Klein, pairs.
2 pliers, round nose, 8-inch, Bernard, pairs.
2 pliers, round nose, 8½-inch, Bernard, pairs.
2 pliers, long nose, curved, Klein, No. 1319–C, 6-inch.
2 pliers, long nose, duck bill, Klein, No. 318–E, 5-inch.
2 pliers, long nose, needle, Klein, No. 319–B, 5½-inch.
2 pliers, long nose, oval plain, Klein, No. 319–N, 5-inch.
2 pliers, long nose, round, Klein, No. 1810–A, 5-inch.
2 pliers, side cutting, Klein, 312–A, 6-inch.
2 pliers, side cutting, Klein, 312–C, 8-inch.
2 pliers, Swedish oblique, cutting, Klein, No. 3167–C, 4½-inch.
1 pipe, blow, Presto, carbon burning.
2 pots, glue, enameled, No. 1, Manning, Maxwell & Moore.
2 pots, fire, Clayton & Lambert.
2 presses, arbor, Greenard, No. 3, with stands.
24 pullers, cotter.
24 punches, center, ⅜-inch.
4 punches, center, Starrett, machinist's, No. 117, style A.
4 punches, center, Starrett, machinist's, No. 117, style E.
2 punches, center, automatic, No. 771, B. & S.
4 punches, center, machinist, No. 765, B. & S., sets (6 in set).
2 punches, center, spacing, No. 118.
2 punches, double centering, No. 97, Montgomery & Co.
2 punches, revolving spring, 6 tubes.
2 punches, round, ¼-inch.
2 punches, round, ½-inch.
2 punches, round, ¾-inch.
2 punches, round, 1-inch.
2 punches, square, ¼-inch.
2 punches, square, ½-inch.
2 punches, square, ¾-inch.
2 punches, square, 1-inch.
36 pumps, hand, triple compound, Kellogg.
2 reamers, taper pin, sets (0 to 10, in case) B. & S.
2 reamers, taper shank, No. 115–D, spiral flute, from ¼ to 1 inch, inclusive, by thirty-seconds, sets, B. & S.
2 reamers, center, No. 120–H, style No. 2, straight shank, ½-inch shank thickness, 60-degree.
2 reamers, center, No. 120–H, style No. 2, straight shank, ½-inch shank thickness, 72-degree.
2 reamers, center, No. 120-H, style No. 2, straight shank, ½-inch shank thickness, 82-degree.
12 reamers, taper-bit stock, Morse, ⅜ inch.
12 reamers, taper-bit stock, Morse, $\frac{3}{16}$ inch.
12 reamers, taper-bit stock, Morse, ¼ inch.
2 reseaters, valve, Healy, No. 6.
4 rolls, tool, excelsior leather, Buffum, No. 1821, sets.
2 rules, boxwood, 2 foot, half bound, No. 84, Stanley.
12 rules, folding, boxwood, 2 foot, Stanley, No. 751.
16 rules, steel, folding, 4 foot.
2 rules, steel, No. 300, 6 inch, No. 7 graduation, B. & S.
2 rules, steel, No. 300, 3 inch, No. 7 graduation, B. & S.
2 rules, steel, narrow, No. 303, 3 inch, No. 11 graduation, B. & S.
2 rules, steel, flexible, No. 308, 30 cm., ½ mm. and sixty-fourths, B. & S.
2 rules, steel, with holders, No. 335, English, ¼ inch, B. & S.
2 rules, steel, with holders, No. 335, English, ⅜ inch, B. & S.

2 rules, steel, with holders, No. 335, English, ½ inch, B. & S.
2 rules, steel, with holders, No. 335, English, ¾ inch, B. & S.
2 rules, steel, with holders, No. 335, English, 1 inch, B. & S.
2 rules, depth gauges, 6 inch, No. 615, English, B. & S.
2 rules, key seat, No. 374, English, B. & S.
4 rules, caliper steel, 4 inch, No. 391, nickel plated, B. & S.
4 rules, spring tempered, Starrett, No. 307, No. 7, graduation.
20 saws, hand, crosscut, 26 inch.
8 saws, rip, hand, 26 inch.
14 saws, keyhole.
2 saws, metal slitting, $\frac{3}{64}$ inch by 2½ inches, No. G-51, high speed, ⅞-inch arbor, B. & S.
2 saws, metal slitting, $\frac{1}{32}$ inch by 2½ inches, No. G-50, high speed, ⅞-inch arbor, B. & S.
2 saws, metal slitting, $\frac{1}{16}$ inch by 2½ inches, No. G-52, high speed, ⅞-inch arbor, B. & S.
2 saws, metal slitting, $\frac{3}{32}$ inch by 2½ inches, No. G-53, high speed, ⅞-inch arbor, B. & S.
2 saws, metal slitting, ⅛ inch by 2½ inches, No. G-54, high speed, ⅞-inch arbor, B. & S.
2 saws, metal slitting, $\frac{5}{32}$ inch by 2½ inches, No. G-55, high speed, ⅞-inch arbor, B. & S.
34 screwdrivers, Champion, 3 inch.
6 screwdrivers, Champion, 4 inch.
24 screwdrivers, Champion, 5 inch.
34 screwdrivers, Champion, 6 inch.
2 screwdrivers, Champion, 8 inch.
22 screwdrivers, Champion, 10 inch.
22 screwdrivers, Champion, 12 inch.
4 screwdrivers, Champion, 18 inch.
12 screwdrivers, Champion, "Baby."
12 screwdrivers, bent end, 5 inch.
6 screwdrivers, spiral ratchet, Yankee, No. 30, with 3 bits each.
12 screwplates, "Little Giant," each to consist of—
    1 tap each, $\frac{10}{32}$, $\frac{3}{16}$, ¼, $\frac{5}{16}$, ⅜ inch.
    1 die each, $\frac{10}{32}$, $\frac{3}{16}$, ¼, $\frac{5}{16}$, ⅜ inch, last four sizes to be A.L.A.M.
    1 stock.
    1 wrench.
    1 brace attachment.
4 scribers, complete, Starrett, No. 67.
2 scribers, style 3, No. 778, B. & S.
12 sets, combination, Starrett, No. 434.
2 shooters, trouble, AMBU, electrical, with instruments, charts, etc.
2 shaves, spoke, iron, Bauley's, No. 53.
12 shears, office, 10-inch, pairs.
2 shears, circular, Samson, No. 50.
29 shovels, S. H.
2 sledges, blacksmith, cross pien, 8-pound, with handles.
2 sleeves, taper, drill, Morse, No. 1 inside and No. 2 outside.
2 sleeves, taper, drill, Morse, No. 3 inside and No. 2 outside.
2 sleeves, taper, drill, Morse, No. 4 inside and No. 2 outside.
26 snips, tinner's, 10-inch, pairs.
2 squares, steel, No. 1.
2 squares, double, steel, Starrett, No. 14–C.
2 stocks and dies, sets, adjustable pipe, Armstrong, with guides, of the following sizes: ⅛, ¼, ⅜, ½, 1 inch and with taps same size as dies.
14 stones, carborundum, ½ inch by 2½ by 3 inches, Niagara.
2 swedges, top, ¼-inch.
2 swedges, top, ½-inch.

2 swedges, top, $\frac{3}{4}$-inch
2 swedges, top, 1-inch.
2 swedges, bottom, $\frac{1}{4}$-inch.
2 swedges, bottom, $\frac{1}{2}$-inch.
2 swedges, bottom, $\frac{3}{4}$-inch.
2 swedges, bottom, 1-inch.
2 tapes, steel, measuring, 50-foot, Starrett, No. 507.
14 tapes, steel, 100-foot, in metal container.
12 tapes, steel, 8-foot, in metal container.
2 taps and dies, each of the following sizes, in case, with adjustable tap wrench (Greenfield Tap & Die Corporation, Greenfield, Mass.):
No. 2–56.
No. 3–48.
No. 4–36, 40, 48.
No. 5–36, 40.
No. 6–32, 36, 40.
No. 7–32.
No. 8–32.
No. 9–32.
No. 10–24, 30, 32.
No. 12–24, 32.
No. 14–20, 24.
No. 15–20, 24.
No. 16–18 and 20.
No. 18–18 and 20.
$\frac{7}{64}$-inch–56.
$\frac{1}{8}$-inch–40.
$\frac{9}{64}$-inch–40.
$\frac{5}{32}$-inch–32, 38, 40.
$\frac{11}{64}$-inch–32.
$\frac{7}{32}$-inch–24, 32.
$\frac{15}{64}$-inch–28.
$\frac{1}{4}$-inch–20, 24, 32.
$\frac{9}{32}$-inch–20, 24, 32.

Bottom taps extra for $\frac{9}{64}$-inch 40, $\frac{5}{32}$-inch 38, $\frac{3}{16}$-inch 32, $\frac{15}{64}$-inch 28.

Die tap, and extra bottoming tap, left hand thread. $\frac{9}{64}$-inch 40, $\frac{5}{32}$-inch 38, $\frac{3}{16}$-inch 32, $\frac{15}{64}$-inch 28.

2 taps and dies, each as follows (in assortment case of No. 7½):

$\frac{5}{16}$-inch 20, 24.
$\frac{3}{8}$-inch 20, 24.
$\frac{7}{16}$-inch 20, 24, 18.
$\frac{1}{2}$-inch 20, 24.
$\frac{9}{16}$-inch 20.
1 each bottoming taps extra.

2 plates, screw, sets, No. 5½, with bottoming taps extra.
12 reamers, pipe tap, Briggs Standard, 2 each: $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, and 1 inch.
2 time savers, Starrett, No. 185.
2 tongs, straight lip, 16 inch.
2 tongs, curved lip, 16-inch.
12 tools, boring, automatic, Mr. Punch.
2 tools, grinding, Diamond, about $15 size.
2 tools, knurling, with extra set of knurls, $\frac{1}{2}$-inch by $1\frac{1}{8}$-inches, revolving head.
2 tools, lathe, hand forged, sets, each set 1 to 23 inclusive, $\frac{5}{8}$-inch by $1\frac{1}{8}$-inches, carbon tool steel, figures 2682–A, and 2682–B, Manning, Maxwell & Moore catalogue.
2 tool sets, Armstrong, 10 tools each, with self-hardening cutters, with extra cutters for United States Standard thread, No. 50 holders (sets to include the V thread cutter), with $\frac{1}{2}$ by $\frac{1}{8}$ inch tool holders.
1 torch, blow, cutting, Presto.
2 torches, hand, for brazing, Presto.

14 torches, soldering, Clayton & Lambert, 1-quart capacity.
12 vises, hand.
12 vises, Prentiss, No. 807.
2 vises, Prestiss, No. 19.
2 vises, Prentiss, No. 19½.
2 vises, quick action, drill, Armstrong, No. 2–V.
2 welding equipment, Prestolite, complete.
2 wheels, grinding, 9 by ¼ by ½ inch, style A, 40–M.
2 wheels, grinding, 6 by ¼ by ½ inch, style A, 60–M.
2 wheels, grinding, 6 by ¼ by ½ inch, style A, 40–K.
2 wheels, grinding, 6 by ¼ by ½ inch, style A, 60–K.
2 wheels, grinding, 6 by ⅜ by ½ inch, style A, 40–M.
2 wheels, grinding, 6 by ⅜ by ½ inch, style A, 60–M.
2 wheels, grinding, 6 by ⅜ by ½ inch, style A, 40–K.
2 wheels, grinding, 6 by ⅜ by ½ inch, style A, 60–K.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style C, 40–M.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style C, 60–M.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style C, 40–K.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style C, 60–K.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style D, 40–M.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style D, 60–M.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style D, 40–K.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style D, 60–K.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style H, 40–M.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style H, 60–M.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style H, 40–K.
2 wheels, grinding, 4½ by ⅜ by ½ inch, style H, 60–K.
2 wheels, grinding, 1½ by ⅜ by ⅜ inch, style A, 40–M.
2 wheels, grinding, 1½ by ⅜ by ⅜ inch, style A, 60–M.
2 wheels, grinding, 1½ by ⅜ by ⅜ inch, style C, 40–M.
2 wheels, grinding, 1½ by ⅜ by ⅜ inch, style C, 60–M.
2 wheels, grinding, 1½ by ⅜ by ⅜ inch, style D, 40–M.
2 wheels, grinding, 1½ by ⅜ by ⅜ inch, style D, 60–M.
2 wheels, grinding, 1½ by ⅜ by ⅜ inch, style H, 40–M.
2 wheels, grinding, 1½ by ⅜ by ⅜ inch, style H, 60–M.
2 wheels, grinding, 8 by ¾ by ⅝ inch, style A, 20–O.
2 wheels, grinding, 8 by ¾ by ⅝ inch, style A, 30–P.
2 wheels, grinding, 8 by ¾ by ⅝ inch, style A, 36–Q.
2 wheels, grinding, 8 by ¾ by ⅝ inch, style A, 40–M.
2 wheels, grinding, 8 by ¾ by ⅝ inch, style A, 60–M.
1 wheel, polishing, solid canvas, 6 inches by 1 inch.
1 wheel, polishing, solid canvas, 6 by 2 inches.
2 wrenches, Baxter S, 6-inch.
2 wrenches, Coes all-steel, 6-inch.
2 wrenches, Coes all-steel, 8-inch.
2 wrenches, Coes all-steel, 12-inch.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 671–D.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 671–E.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 672–D.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 672–E.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 673–D.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 673–E.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 674–D.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 674–E.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 675–D.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 675–E.
4 wrenches, Armstrong, 22½-degree, single-head socket, No. 676–D.
4 wrenches, Armstrong, single-head socket, with pin handle finished, No. 962–D.

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4 wrenches, Armstrong, single-head socket, with pin handle, finished, No. 962–H.
4 wrenches, Armstrong, single-head socket, with pin handle, finished, No. 964–A.
4 wrenches, Armstrong, single-head socket, with pin handle, finished, No. 967–A.
4 wrenches, Armstrong, single-head socket, with pin handle, finished, No. 967–D.
4 wrenches, Armstrong, single-head socket, with pin handle, finished, No. 969–A.
2 wrenches, Armstrong, 22½-degree angle, double head for hexagonal cap screws, finished, No. 671–D.
2 wrenches, Armstrong, 22½-degree angle, double head, for hexagonal cap screws, finished, No. 671–E.
2 wrenches, Armstrong, 22½-degree angle, double head, for hexagonal cap screws, finished, No. 672–E.
2 wrenches, Armstrong, 22½-degree angle, double head, for hexagonal cap screws, finished, No. 673–D.
2 wrenches, Armstrong, 22½-degree angle, double head, for hexagonal cap screws, finished, No. 673–E.
2 wrenches, Armstrong, 22½-degree angle, double head, for hexagonly cap screws, finished, No. 674–D.
2 wrenches, Armstrong, 22½-degree angle, double head, for hexagonal cap screws, finished, No. 674–E.
2 wrenches, Armstrong, 22½-degree angle, double head, for hexagonal cap screws, finished, No. 675–E.
2 wrenches, Armstrong, 22½-degree angle, double head, for hexagonal cap screws, finished, No. 676–D.
24 wrenches, Crescent, 4-inch.
26 wrenches, Crescent, 6-inch.
16 wrenches, Crescent, 8-inch.
12 wrenches, Crescent, 10-inch.
2 wrenches, monkey, 12-inch.
24 wrenches, monkey, Billings & Spencer, No. A, nickel-plated.
24 wrenches, monkey, Billings & Spencer, No. E, nickel-plated.
12 wrenches, open-end, No. 25.
12 wrenches, open-end, No. 28.
12 wrenches, open-end, No. 731–A.
12 wrenches, open-end, Billings & Spencer, No. 499.
12 wrenches, open-end, Billings & Spencer, No. 1104.
12 wrenches, open-end, Billings & Spencer, No. 1109.
12 wrenches, open-end, Billings & Spencer, No. 1125.
2 wrenches, pipe, Stillson, 10-inch, solid handle.
2 wrenches, patent ratchet, Starrett, No. 443–A, sets.
12 wrenches, Sterling, No. 5.
12 wrenches, Sterling, No. 1.
2 wrenches, tap T, 4-inch.
2 wrenches, tap T, 5½-inch.

MACHINERY.

2 lathes, 9 or 11 inch, screw-cutting engine, 5 or 6 foot bed, complete with attachments, with bench legs and without countershaft, 1-horsepower, 110-volt motor, direct current (motor to be mounted under lathe by the Signal Corps), with rheostat belts, etc; motor, rheostat, and starting switch to be furnished by the manufacturer, together with the following equipment for each lathe:

1 center, half.
4 centers, point.
1 center, spur.

1 center, square.
1 chuck, combination, scroll, Westcott, spur geared, 10⅛-inch, four-jawed.
1 chuck, combination, scroll, Westcott, spur geared, 10⅛-inch, three-jawed.
1 chuck, drill, 0 to ½ inch, Jacobs.
1 chuck attachment, draw-in.
13 collets for draw-in chuck attachment, 1 each of the following sizes: ⅛, 0.15, 0.20, 3/16, 7/32, ¼, 9/32, 5/16, ⅜, 7/16, ½, ⅝, 9/16 inch.
1 gears, change, set.
1 gears, metric, transferring, with index, set.
1 milling attachment, complete, with draw-in chuck, ⅞-inch arbors, and collars.
1 pad, drill.
1 plate, face, large.
1 plate, face, small.
1 post, tool, with rings and gibs.
1 rest, follow.
1 rest, steady.
1 taper attachment.
2 drills, hand, portable, electric, Little Giant, for 110-volts direct current, fitted with chuck to take up to ½-inch S. S. drills.
2 drills, bench, Hisey-Wolf, electric, sensitive, type X, 110-volts, direct current, fitted with No. 2 Morse taper. (It is understood that regular drill as supplied with No. 1 Morse taper, but for Signal Corps work is absolutely necessary that the No. 2 Morse taper be furnished, with V cup and point centers. To be furnished with 4 extra sets of brushes for motor. 2 chucks drill, Jacobs, 0 to 17/32 inch, to be fitted to drill by the manufacturer, chuck to have No. 2 Morse taper shanks.
2 grinders, tool post, Hisey-Wolf, type 2–A. S. D., 110-volts, direct-current motor, ¼ horsepower, with two extra sets of brushes for motors and extra fuses for attachment plug.
2 grinders, pedestal, Hisey-Wolf, type F, ½-horsepower motor, 110-volts, direct current, fitted with a twist-drill grinder to grind drills from ⅛ to 2 inches; 2 mandrels for internal grinding.

ELECTRICAL SUPPLIES AND INSTRUMENTS FOR THE WIRING OF PORTABLE MACHINE SHOPS.

300 cable, stage, No. 14, feet. (Page 1024, No. 660130, 1915 Western Electric catalogue.)
300 conductor, duples, stranded, No. 10, feet. (Page 1011, No. 660130, 1915 Western Electric catalogue.)
30 fuses, end, N. E. C., 10 amperes.
20 fuses, end, N. E. C., 20 amperes.
20 fuses, end, N. E. C., 30 amperes.
8 guards, lamp, water-tight, portable, No. 432 (list 105380, bulletin No. 9745, page 15, 1913 Western Electric catalogue).
2 instruments, Weston, duples, model No. 39 (page 115, list No. 320470, 1915 Western Electric catalogue); range for amperes, scale 60 amperes; range for volts, scale 150 volts.
20 lamps, incandescent, 110 volts, 16 candlepower, carbon filament.
8 reflectors, gangway, guarded, water-tight, No. 451, complete with lamp sockets, globes, etc. (list No. 116341, Bulletin No. 9690, page 103, 1913 Western Electric catalogue).

10 switches and receptacles, No. 478, with 4 extra plugs (list No. 111010, page 31, bulletin No. 9750, 1913 Western Electric catalogue).
4 switches, double pole, single throw, on slate base, front connected, 250 volts, 30 amperes, fused (No. 540123, page 705, 1915 Western Electric catalogue.

VULCANIZERS AND VULCANIZING MATERIAL.

2 bags, air, vulcanizing, sets.
10 fabric, friction, Michelin, pounds.
5 gum, semicured, Michelin, pounds.
5 gum, thread, Michelin, pounds.
5 gum, tube, Michelin, pounds.
2 lasts, tire, Miller's.
1 tool, vulcanizing, Miller's, set.
2 vulcanizers, Miller's, to take up to 6½ inches, inclusive.

MISCELLANEOUS HARDWARE AND INSTRUMENTS,

INCLUDING FIELD GLASSES, BAROGRAPHS, WATCHES, ETC.

36 bags, water, desert, 5-gallon capacity.
10 baragraphs, pocket, Richards, 20,000 feet.
6 barometers, aneroid, 12,000 feet.
25 belting, leather, single ply, 1¼-inch, feet.
25 belting, leather, single ply, 1½-inch, feet.
3 bottles, glass, with glass stoppers, 1-gallon capacity.
40 boxes, tool, steel, No. B–2810, Equipment Co. catalogue No. 7.
50 brushes, camel hair, flat, 2½-inch.
25 brushes, camel hair, flat, 3-inch.
2 brushes, stencil.
48 cans, galvanized-iron, 2-gallon capacity, with screw top and screw spout.
24 cans, galvanized-iron, 5-gallon capacity, with screw top and screw spout.
36 cans, squirt, copper, ½-pint capacity.
200 checks, brass for wire.
2,000 cartridges, Very, assorted colors.
24 compasses, pocket, small.
4 desks, field, Signal Corps.
2 dusters, bench.
50 extinguishers, fire, Pyrene, with holders.
50 faucets, brass, ¾-inch pipe tap.
25 flashlights, electric.
36 funnels, copper, Dover, flat, No. 27.
12 funnels, copper, Dover, No. 40.
12 glasses, field, type EE, with cases and straps.
24 gloves, rubber, assorted sizes, pairs.
6 holders, barometer with straps.
12 kits, inspector's, pocket.
12 kits, toll, steel, Kennedy.
25 lanterns, Dietz, railroad type.
18 measures, copper, 1-quart capacity.
12 measures, copper, 1-gallon capacity.
18 motometers, Boyce Standard, large size.
12 oilers, copper, straight spout, ½-pint capacity.
26 oilers, copper, straight spout, 1-pint capacity.
25 padlocks, Yale, 1½-inch.

12 pistols, Very.
2 spotlights, No. 2, S. & M. Lamp Co., Los Angeles, Cal.
1 stencil, brass, 2-inch letters and numbers, set.
25 tanks, Presto, type "B."
2 tanks, welding, Presto, style "WN."
2 tanks, welding, oxygen, Superior, large size.

OFFICE SUPPLIES.

1 cabinet, filing, to consist of—
- 1 two-drawer correspondence unit, No. 9010.
- 1 two-drawer correspondence unit, No. 90102.
- 1 top unit.
- 1 base unit.
- 1 two-tray cabinet, 3 by 5 inch cards.

1,000 cards, white, 3 by 5 inches.
300 folders, correspondence size, manila.

Above filing cabinet to be ordered from the Library Bureau, Houston, Tex. It is suggested that the department aviation officer, Southern Department, be requested to furnish a copy of the last order placed with the Library Bureau for a filing cabinet for use of the third and fourth squadron. This is the most satisfactory cabinet for use of a squadron.

5 typewriters, 10-inch carriage.
2 typewriters, 14-inch carriage.
12 typewriters, portable (Corona).

MAGNETO TOOLS FOR BOSCH MAGNETOS.

1 die, 2 mm., No. 159.
1 die, 2.6 mm., No. 163.
1 die, 3 mm., No. 165.
1 die, 3.5 mm., No. 167.
1 die, 4 mm., No. 169.
1 die, 4.5 mm., No. 171.
1 die, 5 mm., No. 173.
1 die, 5.5 mm., No. 175.
1 die, 6.55 mm., No. 177.
1 die, $\frac{7}{32}$, No. 179.
1 die, $\frac{5}{16}$, No. 181.
1 die, $\frac{3}{8}$, No. 183.
1 extractor, ring, No. 60.
1 extractor, ring, No. 61.
1 extractor, ring, No. 62.
1 extractor, ring, No. 63.
1 file, slot, No. 140.
1 file, slot, No. 141.
1 file, slot, No. 142.
1 fixture, No. 82.
1 fixture, No. 83.
1 frame, puller bearing ring, No. 68.
4 gaps, spark, double, sets.
1 plug, taper, No. 61b.
1 plug, taper, No. 90.
1 protector, disk, No. 92.
1 protector, disk, No. 93.
1 protector, disk, No. 94.
1 protector, disk, No. 95.
1 protector, disk, No. 96.
1 protector, thread, No. 99.
1 protector, thread, No. 100.
1 punch, gear, No. 89.
1 punch, ring, No. 85.
1 punch, ring, No. 86.
1 punch ring, No. 87.
1 punch, ring, No. 88.
1 reamer, No. 109.
1 reamer, No. 110.
1 reamer, expansion, size 15, No. 123.
1 reamer, expansion, size 17, No. 125.
1 reamer, taper, No. 3–No. 113.
1 reamer, taper, No. 4–No. 114.
1 reamer, taper, No. 5–No. 115.
1 ring, cone, No. 71.
1 ring, cone, No. 72.
1 ring, cone, No. 73.
1 ring, cone, No. 74.
1 ring, cone, No. 75.
1 ring, cone, No. 76.
1 ring, cone, No. 77.
1 ring, cone, No. 78.
1 screwdriver, slotted, No. 47.
1 slot, Miller, No. 1–No. 143.
1 slot, Miller, No. 3–No. 144.
1 slot, Miller, No. 5–No. 145.
1 spanner, No. 40.

1 spanner, No. 106.
1 stand, armature, test.
1 taps, set, 2 mm., No. 158.
1 taps, set, 2.6 mm., No. 162.
1 taps, set, 2 mm., No. 164.
1 taps, set, 3.5 mm., No. 166.
1 taps, set, 4 mm., No. 168.
1 taps, set, 4.5 mm., No. 170.
1 taps, set, 5 mm., No. 172.
1 taps, set, 5.5 mm., No. 174.
1 taps, set, 6.55 mm., No. 176.
1 taps, set, $\frac{7}{32}$, No. 178.
1 taps, set, $\frac{5}{16}$, No. 180.
1 taps, set, $\frac{3}{8}$, No. 182.
1 tap, plug, 19.6 mm., No. 184.
1 wrench, spanner, No. 102.
1 wrench, spanner, No. 104.
1 wrench, socket, No. 11.
1 wrench, socket, No. 12.
1 wrench, socket, No. 19.
1 wrench, socket, No. 20.
1 wrench, socket, No. 21.
1 wrench, socket, No. 22.
1 wrench, socket, No. 23.
1 wrench, socket, No. 30.
1 wrench, socket, No. 31.
1 wrench, socket, No. 34.
1 wrench, socket, No. 50.
1 wrench, No. 151.
1 wrench, No. 152.
1 wrench, No. 153.
1 wrench, No. 154.
1 wrench, No. 155.
1 wrench, No. 156.
1 wrench, No. 157.

HANGARS, CANVAS, AND MAINTENANCE PARTS.

12 hangars, canvas, aeroplane, to be according to latest specifications.
24 blocks, double, 4-inch, wooden.
24 blocks, single, 4-inch, wooden.
200 stakes, 3-foot, as furnished with the hangars.

TRANSPORTATION.

AUTOMOBILES.

1 automobile, Cadillac, latest model, with the following maintenance parts:
- 2 bands, brake.
- 2 bearings, connecting rod, No. FF321.
- 2 brushes, motor, FF1107.
- 1 bumper, front.
- 1 bumper, rear.
- 4 chains, weed.
- 3 clips, water connection, FF576.
- 6 clips, water connection, FF579.
- 2 connections, water, FF577.
- 2 connections, water, FF576.
- 2 connections, water FF575.
- 2 covers, tire.
- 1 pan, oil.
- 2 pins, wrist, FF317.
- 2 pistons, FF308.
- 8 plugs, spark, Splitdorf, $\frac{7}{8}$-18, A.L.A.M.
- 6 rings, piston, FF309.
- 3 rings, piston, FF310.
- 1 spot light, 5-inch.
- 2 springs, front, FF2807.
- 1 spring, left, rear.
- 1 spring, right, FF2813.
- 2 springs, valve, FF281.
- 8 tires, 37 by 5.
- 8 tubes, inner, 37 by 5.
- 2 valves, FF279.
- 2 valves, FF280.
- 2 wheels, extra.

MOTOR TRUCKS.

25 motor trucks and spare parts (type not known).

Specifications for motor trucks should include the following articles:

1 bucket, galvanized-iron, 14-quart capacity.
1 can, galvanized-iron, 2-gallon capacity, for oil.
1 can, galvanized-iron, 5-gallon capacity, for gasoline.
1 chain, tow, 25 feet long, $\frac{3}{8}$ by 1 inch.
1 cover, truck.
1 extinguisher, fire, Pyrene, with bracket.
1 funnel, copper.

MOTOR CYCLES AND SPARE PARTS.

6 motor cycles, Indian, model N–1917, Harley-Davidson, model J, 1917J, electrically equipped, complete with side cars.

Maintenance parts, 6 months' allowance, for total number of machines:

Part No.	Description.	Quantity.
N4	Flywheel thrust washer	4
N8X	Pitman rods, complete	1
N20	Pitman rods, upper bushings	4
N32	Pitman rods, roller bearing roller	50
N36	Pitman rods, roller bearing roller retainer	4
N40	Crank shaft	2
N44	Crank shaft nut	4
N48	Crank shaft nut lock washer	4
N52	Crank shaft nut lock screw	8
N56	Driving shaft	2
N60	Driving shaft flywheel key	2
N64	Driving shaft oil deflector collar	2
N76	Driving shaft sprocket	2
N80	Driving shaft sprocket key	4
N98	Pinion shaft pinion	1
N102	Pinion shaft pinion key	1
N106	Pinion shaft pinion screw	4
N166	Motor base gear case cover gasket	2
N170	Motor base gear case cover screw	4
N186	Motor base left half center bushing	1
N198	Motor base top center bolt	2
N202	Motor base top center bolt nut	8
N218	Motor base from anchor plate bolt, $\frac{5}{16}$-inch	4
N210	Motor base front anchor plate bolt, nut	50
N222	Motor base and kick starter bracket bolt, $\frac{5}{16}$-inch	4
N214	Motor base and kick starter bracket bolt lock washer	50
N234	Motor base short bolt nut	50
N238	Motor base and frame lug bolt, $\frac{7}{16}$-inch	4
N242	Motor base and frame lug bolt nut	8
N246	Motor base and frame lug bolt lock washer	25
N250	Motor base and frame lug bolt, rear	4
N262	Motor base oil drain screw	4
N270	Motor base oil gauge glass	4
N278	Motor base oil gauge glass cork washer	8
N282	Motor base oil gauge glass paper washer	8
N286	Motor base oil gauge glass ring nut	2

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Part No.	Description.	Quantity.
N290X	Motor base air relief tube, complete	1
N322	Compression release valve and gear	1
N326	Intermediate gear	1
N330	Intermediate gear bushing	1
N370X	Cylinder, front	1
N374X	Cylinder, rear	1
N378	Cylinder stud	8
N382	Cylinder stud nut	8
N386	Cylinder seat gasket	4
N398X	Cylinder exhaust tube, rear	2
N402X	Cylinder exhaust tube, front	4
N406	Cylinder exhaust tube union nut	2
N418	Cylinder valve hole plug gasket	20
N422	Pistons	4
N424	Piston rings	12
N428	Piston crosshead pins	2
N432	Piston crosshead pins, dowel	4
N450	Intake valve	2
N454	Exhaust valve	2
N458	Intake and exhaust valve spring	8
N462	Intake and exhaust valve spring collar	4
N466	Intake and exhaust valve spring collar key	4
N474	Dust cover sleeve, upper	2
N478	Dust cover sleeve, lower	2
N482	Intake and exhaust cam	1
N486	Intake and exhaust cam shaft	1
N498	Intake valve guide	2
N502	Intake push rod	2
N506	Intake push rod adjusting screw	4
N510	Intake push rod adjusting screw lock nut	8
N518	Intake valve lift, front	1
N522	Intake valve lift, rear	1
N534	Intake valve lift lever, front	1
N538	Intake valve lift lever, rear	1
N582	Intake valve lift lever stud	2
N546	Intake valve lift lever stud bushing	2
N550	Intake valve lift lever stud cover bushing	2
N554	Exhaust valve guide	2
N558	Exhaust valve push rod	2
N566X	Exhaust valve lift, front	1
N570X	Exhaust valve lift, rear	1
N582	Exhaust valve relief pinion shaft	1
N616	Exhaust valve relief cam	1
N630X	Spark plug, complete	10
N638	Spark plug cable clip	4
N700	Muffler, complete	2
N720	Muffler shell	2
N732	Muffler rear head clip screw	4
N800X	Speed and throttle control lever	4
N808	Speed and throttle control shaft	2
N812	Speed and throttle control lever screw	4
N820	Speed and throttle control upper clevis	2
N824	Speed and throttle control upper screw	4
N616	Small cotter pins	50
N836	Speed control rod lower clevis	2
N1000X	Carburetor, complete	1

Part No.	Description.	Quantity.
N1072	Needle valve lift lever	2
N1112	Cam, complete	1
N1116	Low speed lock screw	1
N1168	Friction spring	1
N1124X1	Air valve, complete	1
N1196	Manifold clamping screw	3
N1208	Manifold tubes	2
N1212	Manifold tubes nuts	2
N1250X	Gasoline injector	1
N1304X	Primer cup, complete	4
N1350X	Handlebar, complete	1
N1354X	Handlebar top only	1
N1370	Handlebar clamp, upper	1
N1374	Handlebar clamp, lower	1
N1378	Handlebar clamp screw	4
N1386	Handlebar clamp screw, rear	4
N1392	Handlebar grips	4
N1428X	Handlebar grips control, flexible shaft	2
N1436	Handlebar universal connection	2
N1440	Handlebar universal connection rivet	8
N1448	Flexible shaft milled connection	12
N1452	Flexible shaft milled connection rivet	12
N1456	Flexible shaft link, long	4
N1460	Flexible shaft link, short	4
N1464	Upper universal connection	4
N1468	Outer telescoping shaft	4
N1472	Inner telescoping shaft	4
N1476	Control ball	4
N1480	Control ball straight pin	20
N1500	Head, upper, cup	2
N1504	Head, lower, cup	2
N1508	Head adjusting cone	2
N1516	Head, lower, fork cone	2
N1520	Head ball	50
N1550X	Fork, complete	1
N1554X	Fork frame	1
N1598	Fork stem plate screw	4
N1622	Fork mainspring	2
N1626	Fork mainspring reinforcing spring	2
N1620	Fork mainspring stud	2
N1634	Fork mainspring stud oil screw	4
N1638	Fork mainspring stud oil washer	4
N1642	Fork mainspring stud nut	20
N1646	Fork mainspring stud lock ring	25
N1654	Spring plate	2
N1662	Fork spring bolt	8
N1666	Fork bell crank	2
N1674	Fork bell crank stud	4
N1678	Fork side stud washer (inside)	4
N1688	Fork side stud washer (outside)	4
N1690	Fork side stud nut	8
N1694	Lock rings	25
N1698X	Connection links	4
N1704	Connection links lower fitting pin	4
N1708	Lock rings	25
N1716	Connection link upper fitting stud	2

Part No.	Description.	Quantity.
N1728.....	Connection link stud sleeve.....	4
N1750X.....	Frame.....	1
N1812X.....	Frame, rear fork crown, with sides and ends.....	1
N1832.....	Hinge pin set screw.....	2
N1856.....	Chain adjusting screw.....	2
N1860.....	Chain adjusting screw washer.....	2
N1864X1....	Frame, rear springs, complete.....	1
N1912.....	Rubber bumpers.....	6
N1916.....	Rubber bumpers clip.....	4
N1920.....	Rubber bumpers clip screw.....	4
N1924.....	Rubber bumpers clip screw nut.....	4
N1952.....	Rear spring front bolt.....	4
N2220.....	Clutch tension spring plate lock ring screw washer....	4
N2288.....	Clutch lever spring strap screw.....	8
N2292.....	Clutch hand operating lever clevis.....	2
N2302.....	Clutch hand operating lever clevis nut.....	20
N2314.....	Clutch plunger adjusting screw.....	4
N2318.....	Clutch plunger adjusting screw nut.....	4
N2322.....	Clutch release foot lever.....	1
N2326.....	Clutch release foot lever spring.....	12
N2330X.....	Clutch release foot lever shaft and lever.....	1
N2342.....	Clutch release foot lever shaft nut.....	2
N2346.....	Clutch release foot lever shaft nut washer.....	8
N2350XL....	Gas tank, left.....	1
N2350XR...	Gas tank, right.....	1
N2352X.....	Gas tank filler cap.....	2
N2358X.....	Gas tank shut-off valve.....	2
N2370.....	Gas tank rear clip.....	2
N2372.....	Gas tank rear squadron screw.....	8
N2376.....	Gas tank rear clip screw.....	8
N2380.....	Gas tank center slip.....	2
N2386.....	Gas tank front clip.....	2
N2390.....	Gas tank magneto cable rear clip.....	2
N2400X.....	Gas tank and carb. tube and nuts.....	2
N2404.....	Gas tank and carb. tube nut.....	4
N2406.....	Gas tank and carb. tube cone.....	4
N2408.....	Gas tank and carb. tube nut.....	4
N2418.....	Gas tank bottom clamping screw.....	8
N2420.....	Gas tank bottom clamping screw nut.....	8
N2452XI....	Oil tank complete.....	1
N2454X.....	Oil tank camp.....	2
N2464.....	Oil tank frame ship.....	2
N2474XI....	Oil pump plunger rod complete.....	2
N2496.....	Oil pump inlet valve spring.....	4
N2498.....	Oil pump inlet valve ball.....	4
N2500.....	Oil pump outlet valve.....	2
N2502.....	Oil pump outlet valve spring.....	2
N2504.....	Oil pump outlet valve ball.....	2
N2506.....	Oil pump outlet tube and nuts.....	2
N2512.....	Oil pump outlet tube motor base elbow.....	2
N2600.....	Automatic oiler worm.....	1
N2604.....	Automatic oiler worm key.....	1
N2612X.....	Automatic oiler worm gear.....	1
N2640X.....	Automatic oiler driving block.....	1
N2712X.....	Automatic oiler and tank tube.....	2
N2796.....	Automatic oiler outlet tube and nuts.....	2

Part No.	Description.	Quantity.
N2724	Automatic oiler primer screw	12
N2728	Automatic oiler primer screw washer	12
N2836X	Rear mud guard	1
N2844	Rear mud guard clip	1
N2848	Rear mud guard clip screw	6
N2868	Rear mud guard front brace, left	1
N2880	Rear mud guard front brace, right	1
N2908	Rear mud guard rear brace, right	1
N2924	Rear mud guard rear brace, left	1
N2912	Rear mud guard rear brace screw	6
N2928	Rear mud guard rear brace screw	6
N2950X	Front wheel complete	1
N2950	Front wheel hub complete	1
N2958	Front wheel hub cone complete	2
N2970	Hub center axle	2
N2994	Hub ball	100
N2000	Wheel rim	1
N3004	Front hub lock washer	4
N2974	Front hub axle nuts	4
N3012	Front hub spokes	100
N3020	Front hub spokes nipples	100
N3050X	Rear wheel complete	1
N4000X	Brake complete	2
N4012	Stationery cone	1
N4024	Hub adjusting cone	1
N4034	Hub ball	20
N4044	Hub center axle	1
N4060	Sprockett lock nut	1
N4048	Hub axle nut	2
N4088	Clip binding screw	3
N4092	Clip binding screw nut	4
N4096X	Bank and lining	2
N4164	Inside operating shaft	2
N4200X	External brake band complete	3
N4168	Internal brake band lever	2
N4280	Clevis pin	2
N4250	Foot brake pedal	1
N4254	Foot brake pedal pin	1
N4258	Foot brake pedal pin cotter pin	6
N4262	Foot brake pedal screw	6
N4266	Foot brake pedal screw nut	6
N4270	Foot brake pedal spring	2
N4274	Foot brake pedal clevis, right	2
N4278	Foot brake pedal clevis nut	2
N4282	Foot brake pedal clevis pin	4
N4290X	Brake connection rod	1
N4294	Foot brake pedal and rod clevis, left	2
N4298	Foot brake pedal and rod clevis, left, nut	2
N4320X	Long chain	3
N4324X	Short chain	3
N4348X	Double links	8
N4360X	Half connecting links	8
N4448	Rear guard screw	4
N4500	Rear stand	1
N4548	Rear stand sleeve screw	4
N4540	Rear stand spring sleeve	4

Part No.	Description.	Quantity.
N4544	Rear stand spring sleeve washer	4
N4552	Rear stand spring carrier	2
N4556	Rear stand spring carrier rivet, short	50
N4560	Rear stand spring carrier rivet, long	25
N4704X	Kick starter and gear segment	1
N4716	Kick starter crank foot lever	1
N4720	Kick starter crank foot lever screw	2
N4728	Kick starter rubber	4
N4720	Kick starter lever screw	2
N4720	Kick starter rubber screw	8
N4744	Kick starter crank spring	3
N4752	Kick starter crank strap	3
N4772	Kick starter stud	2
N4780	Kick starter stud nut	2
N4776	Kick starter stud washer	2
N4784X	Kick starter stud sleeve	1
N4800	Kick starter stud bracket	1
N4804	Kick starter pinion	2
N4808	Kick starter pinion spring	3
N4812	Kick starter pinion spring dust cap	3
N4816	Kick starter pinion ratchet plate	1
N4820	Kick starter pinion shaft	1
N4824	Kick starter pinion shaft and clutch plate rivet	50
N4850X1	Foot board, complete with mat	3
N4874	Foot board front bracket	2
N4878	Foot board front bracket hinge pin	25
N4882	Foot board front bracket hinge pin	50
N4886	Foot board rear bracket	1
N4889	Foot board rear bracket screw	6
N4958X	Three-speed gear case, complete	1
N4966	Three-speed gear case anchor stud	2
N4970	Three-speed gear case anchor stud nut	4
N5010	Three-speed gear case cover stud nut	4
N5022	Three-speed oil inlet screw	4
N5026	Three-speed oil inlet screw washer	4
N5030X	Three-speed main shaft	1
N5042X	Three-speed ball-bearing, right	1
N5046X	Three-speed ball bearing, left	1
N5176	Safety lock spring	4
N5088	Counter shaft sprocket	2
N5216	Plunger rod	2
N5232X	Plunger worm	1
N5292	Hand-operating lever stud	2
N5296	Hand-operating lever stud washer	2
N5302	Hand-operating lever stud nut	8
N5338	Upper operating rod clevis	2
N5342	Upper operating rod clevis pin	4
N5354	Upper operating rod	1
N5500X	Magneto complete	1
N5538	Brush holder support R	1
N5540	Brush holder support L	1
N5558	Carbon brushes, spring	4
N5634	Breaker bar spring	2
N5622	Buffer spring	2
.....	Casings Firestone nonskid or Goodyear Blue Streak	21
.....	Tubes, inner, Goodyear but on lap end	21

Maintenance parts, six months' allowance in case Harley-Davidson motorcycles are furnished.

Part No.	Description.	Quantity.
FA734	Arms, lifter, complete	2
FA733	Arms, roller, exhaust, complete	1
FF8	Axles, front	7
P29	Axles, pedal	12
DG355	Axles, rear	7
DG552	Balls, countershaft, sets	2
BO4053	Balls, ¼-inch	80
DG536	Bearings, pull-rod	7
CK688	Boards, foot, complete	4
EA370	Bolts, inlet-lever	6
FF48	Brakes, coaster, complete	2
EA745	Bushings, inlet-lever	6
DA51	Bushings, shaft	4
FA742	Inlet housings	4
FA791	Caps, inlet push-rod	5
EK30	Caps, oil-tank	7
EK744	Carburetor, Shebler, complete	1
FA702	Crank case, complete	1
	Casings, nonskid, Firestone	21
DA860	Oiler, gear, mechanical	2
CK9	Clips, adjusting, axle	14
DG86	Clutches, complete	2
AA7	Collars, inlet-valve	7
AA26	Collars, exhaust-valve	7
EE66	Cones, lower, head	2
EE65	Cones, upper, head	2
CD205	Controls, complete	10
EG647	Cranks, starter	2
FE7	Clip, left rear axle	2
AD700	Cylinder, front	1
AD701	Cylinder, rear	1
AG6	Friction disks, complete	28
CG5	Releasing disks, complete	7
EC1502	Forks, front, sets, complete	3
CA763	Gaskets, connection	14
AD1	Grips, handlebar, rubber	14
ED300H	Handlebar, complete	1
EA742	Housings, inlet	2
BA43	Keys, exhaust-valve	12
BA750	Keys, inlet-valve	7
AA749	Keys, shaft	6
EG551	Levers and rods, hand-operated, complete	2
EA346A	Levers, inlet	4
EK309	Lines, gasoline, complete	3
DK712	Links, connecting	100
DK315	Links, offset	100
EK10008	Generator, Remy, complete	1
DX1037	Armature, assembled	1
FA783	Manifold, intake, complete	1
BO663	Nuts, inlet-lever	6
BO707	Nuts, crank-shaft	8
CA674	Nuts, cylinder, stud	8
FO751	Nuts, front axle	14

Maintenance parts, six months' allowance in case Harley-Davidson motorcycles are furnished—Continued.

Part No.	Description.	Quantity.
BO693	Nuts, rear axle	14
EO695	Nuts, shaft	8
EO723	Nuts, spare, for gas tank	7
EO687	Nuts, kick-starter	20
FK273	Pedals, complete	6
DK445	Pipes, oil-drive, case	3
DA736	Pistons	2
	Plates, clutch, complete set	5
FA741	Plugs, cylinder	2
DK780	Primers, assembled	6
DB75	Pumps, oil, parts for, complete	2
FK469	Release, foot, for clutch	2
DG534	Retainers, clutch-sprocket	2
AA11	Piston rings	42
DG536	Rods, clutch, pull	7
DA812	Rods, connecting with rollers	2
FA790	Rods, push, inlet-valve	5
DA811	Rollers, and retainers, sets	2
CA807	Rollers, clutch-sprocket	50
BO154	Screws, housing, lock	6
DA744	Screws, inlet-valve	7
CKO8	Screws, rear-axle, adjusting, short	10
EK8	Screws, rear-axle, adjusting, long	10
DA711	Shafts, crank	2
DA709	Shafts, gear	2
FA710	Shafts, sprocket	2
	Spokes, and nipples, front	80
	Spokes, and nipples, rear	80
DG24	Springs, clutch, tension	25
EA170	Springs, exhaust-valve	7
EC11	Springs, fork	6
EA754	Springs, inlet-push-rod	5
CK700	Sprockets, 14-tooth	7
DG384	Sprockets, 40-tooth	3
EG663	Starters, rubber, sleeve	4
FG660	Starters for pedal assembly	2
FG662	Starter-pedal rubbers	10
EC6	Studs, rocker	10
BC5	Studs, front fork	25
FA62	Studs, cylinder	8
ED7007	Oil tanks, complete	3
FG501	Transmission case	2
FG500A	Transmission, complete	3
	Goodyear, cut or lap and inner tubes	21
SC63	Valves, air, intake, complete	7
EA752	Valves, exhaust	7
EA755	Valves, inlet	7
BO354	Washers, crank-pin lock	8
BO315	Washers, rear axle	14
FF807	Wheels, front, complete	7
FF42	Wheels, rear, complete	7
EE3107	Wheels, side-car	3

AEROPLANES AND SPARE PARTS.

12 aeroplanes (type not known. Spare parts will depend on type of aeroplanes furnished each squadron).

MAGNETOS AND MAGNETO PARTS.

Magnetos and magneto parts will depend on the type of motor furnished each squadron.

MOTORS AND MOTOR PARTS.

Motors and motor parts will depend on the type of motor furnished each squadron.

PHOTOGRAPHIC INSTRUMENTS AND SUPPLIES.

10 acid, acetic, pounds.
1 acid, hydrochloric, pound.
3 acid, pyrogallic, pounds (in 1-ounce packages).
1 acid, sulphuric, pound.
1 acid, nitric, pound.
1 acid, sulphurous, pound.
1 album, photography, 10 by 12 inches, loose leaf.
5 alum, powderedfi, pounds.
4 ammonia, pounds (strong, 26 per cent).
3 ammonia, persulphate of, pounds.
4 blotters, 19 by 24 inches, dozen.
1 brush, camel's-hair, 3-inch, rubberset.
6 brushes, spotting, sable, Nos. 1 to 6, inclusive.
1 brush, paste, 2-inch.
5 bags, water, desert, 1-gallon capacity.
1 board, drawing, 20 by 20 inches.
3 cameras, automatic, artillery type.
3 cameras, automatic, reconnoissance type.
1 camera, Graflex, 3¼ by 5½ inches, with carrying case.
1 camera, view, 6½ by 8½ inches, with carrying case.
½ copper, sulphate, pound.
1 camera, Century, lantern slide.
50 clips, wooden photo.
12 clips, Eastman, film-developing, 3½-inch.
1 cloth, focusing.
1 cotton, absorbent, pound.
200 developer, H. M., Ansco, tubes.
1 dividers, proportional, set.
120 films, for automatic aeroplane camera, rolls.
24 films, 3¼ by 5½ inches, 6-exposure, rolls.
10 formaldehyde, pounds.
2 frames, printing, heavy, 6½ by 8½ inches.
2 frames, printing, 5 by 7 inches.
4 funnels, glass.
1 fixing, hard-rubber, box, for 6½ by 8½ inch plate.
2 graduates, 32-ounce.
1 graduate, minum.
4 glass bottles, brown, 64-ounce, with glass stoppers.
2 glass bottles, brown, 32-ounce, with glass stoppers.
1 graduate, 8-ounce.
12 glasses, Coner, lantern, slide, dozen.
6 holders, plate, 6½ by 8½ inches.

1 house, portable, for developing.
1 hydroquinon, pound.
1 instrument, drawing, Keuffel & Esser, set.
1 ice plant, smallest size.
1 ink, India, stick.
1 iron, flat, 5-pound.
1 lens, anastigmat. 6½ by 8½ inches.
1 lantern slide box, Eastman, No. 2.
1 lamp, Eastman, studio, oil.
1 lamp, flash.
1 lens, 3¼ by 5½ inches.
1 machine, enlarging, 4 by 5 inches, with 110-volts, direct-current arc lamp, lens f. 7. 5. or f. 6. 3, anastigmat lens.
½ mercury, bichloride of, pound.
1 metol of rhodol, pound.
1 mortar and pestle.
1 machine, projecting, for lantern-slide work.
100 mounts, 22 by 28 inches, double weight.
½ nitrate of silver, pound.
1 opaque, cake.
10 paper, printing, 3¼ by 5½ inches. gross.
150 paper, printing, 4 by 5 inches, for aeroplane camera.
10 paper, printing, 6½ by 8½ inches, gross.
200 paper, cross section, 14 by 20 inches, sheets.
10 plates, 6½ by 8½ inches, dozen.
1 potassium, metabisulphite of, pound.
1 printer, amateur, Ansco.
1 protractor, celluloid.
1 potassium, bromide of, pound.
3 potassium, carbonate, pounds.
¼ potassium, ferricyanide, pound.
¼ potassium, iodine, pound.
12 plates, lantern slide, dozen.
1,000 preservers, negative, 6½ by 8½ inches.
2,500 preservers, negative, 4 by 5 inches.
2 preservers, negative, books, 3¼ by 5½ inches.
1 powder, flash, pound.
1 rule, slide.
1 rack, negative, 6½ by 8½ inches.
6 rods, glass, stirring, 12-inch.
1 roller, photo.
3 scales, boxwood (1 architect's, 1 engineer's, 1 metric).
50 soda, hyposulphite of, pounds.
1 soda, caustic, pound.
1 box, washing, for 6½ by 8½ inch plates.
10 soda, carbonate, pounds.
10 sodium, sulphite, pounds.
½ sodium sulphide, pound.
1 square, "T."
1 shears, 6-inch, pair.
1 scale, photo, Eastman, studio.
4 thermometers.
4 trays, enameled, 8 by 10 inches.
4 trays, enamel, 16 by 20 inches.
4 trays, wooden, special developing, for use with aeroplane camera.
1 triangle, drawing, 45 degrees, celluloid.
1 triangle, drawing, 30 and 60 degrees, celluloid.
1 tank, film, Kodak, 3½-inch.

10 tape, binding, lantern slide, packages.
1 table, folding, for dark room, tent house.
2 trays, enamel, 5 by 7 inches.
1 trimmer, paper, 10-inch.
1 tripod, Crown, No. 2.
6 tissues, Kodak, dry mounting, gross.

DRAWING INSTRUMENTS AND DRAWING MATERIAL.

1 board, drawing, 36 by 48 inches.
1 board, sketch, 14 by 20 inches.
1 cloth, tracing, roll.
2 curves, irregular.
6 erasers, art gum.
6 erasers, emerald.
1 instruments, drawing, set (best quality).
1 lifter, thumb tack.
1 paper, detail, roll.
2 pencils, 6–H, boxes.
2 pencils, B, boxes.
2 powder, tracing cloth, cans.
2 protractors.
1 scale, engineer; graduation, $\frac{1}{2}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 inch, flat.
1 scale, triangular, engineer; graduation, $\frac{1}{2}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 inch.
1 scissors, 6-inch, pair.
2 shields, erasing.
1 square, "T" wood, 18-inch.
1 square, "T," wood, 36-inch.
2 squares, set, 30-degree.
2 squares, set, 45-degree.
2 squares, set, 60-degree.
1 stand, drawing board.
6 tacks, thumb, dozen.

METALS AND METALING

FOR PORTABLE MACHINE SHOP.

48 aluminum, sheet, 15 gauge, square feet.
4 brass, sheet, spring, pieces, of the following sizes:
    1 by 15 feet by 0.002 inch.
    1 by 15 feet by 0.004 inch.
    1 by 15 feet by 0.008 inch.
    1 by 15 feet by 0.012 inch.
3 brass, soft, 18 gauge, 3 by 4 feet, sheets.
7 brass, rod, round, 12 feet long, 1 each of the following sizes: $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch.
3 brass, rod, round, 4 feet long, 1 each of the following sizes: $1\frac{1}{4}$, $1\frac{1}{2}$, 2 inches.
3 brass, rod, round, 3 feet long, 1 each of the following sizes: $2\frac{1}{2}$, 3, $3\frac{1}{2}$ inches.
5 brass, rod, hexagonal, 12 feet long, 1 each of the following sizes: $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 inch.
3 bronze, bearing, pieces, 1 piece each of the following sizes:
    24 by $\frac{9}{16}$ inch.
    24 by $1\frac{1}{2}$ inches.
    24 by $2\frac{1}{2}$ inches.

11 drill rod, Crescent, pieces, 1 each of the following sizes:
- 4 feet by $\frac{5}{64}$ inch.
- 4 feet by $\frac{7}{32}$ inch.
- 4 feet by $\frac{1}{4}$ inch.
- 4 feet by $\frac{5}{16}$ inch.
- 4 feet by $\frac{3}{8}$ inch.
- 4 feet by $\frac{1}{2}$ inch.
- 4 feet by $\frac{9}{16}$ inch.
- 4 feet by $\frac{5}{8}$ inch.
- 4 feet by $\frac{11}{16}$ inch.
- 4 feet by $\frac{3}{4}$ inch.
- 4 feet by 1 inch.

4 iron, cast, round pieces, 1 each of the following sizes:
- 24 by 2 inches.
- 24 by $2\frac{1}{2}$ inches.
- 24 by 3 inches.
- 24 by $3\frac{1}{2}$ inches.

1 iron, galvanized, sheet, 22 gauge, 3 by 6 feet.

6 steel, Bessemer, round, rods, 12 feet each of the following: $\frac{5}{32}$, $\frac{7}{32}$, $\frac{3}{16}$, $\frac{9}{64}$, $\frac{11}{64}$, $\frac{9}{32}$ inch.

6 steel, cold-rolled, round, rods, 20 feet each, 1 each of the following: $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$ inch.

9 steel, cold-rolled, round, rods, 12 feet each, 1 each of the following:

$\frac{9}{16}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch.

$1\frac{1}{16}$, $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{3}{4}$ inches.

7 steel, cold-rolled, round, rods, 4 feet each 1 each of the following: 2, $2\frac{1}{4}$, $2\frac{1}{2}$, $2\frac{3}{4}$, 3, $3\frac{1}{2}$, 4 inches.

9 steel, cold-rolled, hexagonal, 12 feet each, 1 each of the following: $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1 inch, $1\frac{1}{4}$ inches.

5 steel, cold-rolled, square, rods, 12 feet each, 1 each of the following: $\frac{5}{16}$, $\frac{7}{16}$, $\frac{5}{8}$, $\frac{7}{8}$, 1 inch.

6 steel, cold-rolled, flat, pieces, 1 each of the following sizes:
- 12 feet by $\frac{1}{16}$ by $\frac{7}{32}$ inch.
- 12 feet by $\frac{1}{16}$ by $\frac{3}{8}$ inch.
- 12 feet by $\frac{1}{16}$ by $\frac{1}{2}$ inch.
- 12 feet by $\frac{1}{16}$ by $\frac{3}{4}$ inch.
- 12 feet by $\frac{1}{16}$ by 1 inch.
- 12 feet by $\frac{1}{16}$ inch by 2 inches.

7 steel, cold-rolled, flat, pieces, 1 each of the following sizes:
- 12 feet by $\frac{1}{8}$ by $\frac{5}{8}$ inch.
- 12 feet by $\frac{1}{8}$ by $\frac{3}{4}$ inch.
- 12 feet by $\frac{1}{8}$ by $\frac{7}{8}$ inch.
- 12 feet by $\frac{1}{8}$ by 1 inch.
- 12 feet by $\frac{1}{8}$ inch by $1\frac{1}{8}$ inches.
- 12 feet by $\frac{1}{8}$ inch by $1\frac{1}{4}$ inches.
- 12 feet by $\frac{1}{8}$ inch by $1\frac{3}{4}$ inches.

6 steel, cold-rolled, flat, pieces, 1 each of the following sizes:
- 12 feet by $\frac{3}{16}$ by $\frac{1}{2}$ inch.
- 12 feet by $\frac{3}{16}$ by $\frac{5}{8}$ inch.
- 12 feet by $\frac{3}{16}$ by $\frac{3}{4}$ inch.
- 12 feet by $\frac{3}{16}$ by $\frac{7}{8}$ inch.
- 12 feet by $\frac{3}{16}$ by 1 inch.
- 12 feet by $\frac{3}{16}$ inch by $1\frac{1}{8}$ inches.

6 steel, cold-rolled, flat, pieces, 1 each of the following sizes:
- 8 feet by $\frac{1}{4}$ by $\frac{1}{2}$ inch.
- 8 feet by $\frac{1}{4}$ by $\frac{5}{8}$ inch.
- 8 feet by $\frac{1}{4}$ by $\frac{3}{4}$ inch.
- 8 feet by $\frac{1}{4}$ by $\frac{7}{8}$ inch.
- 8 feet by $\frac{1}{4}$ by 1 inch.
- 8 feet by $\frac{1}{4}$ inch by $1\frac{1}{8}$ inches.

3 steel, cold-rolled, flat, pieces, 1 each of the following sizes:
8 feet by $\frac{5}{16}$ by $\frac{1}{4}$ inch.
8 feet by $\frac{1}{2}$ inch by 2 inches.
8 feet by $\frac{5}{8}$ inch by 2 inches.
6 steel, cold-rolled, flat, fitting stock, pieces, 1 each of the following sizes:
8 feet by 0.025 inch by 6 inches.
8 feet by 0.030 inch by 6 inches.
8 feet by 0.050 inch by 6 inches.
8 feet by 0.070 inch by 6 inches.
8 feet by 0.128 inch by 6 inches.
8 feet by 0.134 inch by 6 inches.
3 tubing, copper, 20 gauge, B. & S., pieces, 50 feet each, 1 each of $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$ inch.
10 tubing, seamless, Shelby, pieces, 15 feet each, 1 each of $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{13}{16}$, $\frac{7}{8}$, $\frac{15}{16}$, 1 inch, $1\frac{3}{16}$, $1\frac{1}{4}$ inches.
8 zinc, sheet, 16 to 20 gauge, pounds.

MISCELLANEOUS EXPENDABLE MATERIALS

FOR MAINTENANCE OF AEROPLANES, MOTOR TRUCKS, AND MOTORCYCLES FOR THE FIRST SIX MONTHS.

Materials and supplies for maintenance of motor trucks and aeroplanes:
3 acid, hydrochloric, gallons.
1 acid, muriatic, gallon.
25 ammonia, pints (in bottles).
100 batteries, tungsten, type A (for flashlights).
5 beesewax, pounds.
3 blades, hack saw, fine, gross.
3 blades, hack saw, medium, gross.
3 blades, hack saw, coarse, gross.
48 blades, hack saw, 9-inch, No. 102, Starrett.
48 blades, hack saw, 9-inch, No. 103, Starrett.
48 blades, hack saw, 9-inch, No. 103½–B, Starrett.
25 blue, prussian, tubes.
5 bolts, stove, flat head, with nuts, $\frac{1}{2}$ by $\frac{3}{16}$ inch, gross.
5 bolts, stove, flat head, with nuts, 1 by $\frac{3}{16}$ inch, gross.
5 bolts, stove, flat head, with nuts, $1\frac{1}{2}$ by $\frac{3}{16}$ inch, gross.
5 bolts, stove, flat head, with nuts, 2 by $\frac{3}{16}$ inch, gross.
5 bolts, stove, flat head, with nuts, $\frac{1}{2}$ by $\frac{1}{4}$ inch, gross.
5 bolts, stove, flat head, with nuts, 1 by $\frac{1}{4}$ inch, gross.
5 bolts, stove, flat head, with nuts, $1\frac{1}{2}$ by $\frac{1}{4}$ inch, gross.
5 bolts, stove, flat head, with nuts, 2 by $\frac{1}{4}$ inch, gross.
5 bolts, stove, round head, with nuts, $\frac{1}{2}$ by $\frac{3}{16}$ inch, gross.
5 bolts, stove, round head, with nuts, 1 by $\frac{3}{16}$ inch, gross.
5 bolts, stove, round head, with nuts, $1\frac{1}{2}$ by $\frac{3}{16}$ inch, gross.
5 bolts, stove, round head, with nuts, 2 by $\frac{3}{16}$ inch, gross.
5 bolts, stove, round head, with nuts, $\frac{1}{2}$ by $\frac{1}{4}$ inch, gross.
5 bolts, stove, round head, with nuts, 1 by $\frac{1}{4}$ inch, gross.
5 bolts, stove, round head, with nuts, $1\frac{1}{2}$ by $\frac{1}{4}$ inch, gross.
5 bolts, stove, round head, with nuts, 2 by $\frac{1}{4}$ inch, gross.
10 brads, wire, flat head, $\frac{3}{8}$-inch, No. 18 wire.
10 brads, wire, flat head, $\frac{1}{2}$-inch, No. 18 wire.
10 brads, wire, flat head, $\frac{3}{4}$-inch, No. 18 wire.
10 brads, wire, flat head, 1-inch, No. 18 wire.
4 brass, spring, sheet, 0.002, square feet.
4 brass, spring, sheet, 0.004, square feet.
4 brass, spring, sheet, 0.006, square feet.
4 brass, spring, sheet, 0.008, square feet.
4 brass, spring, sheet, 0.010, square feet.

Materials and supplies for maintenance of motor trucks and aeroplanes—Continued.

4 brass, spring, sheet, 0.012, square feet.
4 bronze, welding, manganese, rods.
4 bronze, welding, Tabin, ¼-inch, rods.
100 bulbs, flashlight (Mazda, type A).
5 burrs, brass, No. 6, pounds.
5 burrs, brass, No. 7, pounds.
5 burrs, brass, No. 9, pounds.
24 burners, gas, acetylene.
3,000 cable, aviator, cord, nonflexible, -inch, feet; 1,000-foot spools.
3,000 cable, aviator, cord, nonflexible, ⅛-inch, feet; 1,000-foot spools.
3,000 cable, aviator, cord, nonflexible, 3/32-inch, feet; 1,000-foot spools.
3,000 cable, aviator, cord, nonflexible, -inch, feet; in 1,000-foot spools.
3,000 cable, aviator, cord, nonflexible, 9/64-inch, feet; in 1,000-foot spools.
3,000 cable, aviator, cord, nonflexible, 1/16-inch, feet; in 1,000-foot spools.
3,000 cable, aviator, cord, nonflexible, 3/16-inch, feet; in 1,000-foot spools.
3,000 cable, flexible, contron, wire center, ⅛-inch, feet; in 1,000-foot spools.
300 canvas, duck, 8-ounce, yards.
200 canvas, duck, 10-ounce, yards.
75 cells, dry, No. 6 Reserve type.
100 cement, Michelin Mastic, cans.
156 chamois, large, pieces.
600 cloth ,aeroplane, linen, yards.
500 cloth, crocus, sheets.
500 cloth, emery, fine, sheets.
500 cloth, emery, medium, sheets.
500 cloth, emery, coarse, sheets.
100 cloth, cheese, bolts.
10 compound, brazing, Appeal, cans
50 compound, valve-grinding, Clover Leaf, cans.
100 dope, Curtiss, gallons.
1 electrolyte, 1,300 c. p., gallon.
25 enamel, black, pint cans.
4 flux, aluminum, pounds.
4 flux, brass or bronze, pounds.
4 flux, cast-iron or steel, pounds.
200 gas-lead, Martin, flexible, weaved, feet.
10 glue, fish, pounds.
200 glue, Lepage's, liquid, gill cans.
5 grommets, Crow's, spur, brass, No. 4.
200 grease, graphite, Dixon, No. 5, pounds, 5-pound cans.
200 grease, graphite, Dixon, No. 676, pounds, 5-pound cans.
200 grease, graphite, Dixon, No. 677, pounds, in 5-pound cans.
24 handle, maul, assorted.
24 handles, ax.
10 hose, pure gum, 1-inch, pounds.
10 hose, pure gum, 1½-inch, pounds.
15 iron-welding, cast-iron, rods.
15 iron-welding, Swedish iron, rods.
3 keys, Woodruff, assorted, boxes.
500 lacing, rawhide, ¼-inch, feet

Materials and supplies for maintenance of motor trucks and aeroplanes—Continued.

7 linen, intrinsic silk, No. 12, spools.
3 lumber, hickory, 1½ by 10 inches by 10 feet net, straight-grain, clear, second-growth, pieces.
100 needles, surgeon, bent, assorted.
1 needles, sailmaker's dozen.
250 nuts, castellated, ⅜-inch, –24.
500 nuts, hexagon, head ¼-inch, –24.
500 nuts, hexagon, head $\frac{5}{16}$-inch, –24.
500 nuts, hexagon, head, 10–32.
500 nuts, hexagon, head, 8–32.
36 oil, 3 in 1, bottles.
10 paint, olive-drab, gallons.
200 paste, soldering, cans.
50 permanite, pounds.
5,000 pins, cotter, $\frac{3}{32}$ by 1 inch.
2,500 pins, cotter, ⅛ by 1 inch.
2,500 pins, cotter, $\frac{1}{16}$ by 1 inch.
10,000 pins, cotter, $\frac{5}{32}$ by 1 inch.
5 pins, escutcheon, brass, ¾-inch, pounds.
5 pins, escutcheon, brass, 1-inch, pounds.
10 Pyrene, fluid, gallons.
5 rivets and burrs, copper, ¾-inch, No. 8.
5 rivets and burrs, copper, ⅜-inch, No. 12.
5 rivets and burrs, copper, ⅜-inch, No. 14.
1,000 rivets, tinned, ¼-inch, 1½, pounds.
1,000 rivets, tinned, ¼-inch, 6, pounds.
1,000 rivets, tinned, ½-inch, 8, pounds.
800 rope, Manila, ⅜-inch, pounds.
1,500 rope, Manila, ½-inch, pounds.
1,000 sandpaper, fine, sheets.
1,000 sandpaper, medium, sheets.
1,000 sandpaper, coarse, sheets.
250 screws, machine, ¾-inch, 8–32, iron.
250 screws, machine, 2½-inch, 10–32, iron.
250 screws, machine, 3½-inch, 10–32, iron.
250 screws, machine, ½-inch, 8–32, iron.
250 screws, machine, ½-inch, 1–24, iron.
250 screws, machine, ¼-inch, 2–24, iron.
250 screws, machine, ¼-inch, 3–24, iron.
5 screws, wood, flathead, bright, ½-inch, No. 4, gross.
5 screws, wood, flathead, bright, ¼-inch, No. 4 gross.
5 screws, wood, flathead, bright, ⅜-inch, No. 4, gross.
5 screws, wood, flathead, bright, ¾-inch, No. 4, gross.
5 screws, wood, flathead, bright, 1-inch, No. 4, gross.
5 screws, wood, flathead, bright, ⅜-inch, No. 6, gross.
5 screws, wood, flathead, bright, ½-inch, No. 6, gross.
5 screws, wood, flathead, bright, ¾-inch, No. 6, gross.
5 screws, wood, flat head, bright, 1-inch, No. 6, gross.
5 screws, wood, flat head, bright, 1½-inch, No. 6, gross.
5 screws, wood, flat head, bright, ½-inch, No. 8, gross.
5 screws, wood, flat head, bright, ¾-inch, No. 8, gross.
5 screws, wood, flat head, bright, 1-inch, No. 8, gross.
5 screws, wood, flat head, bright, 1½-inch, No. 8, gross.
5 screws, wood, flat head, bright, 2-inch, No. 8, gross.
5 screws, wood, flat head, bright, ½-inch, No. 10, gross.
5 screws, wood, flat head, bright, ¾-inch, No. 10, gross.
5 screws, wood, flat head, bright, 1-inch, No. 10, gross.

Materials and supplies for maintenance of motor trucks and aeroplanes—Continued.

5 screws, wood, flat head, bright, 1½-inch, No. 10, gross.
5 screws, wood, flat head, bright, 2-inch, No. 10, gross.
5 screws, wood, flat head, bright, 2½-inch, No. 10, gross.
5 screws, wood, flat head, bright, 1-inch, No. 12, gross.
5 screws, wood, flat head, bright, 1½-inch, No. 12, gross.
5 screws, wood, flat head, bright, 2-inch, No. 12, gross.
5 screws, wood, flat head, bright, 2½-inch, No. 12, gross.
5 screws, wood, flat head, bright, 3-inch, No. 12, gross.
5 screws, wood, flat head, bright, 1-inch, No. 14, gross.
5 screws, wood, flat head, bright, 1½-inch, No. 14, gross.
5 screws, wood, flat head, bright, 2-inch, No. 14, gross.
5 screws, wood, flat head, bright, 2½-inch, No. 14, gross.
5 screws, wood, flat head, bright, 3-inch, No. 14, gross.
5 screws, wood, flat head, brass, ¼-inch, No. 4, gross.
5 screws, wood, flat head, brass, ⅜-inch, No. 4, gross.
5 screws, wood, flat head, brass, ½-inch, No. 4, gross.
5 screws, wood, flat head, brass, ¾-inch, No. 4, gross.
5 screws, wood, flat head, brass, 1-inch, No. 4, gross.
5 screws, wood, flat head, brass, ⅜-inch, No. 6, gross.
5 screws, wood, flat head, brass, ½-inch, No. 6, gross.
5 screws, wood, flat head, brass, ¾-inch, No. 6, gross.
5 screws, wood, flat head, brass, 1-inch, No. 6, gross.
5 screws, wood, flat head, brass, 1½-inch, No. 6, gross.
5 screws, wood, flat head, brass, ½-inch, No. 8, gross.
5 screws, wood, flat head, brass, ¾-inch, No. 8, gross.
5 screws, wood, flat head, brass, 1-inch, No. 8, gross.
5 screws, wood, flat head, brass, 1½-inch, No. 8, gross.
5 screws, wood, flat head, brass, 2-inch, No. 8, gross.
5 screws, wood, flat head, brass, ½-inch, No. 10, gross.
5 screws, wood, flat head, brass, ¾-inch, No. 10, gross.
5 screws, wood, flat head, brass, 1-inch, No. 10, gross.
5 screws, wood, flat head, brass, 1½-inch, No. 10, gross.
5 screws, wood, flat head, brass, 2-inch, No. 10, gross.
5 screws, wood, round-head, blue, 2½-inch, No. 10, gross.
5 screws, wood, round-head, blue, 1-inch, No. 12, gross.
5 screws, wood, round-head, blue, 1½-inch, No. 12, gross.
5 screws, wood, round-head, blue, 2-inch, No. 12, gross.
5 screws, wood, round-head, blue, 2½-inch, No. 12, gross.
5 screws, wood, round-head, blue, 3-inch, No. 12, gross.
5 scresw, wood, round-head, blue, 1-inch, No. 14, gross.
5 screws, wood, round-head, blue, 1½-inch, No. 14, gross.
5 screws, wood, round-head, blue, 2-inch, No. 14, gross.
5 screws, wood, round-head, blue, 2½-inch, No. 14, gross.
5 screws, wood, round-head, blue, 3-inch, No. 14, gross.
5 screws, wood, round-head, brass, ¼-inch, No. 4, gross.
5 screws, wood, round-head, brass, ⅜-inch, No. 4, gross.
5 screws, wood, round-head, brass, ½-inch, No. 4, gross.
5 screws, wood, round-head, brass, ¾-inch, No. 4, gross.
5 screws, wood, round-head, brass, 1-inch, No. 4, gross.
5 screws, wood, round-head, brass, ⅜-inch, No. 6, gross.
5 screws, wood, round-head, brass, ½-inch, No. 6, gross.
5 screws, wood, round-head, brass, ¾-inch, No. 6, gross.
5 screws, wood, round-head, brass, 1-inch, No. 6, gross.
5 screws, wood, round-head, brass, 1½-inch, No. 6, gross.
5 screws, wood, round-head, brass, ½-inch, No. 8, gross.
5 screws, wood, round-head, brass, ¾-inch, No. 8, gross.
5 screws, wood, round-head, brass, 1-inch, No. 8, gross.
5 screws, wood, round-head, brass, 1½-inch, No. 8, gross.
5 screws, wood, round-head, brass, 2-inch, No. 8, gross.

Materials and supplies for maintenance of motor trucks and aeroplanes—Continued.

5 screws, wood, round-head, brass, ½-inch, No. 10, gross.
5 screws, wood, round-head, brass, ¾-inch, No. 10, gross.
5 screws, wood, round-head, brass, 1-inch, No. 10, gross.
5 screws, wood, round-head, brass, 1½-inch, No. 10, gross.
5 screws, wood, round-head, brass, 2-inch, No. 10, gross.
5 screws, wood, round-head, brass, 2½-inch, No. 10, gross.
5 screws, wood, round-head, brass, 1-inch, No. 12, gross.
5 screws, wood, round-head, brass, 1½-inch, No. 12, gross.
5 screws, wood, round-head, brass, 2-inch, No. 12, gross.
5 screws, wood, round-head, brass, 2½-inch, No. 12, gross.
5 screws, wood, round-head, brass, 2½-inch, No. 12, gross.
5 screws, wood, round-head, brass, 3-inch, No. 12, gross.
5 screws, wood, round-head, brass, 1-inch, No. 14, gross.
5 screws, wood, round-head, brass, 1½-inch, No. 14, gross.
5 screws, wood, round-head, brass, 2-inch, No. 14, gross.
5 screws, wood, round-head, brass, 3-inch, No. 14, gross.
60 shellac, orange, gallons (in quart cans).
25 soap, castile, pounds.
200 solder, string, pounds.
200 solder, half and half, bars.
36 sponges, large.
4 steel welding, vanadium steel, rods.
36 switches, electric, single-pole, double-throw.
10 tacks, brass, flat head, ½-inch, pounds.
10 tacks, copper, flat head, ½-inch, pounds.
10 tacks, copper, flat head, ⅝-inch, pounds.
10 tacks, copper, flat head, ¾-inch, pounds.
10 tacks, double pointed, boxes.
5 tacks, shoe, ½-ounce, boxes.
1,500 tape, friction, rolls, "Autocrat" or equal.
100 tape, Okonite, rolls.
4 thread, silk linen, Intrinsic, No. 12, spools.
100 tin, IX, sheets.
50 tubing, copper, outside dimensions, ¼-inch, feet.
50 tubing, copper, outside dimensions, $\frac{5}{16}$-inch, feet.
20 turpentine, gallons, in 5-gallon cans.
50 twine, fishing, balls.
10 varnish, Valspar, gallons.
10,000 washers, lock, $\frac{3}{16}$ by $\frac{2}{32}$ by $\frac{1}{16}$ inch.
5,000 washers, lock, ¼ by $\frac{5}{64}$ by $\frac{1}{16}$ inch.
5,000 washers, lock, $\frac{5}{16}$ by ⅛ by $\frac{1}{16}$ inch.
5,000 washers, lock, ¾ by ¼ by $\frac{3}{16}$ inch.
5,000 washers, lock, $\frac{9}{16}$ by $\frac{13}{64}$ by $\frac{5}{32}$ inch.
2,000 washers, lock, ⅝ by $\frac{19}{64}$ by $\frac{5}{32}$ inch.
2,000 washers, lock, ⅜ by ⅛ by $\frac{3}{32}$ inch.
2,000 washers, lock, $\frac{7}{16}$ by $\frac{11}{64}$ by ⅛ inch.
2,000 washers, lock, ½ by $\frac{11}{64}$ by ⅛ inch.
2,000 washers, wrought, for ⅜-inch bolt.
2,000 washers, wrought, for $\frac{7}{16}$-inch bolt.
2,000 washers, wrought, for ½-inch bolt.
2,000 washers, wrought, for ⅝-inch bolt.
1 water, distilled, gallon.
50 wax, paraffin, pounds.
35 white-lead, pounds (in 1-pound cans).
1,000 wire, aviator, plated, No. .100, feet.
1,000 wire, aviator, plated, No. .065, feet.
1,000 wire, aviator, plated, No. .080, feet.
1,000 wire, aviator, plated, No. .130, feet.
100 wire, brass, soft, No. 18, pounds.
100 wire, copper, soft, No. 22, pounds (in spools).

BASE EQUIPMENT FOR TRAINING STATIONS.

EQUIPMENT FOR MACHINE SHOPS AT TRAINING STATIONS.

MACHINERY AND TOOLS.

2 anvil, Hay-Buddon, 300-pounds, with 2-toe hardies, 2 regular hardies, and 2 straight hardies.
2 arbors, No. 125½, each Nos. 4, 5, and 6.
1 arbor, cutting, screw-slotting, ⅞-inch, No. 5, taper, adapted for use between centers.
2 axes, medium weight, Jack Frost.
2 bar, boring, No. 10.
8 bevels, Universal, No. 498, each 1½ and 3 inch.
2 bits, expansive, Clark, each of No. 1 and No. 2.
4 bits, screwdriver, No .4, each 4 and 6 inch.
2 bits, wood, set of, in case.
72 blades, hack-saw, AAA, for tubing, 18-inch blades, each of No. 425 and No. 530.
72 blades, hack-saw, AAA, for iron and soft steel, 18-inch blades, each of No. 440 and No. 445.
18 blades, hack-saw, 9-inch, No. 102.
18 blades, hack-saw, 9-inch, No. 103.
18 blades, hack-saw, 9-inch, No. 103½.
4 blocks and clamps, steel drill, No. 271–C.
4 blocks and clamps, V, No. 750.
4 bores, counter, taper shank, each as follows:
    3/16-inch pilot, ¼-inch, 5/16-inch.
    ¼-inch pilot, 5/16-inch, ⅜-inch, 7/16-inch, ½-inch.
    5/16-inch pilot, ⅜-inch, 7/16-inch, ½-inch.
    ⅜-inch pilot, 7/16-inch, ½-inch, 9/16inch, ⅝-inch, ¾-inch, ⅞-inch, 1-inch.
1 box, miter, No. 460.
2 braces, bit, 10-inch, No. 811.
1 brazer, gasoline, complete, Giant, No. 48.
8 brushes, bench, No. 9.
8 brushes, file, with card and scorer.
4 brushes, glue, No. 2.
8 brushes, paint, flat; each of the following: ½, ¾, 1, 1½, 2 inch.
8 brushes, paint, flat; each of the following: ½, ¾, 1, 1½, 2 inch.
4 brushes, scratch, circular, wheel, No. 602.
8 brushes, scratch, curved handle, No. 448.
2 cabinet, lathe tool, steel, Nos. 2–3.
8 calipers, hermaphrodite, 6-inch, No. 42.
8 calipers, inside, 3-inch, No. 802.
4 calipers, inside, 6-inch, No. 802.
2 calipers, inside, transfer, firm joint, 10-inch, No. 827.
2 calipers, outside, transfer, firm joint, 10-inch, No. 827.
2 calipers, micrometer, with ratchet stop and case, No. 221.

8 calipers, micrometer, with ratchet stop and case, English, No. 8.
1 caliper, micrometer, with ratchet stop and case, Metric, No. 8.
1 caliper, micrometer, in case, direct reading, English, No. 25.
8 calipers, pocket slide, 3-inch, No. 425.
1,000 checks, wire, brass.
2 chisels, cold, 1½-inch, No. 1290.
2 chisels, hot, 1½-inch, No. 1300.
4 chisels, cold, each of the following: ¼, ⅜, ½, ¾ inch.
2 chisels, wood, set of, ¼ to 1¼ inch, in case.
2 chuck, drill, 0 to ½ inch, Jacobs's, fitted to drill by manufacturer.
4 clamps, C, heavy design, each of 10, 12, 14.
8 clamps, C, light design, No. 4.
8 clamps, toolmaker's, 1½-inch, No. 754.
4 clamps, C, malleable iron, each of 3, 4, 5, 6, 8 inch.
2 clippers, bolt, Porter's New Easy, No. 3.
8 combination sets, 12-inch blade, No. 7 graduation, with hardened head, No. 438.
1 compressor, air, motor driven, motor to be 110 volts, direct current, size 3–X, class R, with air receivers, 16 by 60 inches, and necessary fittings for same.
4 coppers, soldering, ½-pound, with handles.
1 countersink, blacksmith's, No. 1180–A.
4 counters, speed, No. 21, with set of extra tips.
12 crucibles, bottom pour, with covers, No. 50.
12 crucibles, file, with covers, No. 60.
2 cutter, angular, J–10, 45°, high-speed steel, right hand.
2 cutter, angular, J–10, 45°, high-speed steel, left hand.
2 cutter, angular, J–10, 50°, high-speed steel, right hand.
2 cutter, angular, J–10, 50°, high-speed steel, left hand.
2 cutter, angular, J–10, 60°, high-speed steel, right hand.
2 cutter, angular, J–10, 60°, high-speed steel, left hand.
2 cutter, angular, J–10, 70°, high-speed steel, right hand.
2 cutter, angular, J–10, 70°, high-speed steel, left hand.
2 cutter, angular, J–10, 80°, high-speed steel, right hand.
2 cutter, angular, J–10, 80°, high-speed steel, left hand.
2 cutter, double angles, J–102, high-speed steel, each of 45, 60, and 90.
1 cutter, keyway, Woodruff, each of No. 5, No. 11, No. 15.
2 cutter, pipe, with 6 extra cutters and 12 extra wheel pins, Barnes, No. 2.
4 cutters, side milling, each of the following:
    ¼ by 2¾ inches, S–21, high-speed steel, ⅞-inch hole.
    ½ by 2¾ inches, S–23, high-speed steel, ⅞-inch hole.
    ½ by 2¾ inches, S–25, high-speed steel, ⅞-inch hole.
1 cutter, T slot, high-speed steel, No. 7, with No. 5 taper, right hand.
8 dividers, 3-inch, No. 805.
4 dogs, lathe, drop forged, No. 11.
2 dressers, Huntington, with 4 extra cutters.
12 drill and countersink, combined, No. 109–B, each sizes 1 to 5, inclusive.
2 drill case, sectional, No. 4, with sections A, B, C.
4 drill drifts, automatic, No. 2–A.
1 drilling machine, 4-foot, motor driven, full universal radial, with universal table extra; motor to be 110 volts, direct current, compound wound, with starting switch and rheostat, same to be fitted to drill by manufacturer.
8 drills, automatic, No. 42.
1 drill, breast, hand, type E, 110 volts, direct-current.
2 drills, floor, electric, equipped with taper socket, type XP, for 110 volts, direct-current.

2 drill sets, and revolving stand, taper shank, style 102, from $\frac{3}{16}$ to 1 inch, by sixty-fourths.
2 drill sets, and revolving stand, straight shank, style 106, 15–B, folding holder, A to Z.
2 drill sets, and revolving stand, straight shank on folding holder, style 107, 8–B, 1 to 60.
2 drill sets, same as above, in index cases.
2 drill sets, and revolving stand, straight-shank, without holder, No. 106, 15–B, A to Z.
4 drills, style, 107–8–B, sets of, 1 to 25, inclusive.
6 drills, style 107–8–B, sets of 26 to 60, inclusive.
1 drill, style 102, sets of, from $1\frac{1}{16}$ to $2\frac{1}{2}$ inches, inclusive, by sixteenths.
8 drills, hand, ratchet, with chain attachment, No. 555.
8 drills, hand, ratchet, No. 1530.
1 driver, bolt, No. 4–D.
8 extractors, cotter-pin, nickel-finish.
2 figures, set, $\frac{5}{16}$-inch, Standwell.
24 files, hand, 8-inch, XF, No. 0.
24 files, pillar, 8-inch, XF, No. 2.
24 files, pillar, 8-inch, safe edges, XF, No. 2.
24 files, pillar, 8-inch, narrow, XF, No. 4.
24 files, pillar, 8-inch, narrow safe edges, XF, No. 4.
24 files, pillar, 8-inch, half-round, XF, No. 0.
24 files, 6-inch, XF, No. 00.
24 files, 6-inch, XF, No. 0.
24 files, 6-inch, XF, No. 1.
24 files, 6-inch, XF, No. 3.
2 files, escapement, $5\frac{1}{2}$-inch, set of 12, XF.
2 files, die sinkers, $3\frac{1}{2}$-inch, sets of 12, XF.
2 files and holder, stub, set of, with extra set of files.
12 files, cut, increment, 10-inch; each of the following: Hand coarse, hand bastard, hand second-cut, hand smooth, hand head smooth, mill double blunt bastard, mill blunt double cut second-cut, mill blunt double cut smooth, mill blunt double cut safe edges, three square bastard, three square double cut, three square smooth, pillar smooth, pillar smooth safe edges, half-round coarse, half-round bastard, half-round second-cut, half-round smooth, half-round dead smooth, half-round lead float, square bastard, square second-cut, square smooth, square blunt bastard, round bastard, round second-cut, round smooth, round blunt bastard.
6 flashlights, Penlite, No. 3500.
12 batteries, extra, for the above, Radio No. 1008.
1 flatter, blacksmith's, square, No. 1230, each of 1 to 4 inches by fourths.
1 forge, portable, with motor, for 110-volt, direct-current, Buffalo, No. 650–E.
8 frames, hack-saw, No. 145.
1 furnace, combination, for use with oil, Frankfort, No. 5–A.
8 gauges, center, tempered, No. 650.
8 gauges, depth, English, No. 615.
2 gauges, screw, English, No. 630.
2 gauges, screw, metric, No. 636.
4 gauges, screw-thread, Standard, No. 724.
2 gauges, surface, 9-inch, Universal, No. 3622.
1 gauge, taper, complete with attachments, Hartford.
2 gauges, thickness, No. 72–M.
2 gauges, thickness, English, No. 640.
2 gauges, thickness, Metric, No. 641.
1 gauge, music-wire, No. 195.

1 grinding machine, tool, Universal, B. & S. No. 13, motor drive; motor to be 110 volts, direct current, compound wound, with starting switch and rheostat, same to be fitted to grinder by the manufacturer. Grinder to have the following attachments fitted by the manufacturer:
    1 internal grinding attachment.
    1 surface grinding attachment.
    1 radial grinding attachment.
    1 tool cupboard complete with tools.
1 grinder and cutter, chisel, Stanley, No. 200.
2 grinder, pedestal, 1-horsepower, 110 volts, direct-current, type M.
2 grinder, tool post, ½-horsepower, 110 volts, direct-current, type 3–ASD (with 6 extra fuses).
1 hack-saw machine, power, with motor for 110 volts, direct-current, compound wound, with starting switch and rheostat, same to be fitted to machine by manufacturer, Kwik-kut, No. 7.
4 hammers, brass, solid, 2-pound, with handles.
2 hammers, carpenter, 1½-pound, Maydole.
4 hammers, copper, solid, 2-pound, with handles.
1 hammers, farrier's, turning, No. 480.
1 hammers, blacksmith's, hand, No. 403.
4 hammers, machinist's ball-pien, 1¾-pound, Maydole.
4 hammers, machinist's, ball-pien, 1-pound, Maydole.
4 hammers, machinist's, ball-pien, ¾-pound, Maydole.
4 hammers, machinist's, ball-pien, ½-pound, Maydole.
4 hammers, machinist's, ball-pien, ¼-pound, Maydole.
4 hammers, machinist's, cross-pien, 1-pound, Maydole.
4 hammers, machinist's, cross-pien, ½-pound, Maydole.
4 hammers, machinist's, straight-pien, 1-pound, Maydole.
4 hammers, machinist's, plain riveting, 1-pound. Maydole.
1 hammer, power, 50-pound, Little Giant with motor drive; motor to be for 110 volts, direct current, compound wound, with starting switch and rheostats, same to be fitted to machine by the manufacturer.
1 hammer, striking, short pattern, 8-pound, No. 760.
48 handles, file, with spun farrel handle, assorted.
48 handles, hammer, to fit above enumerated sizes of Maydole hammers, in the amounts stated for each size.
4 hatchets, claw, bell face, 1½-pound, Maydole.
2 holders, file, surface, No. 4.
2 holders, file, surface, No. 5.
2 hydrometers, battery, syringe, No. 2.
6 hydrometers, gasoline, No. 2.
1 indicator, dial test, English, No. 730.
1 jig, dowling, No. 60.
2 knives, drawing, with folding handle, 9-inch, No. 10.
1 ladle, hand, and shank, "A."
1 ladle, wrought, No. 1494–A.
1 lathe, bench, rivet, motor-driven, 8½-inch swing, 22 inches between centers, with cabinet and full set of attachments, including set of forge-turning tools. Motor to be 110 volts, direct current, compound wound, with starting switch and rheostat; same to be fitted to the lathe by the manufacturer (to be used in tool room).
3 lathe, engine, quick-change geared, 12 inches by 6 feet, equipped for motor drive. Motor to be for 110 volts direct current, compound wound, with starting switch and rheostat. Each lathe to have the following attachments fitted to the lathe by the manufacturer:
    1 center, crotch.
    1 center, cup.
    1 center, female.

3 lathe, engine, etc.—Continued.
- 1 center, half.
- 4 centers, point.
- 1 center, spur.
- 1 center, square.
- 1 chuck, combination scroll, spur gear, 10⅛ inch, 4-jaw, Westcott.
- 1 chuck, same as above, except to be 3-jaw.
- 1 chuck, drill, 0 to ¾ inch, Jacobs.
- 1 chuck, screw.
- 1 pad, drill.
- 1 plate, face, large.
- 1 plate, face, small.
- 1 rest, follow.
- 1 rest, steady.
- 1 taper attachment.
- 1 tools, turning, complete set of, hand forged (at least 20 in set).
- 1 tool post, European.

1 lathe, engine, quick-change geared, 20 inches by 14 feet, equipped for motor drive. Motor to be 110 volts, direct current, compound wound, starting switch and rheostat; same to be fitted to lathe by the manufacturer of the lathe. Lathe to have the following attachments fitted to same by the manufacturer:
- 1 center, crotch.
- 1 center, cup.
- 1 center, female.
- 1 center, half.
- 4 centers, point.
- 1 center, spur.
- 1 center, square point.
- 1 chuck, combination scroll, spur gear, 18½-inch, 4-jaw, Westcott.

2 letters, set of, $\frac{5}{32}$-inch, Standwell.
8 levels, cross test, No. 134.
1 level, machinist, Eclipse, No. 34–V4.
8 levels, iron, No. 130.
4 mallets, rawhide, No. 4.
1 mandrels, expanding, each from 1 to 8, inclusive, Champion.
1 mandrels, hardened and ground steel, No. 123, from ¼ to 3 inch, by sixteenths.
1 micrometer, set, in case with standards and ratchet stops, English, No. 135.
2 micrometer, inside, with case and handle, No. 124–B.
1 milling machine, Universal, No. 3, motor driven, with regular equipment and fitted with motor for 110 volts, direct current, compound wound, with starting switch and rheostat fitted to machine by the manufacturer, and with the following extra attachments:
- 1 arbor, cutter, No. 08, style A, p. 159, Brown & Sharpe, 10–A.
- 1 arbor, cutter, No .15, B. & S.
- 1 arbor, cutter, No. 18, B. & S.
- 1 chuck spring, No. 156, with one each of the following collets—
  - Round, $\frac{3}{16}$ to ½ inch, by thirty-seconds.
  - $\frac{9}{16}$ to 1 inch, by sixteenths.
  - Square, ¼, $\frac{5}{16}$, ⅜, $\frac{7}{16}$, ½ (p. 156, Brown & Sharpe, No. 10–A).
- 1 collet, G, style 1 (Brown & Sharpe catalogue, p. 157, No. 10–A).
- 1 cupboard, with lock and key.
- 1 cutters, T slot, high-speed steel, each of the following—
  - No. 9, B. & S. taper, 1 inch diameter, ¼ inch thick.
  - No. 5, B. & S. taper, ¾ inch diameter, $\frac{9}{24}$ inch thick.

1 milling machine, Universal, No. 3, etc.—Continued.
1 cutters, milling, high-speed steel; each of the following: B. & S. M55, M88, M92, M96, M95, M94, M97.
1 milling attachment, Universal No. 2 (p. 126, B. & S. catalogue 10–A).
1 milling and dividing attachment, circular (p. 142, B. & S. catalogue 10–A).
1 pump, oil, and tank.
1 scale and verneir (p. 140. B. & S. catalogue 10–A).
1 slotting attachment, No. 2 (p. 130. B. & S. catalogue 10–A).
1 tools, set of, as shown on page 163, B. & S., catalogue 10–A, except that cuter, etc., to be for high-speed steel.
NOTE.—Should purchase be made from any firm or jobber other than Brown & Sharpe, state that attachments, etc., required are to be similar or equal to B. & S. specifications.
1 mills, end, both right and left hand, high-speed steel, each of E–105, E–101, E–108, E–112, E–117, E–125.
4 nail, sets (5 in set), No. 762.
12 oilers, bent spout, No. 309.
12 oilers, straight spout, No. 309.
2 oilstones, hard, Arkansas, 2 by 1 by 6 inch.
2 parallels, planer, set of, figure 6066, grade A.
1 plane, block, No. 15.
1 plane, fore, No. 29.
1 plane, jack, No. 27½.
1 plane, rabbet, No. 190.
1 plane, side rabbet, No. 98–99.
1 plane, circular, Stanley, No. 113.
1 plane, complete, with cutters, Stanley, No. 55.
1 plane, core box, No. 56.
1 plane, smooth, Bailey, No. 35.
4 pliers, duck-bill, 5-inch, No. 318–N.
4 pliers, long-nose, oval, plain, 5-inch, No. 319–N.
4 pliers, long-nose, curved, 6-inch, No. 1319–C.
4 pliers, needle, 5½-inch, No. 319–B.
4 pliers, oblique cutting, Swedish, 4½-inch, No. 3167–C.
4 pliers, oblique cutting, Swedish, 5½-inch, No. 3167–A.
4 pliers, round, 5-inch, No. 1810–A.
4 pliers, side cutting, 6-inch, No. 312–A.
4 pliers, side-cutting, 8-inch, No. 312–A.
4 pliers, side-cutting, 5½ and 8 inch, Bernards.
4 pliers, combination, 6 and 8 inch, Billings & Spencer.
2 pots, fire, canner's, C. & L., No. 17.
4 pots, glue, No. 2.
1 press, arbor, Greenard, No. 7.
1 press, arbor, Greenard, No. 3 (on stand).
2 press, bench, straightening, No. 2.
1 protractors, Improved Universal, with acute angle attachment, 6 and 12 inch blades, in Morocco case, No. 496.
8 punches, center, No. 118.
8 punches, center, sets of (6 in set), No. 765.
2 punches, center, automatic, No. 771.
2 punches, centering, double.
1 punch, machine, Badger's No. 8, with 3 punches; each of the following sizes: $\frac{5}{16}$, $\frac{1}{4}$, $\frac{3}{16}$, $\frac{1}{8}$ inch; 2 each of the following: $\frac{5}{16}$, $\frac{1}{4}$, $\frac{3}{16}$, $\frac{1}{8}$ inch.
1 punches, round, blacksmith's No. 1270; each of the following: $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, and 1 inch.
1 punches, square, blacksmith's, No. 1260; each of the following: $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, and 1 inch.

2 punch, revolving, spring, 6 tubes for leather.
2 reamers, pipe, ⅛, ¼, ⅜, ½, ¾, 1 inch.
1 reamers, expansion, No. 120–G, from ¼ to 1 inch, by thirty-seconds.
1 reamers, expansion, No. 120–G, from 1¼ to 2½ inch, by fourths.
2 reamers, taper pin, 0 to 10, in case.
1 reamers, taper shank, No. 115–D, spiral flute, ¼ to 1 inch, by thirty-seconds.
1 reamers, spiral shell, No. 117½, 1-1/16 to 2½ inch, by sixteenths.
1 reamers, jobbers, 115–, from ¼ to 2½ inch, by thirty-seconds.
8 rules, steel, 6-inch, No. 300.
2 rules, boxwod, full bound, 1 inch by 2 foot, 64–C, square joint.
2 rules, boxwood, half bound, 2-foot, No. 84.
4 rules, flexible steel, 30 centimeters, ½ milimeters and sixty-fourths, No. 308.
4 rules, narrow, steel, 6-inch, No. 11, graduation, No. 303.
4 rules, steel, 6-inch, No. 300.
2 rules, steel, set of, with holders, English, No. 335.
8 rules, key seat, English, No. 374.
2 saw, compass, 10-inch, No. 9.
4 saws, metal slitting, each of the following sizes:
$\frac{1}{32}$ by 2½ inch, G–50, high-speed steel, ⅛-inch hole.
$\frac{3}{64}$ by 2½ inch, G–51, high-speed steel, ⅛-inch hole.
$\frac{1}{16}$ by 2½ inch, G–52, high-speed steel, ⅛-inch hole.
$\frac{3}{32}$ by 2½ inch, G–53, high-speed steel, ⅛-inch hole.
$\frac{5}{32}$ by 2½ inch, G–55, high-speed steel, ⅛-inch hole.
2 saw, panel, 26-inch, 9-point, Disston.
2 saw, rip, 26-inch, Disston.
4 screw, jack, complete, Little Giant, No. 190.
4 screw drivers, bent end, each Nos. 2100, 2101, 2104, 2105.
4 screw drivers, Champion, each 32, 4, 6, 8, 10, 12 inch.
2 screw drivers, jeweler's, set of, No. 555.
8 screw drivers, spiral ratchet, with three bits each ,No. 30.
8 scribers, style 3, No. 778.
1 shaper, 24-inch, back-geared, crank, motor drive. Motor to be for 110 volts, direct current, compound wound, with starting switch and rheostat fitted to machine by manufacturer. Shaper to be equipped with power feed to head, with automatic stops. To be furnished with Universal table and set of hand-forged shaper tools as extra.
1 shave, spoke, iron, Bailey, No. 53.
1 shears, Badger, No. 3.
4 shears (or snips), Samson, No. 50.
1 sledge, blacksmith's, 8-round, No. 820.
1 sleeve, steel, Morse, No. 100–B, each of the following: No. 1 to 2; No. 3 to 4; No. 2 to 4; No. 1 to 3; No. 2 to 3.
2 socket, steel, Morse, No. 100–A, each of the following: No. 3 to 4; No. 1 to 4; No. 2 to 4.
8 square, combination, attachments for, No. 829.
4 square, double steel, No. 14–C.
2 square, steel, blued, 2-foot, No. 14–B.
2 square, try, 3-inch, cast steel, hardened, No. 540.
2 square, try, 6-inch, cast steel, hardened, No. 540.
2 square, steel, beveled edges, hardened, No. 542.
2 steel, special hardening (self-hardening) 3-foot bars of each of the following:
Square, ¼, $\frac{5}{16}$, ⅜, $\frac{7}{16}$, ½ inch.
Flat, ¼ by ⅜ inch, $\frac{5}{16}$ by $\frac{7}{16}$ inch, ⅜ by ½ inch, $\frac{7}{16}$ by $\frac{9}{16}$ inch, ½ by $\frac{11}{16}$ inch.
All sizes of special bevel.

2 stocks and dies, adjustable pipe, with guides, each of the following sizes: $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 inch.
2 stones, carborundum, sharpening, medium, 2 by 1 by 8 inch.
2 straightedge, hardened steel, 39-inch, No. 527.
1 swedges, No. 1190, each of the following: $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$ inch.
1 swedges, bottom, No. 1200, each of the above sizes.
2 tape, measuring, steel, 50-foot, No. 507.
1 taps and dies, in case, with adjustable tap wrench No. 0, each of the following:

No. 2–56.
No. 3–48.
No. 4–36, 40, 48.
No. 5–36, 40.
No. 6–32, 36, 40.
No. 7–32.
No. 8–32.
No. 9–32.
No. 10–24, 30, 32.
No. 12–24, 32.
No. 14–20, 24.
No. 15–20, 24.
No. 16–18, 20.
No. 18–18, 20.
No. $\frac{7}{64}$-inch, 56.
No. $\frac{1}{8}$-inch, 40.
No. $\frac{9}{64}$-inch, 40.
No. $\frac{11}{64}$-inch, 32.
No. $\frac{3}{16}$-inch, 24, 32.
No. $\frac{7}{32}$-inch, 24, 32.
No. $\frac{15}{64}$-inch, 28.
No. $\frac{1}{4}$-inch, 20, 24, 32.
No. $\frac{9}{32}$-inch, 20, 24, 32.

Bottoming taps extra for $\frac{9}{64}$-inch, 40; $\frac{5}{32}$-inch, 38; $\frac{3}{16}$-inch, 32; $\frac{15}{64}$-inch, 28; $\frac{1}{4}$-inch, 24.

1 taps and dies, in case, each of the following assortment No. $7\frac{1}{2}$: $\frac{5}{16}$-inch, 20, 24; $\frac{3}{8}$-inch, 20, 24; $\frac{7}{16}$-inch, 18, 20, 24; $\frac{1}{2}$-inch, 20, 24; $\frac{5}{8}$-inch, 20.

One each of the above bottoming taps extra; also die, tap, and bottoming tap for left-hand thread $\frac{5}{16}$-inch, 20, 24.

1 taps and dies, screw-plate set No. $5\frac{1}{2}$, with bottoming taps extra,
8 time savers, No. 185.
1 tongs, blacksmith's, 18-inch; each of the following: No. 10, 11–A, 11–D, 12–A, 12–D, 12–F, 12–H, 13, 14, 15, 16, 17, 18.
1 tool, boring, No. 3–B.
2 tool, grinding, diamond (about No. 10 size).
1 tools, heading, No. 1280 ,each of the following: $\frac{1}{4}$-inch, $\frac{5}{16}$-inch, $\frac{3}{8}$-inch, $\frac{7}{16}$-inch, $\frac{1}{2}$-inch, $\frac{9}{16}$-inch, $\frac{5}{8}$-inch, $\frac{3}{4}$-inch, $\frac{7}{8}$-inch, 1-inch.
2 tools, knurling, with extra set of knurls, revolving head, $\frac{1}{2}$ inch by $1\frac{1}{8}$ inches.
2 tool set, for Armstrong lathe (10 tools), with high-speed cutters, with extra cutter for U. S. standard thread, No. 50 holder (set to include the V-thread cutter and tool holder, $\frac{1}{2}$ inch by $1\frac{1}{8}$ inches).
1 tool, thread-cutting, rivet dock, figure 6387. Tool to be equipped with V thread-cutting tool, 8 pitch and 1 each extra cutters for 18, 20, 24, 32, U. S. standard thread.
4 torches, gasoline, Clayton & Lambert, No. 32.
4 tweezers, 5-inch.

Vise equipment:
- 8 vise, ironworkers, No. 19½.
- 2 vise, ironworkers, No. 23 .
- 2 vise, ironworkers, No. 26.
- 4 vise, table clamp, No. 802.
- 2 vise, cabinetmaker's, No. 613.
- 2 vises, with column and tool table, No. 100.
- 2 vise, pipe, No. 288.
- 8 caps, brass finished, for vise jaws of vise No. 19½.
- 2 caps, brass finished, for vise jaws of vise No. 23.
- 4 vise, quick action, No. 2–V.
- 4 vise, toolmaker's, No. 752.
- 2 vise, toolmaker's, Universal, No. 3–T.

2 welding equipment No. 1, consisting of the following:
- 1 blowpipe, welding, style H, with interchangeable tips Nos. 1 to 7, inclusive.
- 1 regulator, acetylene, automatic, constant pressure, fitted with inlet and outlet pressure gauges.
- 1 regulator, oxygen, automatic, constant pressure, fitted with inlet and outlet pressure gauges.
- 2 hose, each 12½ feet long, rubber.
- 1 clamps, hose, set of.
- 1 wrench, box end, for needle on Prestolite dissolved acetylene cylinder valve.
- 1 wrench, stuffing nut, for valve on Prestolite dissolved acetylene cylinder and attaching acetylene regulator.
- 1 wrench, for attaching oxygen regulator.
- 1 wrench, box end, for blowpipe.
- 1 wrench, box, for welding tips.
- 1 goggles, special colored.
- 1 manual, welding.

Welding equipment, accessories for:
- 4 cylinders, WK Prestolite dissolved acetylene.
- 4 tanks, oxygen, large size.
- 2 truck, steel, style WK, for mounting cylinders of acetylene and oxygen.

2 cutting equipment, consisting of the following:
- 1 type K blowpipe.
- 3 tips and guide wheel.
- 1 high-pressure oxygen regulator.
- 1 high-pressure acetylene regulator.
- 2 hose, rubber, lengths of 25 feet each.
- 4 hose clamps.
- 1 pair of goggles.

Wrenches, assortment of.

Welding equipment, miscellaneous:
- 50 welding rod for cast iron, ¼-inch, pounds.
- 50 Norway iron-welding wire, ⅛-inch, pounds.
- 50 special nickel-steel rod, ¼-inch, pounds.
- 50 vanadium-steel rods, ¼-inch, pounds.
- 50 mild-steel wire, ¼-inch, pounds.
- 50 Tobin bronze welding rod, ¼-inch, pounds.
- 50 aluminum drawn-wire rod, ¼-inch, pounds.
- 50 aluminum cast alloy rod, ¼-inch.
- 4 flux, cast iron, 2-pound tins.
- 4 flux, Tobin bronze, 2-pound tins.
- 8 flux, aluminum, ½-pound tins.
- 2 pipes, blow, carbon-burning.

LIBRARY
THE GENERAL SERVICE SCHOOLS
FORT LEAVENWORTH, KANSAS

2 wheels ,grinding, each of the following:
- 8 by ½ by ⅝ inch hole, style A, grade 40–M and 40–K, 60–M and 60–K.
- 8 by ½ by ⅝ inch hole, style B, grade 40–M and 40–K, 60–M and 60–K.
- 8 by ½ by ⅝ inch hole, style C, grade 40–M and 40–K, 60–M and 60–K.
- 8 by ½ by ⅝ inch hole, style D, grade 40–M and 40–K, 60–M and 60–K.
- 8 by ½ by ⅝ inch hole, style H, grade 40–M and 40–K, 60–M and 60–K.
- 2 by ½ by ½ inch hole, style A, grade 40–M and 40–K, 60–M and 60–K.
- 2 by ½ by ½ inch hole, style C, grade 40–M and 60–K, 60–M and 60–K.
- 2 by ½ by ½ inch hole, style D, grade 40–M and 40–K, 60–M and 60–K.
- 2 by ½ by½ inch hole, style H, grade 40–M and 40–K, 60–M and 60–K.
- 8 by ¾ by ⅝ inch hole, style A, grade 20–O, 30–P, 36–Q, 40–M, and 60–M.

4 wheels, polishing, loose canvas, 8-inch, No. 434–A, 1-inch.
2 winder, spring, with 12 assorted pitch hooks, Champion.
1 woodworker, No. 51, Universal, motor drive. Motor to be 110 volts, direct current, compound wound, with starting switch and rheostat; same to be fitted to machine by manufacturer, and the following extra equipment and accessories:
- 1 each saw blades, ⅜ to 1 inch.
- 1 ripping fence.
- 1 band-saw guard.
- 1 resaw gauge.
- 1 set of extra knives for joiner.
- 1 round safety head.
- 1 steel lips.
- 1 set extra knives for shaper.
- 1 tenoner.
- 1 panel razer, one side.
- 1 panel razer, two sides.
- 1 extra saw for saw table.
- 1 saw guard.
- 1 dado head, No. 4.
- 1 groover head, complete, No. 33.
- 1 knife grinder, for borer.
- 1 disk grinder, for borer.
- 1 plain emery wheel, for borer.
- 1 hollow chisel mortiser, complete with chisels and bits.

4 wrenches, adjustable, tap, T, style No. 329.
4 wrenches, Stillson, solid handle, 10-inch.
2 wrenches, monkey, Coe's, each of the following sizes: 6, 8, 10, 12, 18 inch.
6 wrenches, adjustable, Crescent, 6-inch.
6 wrenches, adjustable, Crescent, 8-inch.
6 wrenches, angle, 22½ degree, offset, finished; each of the following sizes: 671–D, 671–E, 672–D, 672–E, 673–D, 673–E, 674–D, 674–E, 675–D, 675–E, 676–D.
6 wrenches, socket, single head, with pin handle, finished; each of the following sizes: 962–D, 964–A, 967–A, 867–D, 969–A, 962–H.
4 wrenches, ratchet, 443–A.

METALS AND METALLINGS.

Aluminum, sheet, 18 gauge, 48 square feet.
Bronze, bearing, 24 inches each, 9/16, 1½, 2½ inches.
Brass, sheet, spring, 1 piece each, 1 foot by 15 feet, 0.002, 0.004, 0.008, 0.012.
Brass, soft sheets, 18 gauge, 3 sheets, 3 feet by 4 feet.
Brass, rod, round, 12 feet each size, ¼, ⅜, ½, ⅝, ¾, ⅞, 1 inch.
Brass, rod, round, 4 feet each size, 1¼ 1½ 2 inches.
Brass, rod, round, 3 feet each size, 2½, 3, 3½ inches.
Brass, Hex, 12 feet each size, ¼, ⅜, ½, ¾, 1 inch.
Cast iron, round, 24 inches, each size, 2, 2½, 3 3½ inches.
Drill rod crescent, 4 feet each size, 5/64, 7/32, ¼, 5/16, ⅜, ½, 9/16, ⅝, 11/16, ¾, 1 inch.
Galvanized iron, sheet, 22 gauge, 1 piece, 3 feet by 6 feet.
Steel, Bessemer, round, 12 feet each, 5/32, 7/32, 9/16, 11/64, 9/32 inch.
Steel, cold rolled, round, 20 feet, each, 3/16, ¼, 5/16, ⅜, 7/16, ½ inch.
Steel, cold rolled, round, 12 feet each, 9/16, ⅝, ¾, ⅞, 1, 1 1/16, 1⅛, 1½, 1¾ inches.
Steel, cold rolled, round, 4 feet each, 2, 2¼, 2½, 3, 3½, 4 inches.
Steel, Hex, cold rolled, 12 feet each, 3/16, ¼, 5/32, ⅜, ½, ⅝, ¾, 1, 1¼ inches.
Steel, square, cold rolled, 12 feet each, 5/16, 7/16, ⅝, ⅞, 1 inch.
Steel, cold rolled, flat, 12 feet each, 1/16 by 7/32, ⅜, ½, ¾, 1, 2 inches.
Steel, cold rolled, flat, 12 feet each, ⅛ by ⅝, ¾, ⅞, 1, 1⅛, 1¼, 1¾ inches.
Steel, cold rolled, flat, 12 feet each, 3/16 by ¼, ⅜, ½, ⅝, 1, 1⅛ inches.
Steel, cold rolled, flat, 8 feet each, ¼ by ½, ⅝, ¾, ⅞, 1, 1⅛ inches.
Steel, cold rolled, flat, 8 feet each, 5/16 by ½, ½ by 2, ⅝ by 2 inches.
Steel, cold rolled, flat, fitting stock, 8 feet each, 0.025 by 6, 0.030 by 6, 0.050 by 6, 0.070 by 6, 0.128 by 6, 0.134 by 6 inches.
Steel, self-hardening high speed square, 4 feet each, 3/16, ¼, ⅜, ⅝ inch.
Steel, self-hardening high speed, square, 4 feet each, ⅜ by ½ inch.
Steel, self-hardening high speed, cutting off stock, 4 feet, ⅛ by ⅝ inch.
Tubing, copper, B. & S. 20 gauge, 50 feet each, ¼, 5/16, ⅜ inch.
Tubing, seamless, Shelby, 15 feet each, ⅜, ½, ⅝, ¾, 1 1/16, ⅞, 1 5/16, 1, 1 3/16, 1¼ inches.
Zinc, sheet, 16 to 20 gauge, 8 pounds.

MISCELLANEOUS.

6 acid, muriatic, quarts.
5 aluminum, filling rod, 5/16-inch, pounds.
5 blades, hack-saw, 10-inch, dozen.
100 bolts, carriage, 3 by 3/16 inch.
100 bolts, carriage, 3 by ¼ inch.
100 bolts, carriage, 3 by ⅜ inch.
100 bolth, carriage, 6 by ½ inch.
200 bolts, stove, flat head, full thread, 3/16 by 2 inches.
200 bolts, stove, flat head, full thread, ¼ by 2 inches.
100 bolts, machine, hexagon head, 24-thread, 2 by 14 inches.
100 bolts, machine, hexagon head, 28-thread, 2 by 14 inches.
100 bolts, machine, hexagon head, 24-thread, 4 by 5/16 inch.
100 bolts, machine, round head, 1-inch, 6–32.
100 bolts, machine, round head, 1-inch, 10–32.
100 bolts, machine, round head, 3-inch, ¼–24 thread.
1 chalk, white, pounds.
1,000 cloth, cheese, yards.
100 cloth, emery, sheets, assorted.
2 cyanide, pounds.

3 flux, brazing, Imperial, cans.
3 flux, welding, cast-iron, cans.
500 gaskets, copper, water manifold (for type of engines used).
200 gaskets, paper.
4 graphite, cans (5 pounds each), assorted.
5 grease, hard, cans (25 pounds each).
5 iron, cast, filling rod, $\frac{5}{16}$-inch, pounds.
5 iron, Norway, filling rod, $\frac{5}{16}$-inch, pounds.
100 lacing, belt, $\frac{5}{16}$-inch, feet.
3 oil, M. M., barrels.
150 paper, sand, No. 00, sheets.
150 paper, sand No. 0, sheets.
150 paper, sand, No. 1, sheets.
150 paper, sand, No. 2, sheets.
30 paste, soldering, cans.
2,000 pins, cotter, 1 by $\frac{1}{16}$ inch.
1,000 pins, cotter, 1 by $\frac{3}{32}$ inch.
1,000 pins, cotter, 1 by $\frac{1}{8}$ inch.
$1\frac{1}{2}$ rivets, pounds, $\frac{1}{2}$ pound each, $\frac{1}{4}$ by $\frac{1}{16}$ inch, $\frac{1}{2}$ by $\frac{1}{8}$ inch, $\frac{1}{2}$ by $\frac{9}{16}$ inch.
1 screws, wood, flat head, bright, $\frac{1}{4}$-inch, No. 4, gross.
1 screws, wood, flat head, bright, $\frac{1}{2}$-inch, No. 4, gross.
1 screws, wood, flat head, bright, 1-inch, No. 4, gross.
1 screws, wood, round head, brass, $\frac{1}{4}$-inch, No. 4, gross.
1 screws, wood, round head, brass, $\frac{1}{2}$-inch, No. 4, gross.
1 screws, wood, round head, brass, 1-inch, No. 4 gross.
1 screws wood, flat head, bright, $\frac{3}{8}$-inch, No. 6, gross.
1 screws, wood, flat head, bright, $\frac{3}{4}$-inch, No. 6, gross.
1 screws, wood, flat head, bright, $1\frac{1}{2}$-inch, No. 6, gross.
1 screws, wood, round head, blued, $\frac{3}{8}$-inch, No. 6, gross.
1 screws, wood, round head, blued, $\frac{3}{4}$-inch, No. 6 gross.
1 screws, wood, round head, blued, $1\frac{1}{2}$-inch, No. 6, gross.
1 screws wood, flat head, bright, $\frac{3}{4}$-inch, No. 8, gross.
1 screws, wood, flat head, bright, 1-inch, No. 8, gross.
1 screws wood, round head, brass, $\frac{3}{4}$-inch, No. 8, gross.
1 screws, wood, round head, brass, 1-inch, No. 8, gross.
1 screws, wood, flat head, bright, 2-inch, No. 10, gross.
1 screws, wood, flat head, bright, 2-inch, No. 12, gross.
1 screws, wood, flat head, bright, $2\frac{1}{2}$-inch, No. 12, gross.
1 screws, wood, round head, blued, 3-inch, No. 12, gross.
1 screws, wood, flat head, 1-inch, No. 14, gross.
1 screws, wood, flat head, bright, 2-inch, No. 14, gross.
6 shellac, quarts.
30 solder, half and half, pounds.
10 solder, string, pounds.
20 tape, cotton, for water manifold, rolls.
125 tape, friction, rolls.
3 washers, plain, flat, 1 pound each, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ inch.
6,000 washers, special, lock, 3,000 each, $\frac{5}{16}$, $\frac{1}{4}$ inch.
5 wire, brazing, brass, pounds.
10 wire, copper, spools, No. 24, pounds.

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