GGG-H-506d
August 21, 1962

SUPERSEDING
Int. Fed. Spec. GGG-H-00506c (GSA-FSS)
March 1, 1961 and
Fed. Spec. GGG-H-506a,
March 19, 1942

FEDERAL SPECIFICATION

HOE, MATTOCK, AND PICK

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 **Scope.** This specification covers hoes, mattocks, and picks used for hoeing, digging, grubbing, and picking in clay, hard earth, stones, and other hard substances.

1.1.1 *Federal specification coverage.* Federal specifications do not cover all types, classes and sizes of tools indicated by the specification titles, but only those generally used by the Federal Government.

1.2 **Classification.**

1.2.1 *Types and classes.* Hoes, mattocks, and picks covered by this specification shall be of the following types and classes and, unless otherwise specified in the invitation for bids, shall be furnished without handles (see 6.1):

Type I.—Hoes.

- Class A.—Accomac.
- Class B.—Grub.
- Class C.—Hazel.
- Class D.—Planters' tapered round eye.
- Class E.—Grub, tapered round eye.

Type II.—Mattocks.

- Class A.—Asphalt, double eye.
- Class B.—Asphalt, single eye.
- Class C.—Brush.
- Class D.—Cutter.
- Class E.—Nursery.
- Class F.—Pick.

Type III.—Picks.

- Class A.—Contractors', point and chisel ends.
- Class B.—Contractors', round tapered points.
- Class C.—Contractors', square point each end.
- Class D.—Drifting.
- Class E.—Ore, point and chisel ends.
- Class F.—Poll or mining.
- Class G.—Railroad, double point.
- Class H.—Railroad or clay, point and chisel ends.
- Class I.—Rock or ore, double point.
- Class J.—Stone.
- Class K.—Tamping, "V" tamp (railroad standard).

1.2.2 *Sizes.* The sizes of hoes, mattocks, and picks covered by this specification are shown in the tables applying to the individual types and classes listed in section 3.

FSC 5120,
FSC 3750

2. APPLICABLE SPECIFICATIONS AND STANDARDS

2.1 Specifications and standards. The following specifications and standards, of the issues in effect on date of invitation for bids, form a part of this specification:

Federal Specification:

NN-H-93—Handles, Hickory; Striking-Tool.

Federal Standards:

Fed. Std. No. 102—Preservation, Packaging and Packing Levels.

Fed. Std. No. 123—Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications, Standards, and Handbooks and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, D. C., Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, and Auburn, Wash.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications, Standards, and Handbooks from established distribution points in their agencies.)

Military Specifications:

MIL-H-15424—Packaging of Hand Tools for Domestic and Overseas Shipment and Storage.

Military Standards:

MIL-STD-105—Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129—Marking for Shipment and Storage.

MIL-STD-130—Identification Marking of U. S. Military Property.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Material. Hoes, mattocks, and picks shall be forged from high-grade steel free from all imperfections that may affect serviceability.

3.2 Hardness.

3.2.1 *General.* Each tool shall be so hardened and tempered as to meet the test requirements specified under 4.3.1. The part being tested shall be firmly supported as the testing load is applied, and the surface being tested shall be approximately horizontal.

3.2.1.1 *Point or blade.* Each tool shall show the hardness specified in table I at any point 3/4 (± 1/32) inch from the point or blade, which shall have proper taper and which shall be sharpened and free from burrs or rough edges.

TABLE I. *Hardness of point or blade*

Type	Scale	Numbers	
		Minimum	Maximum
Picks	Brinell	425	500
	Rockwell C	45	52
Hoes and mattocks	Brinell	375	450
	Rockwell C	40	47

3.3 Eye. Except for type I, classes D and E, the eye of each tool shall conform to the shape shown on figure 1 to 6, inclusive, and as specified for each type, class, and size of tool. The eye shall not buckle, crack, break, or spread under ordinary use. A plus tolerance of 1/16 inch and a minus tolerance of 1/32 inch will be permitted in the dimensions of each eye.

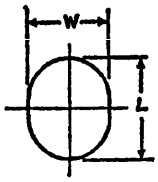

FIGURE 1. Standard eye No. 2.

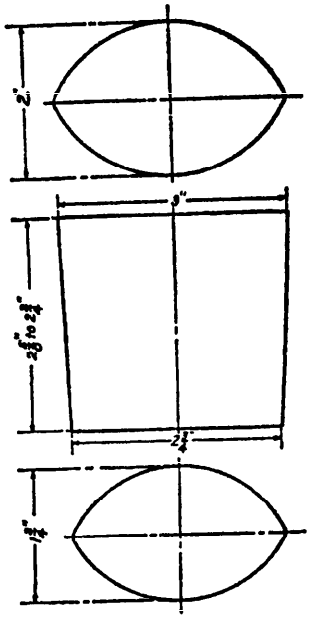

FIGURE 2. Standard eye No. 6.

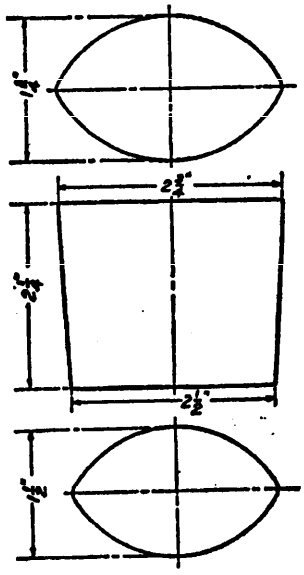

FIGURE 3. Standard eye No. 7.

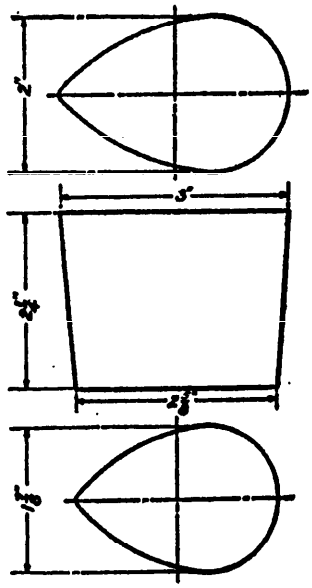

FIGURE 4. Standard eye No. 8.

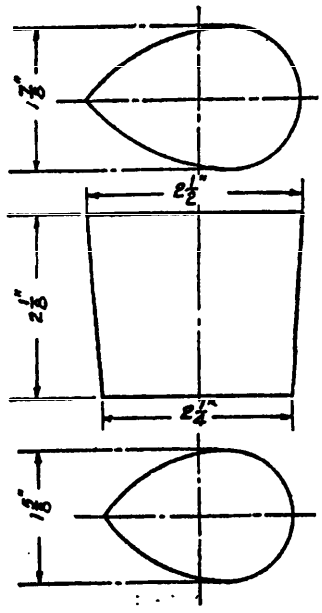

FIGURE 5. Standard eye No. 9.

TABLE II. *Type I, class A hoes, accomac*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)						Eye No.
			A		D		E		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
4-1/2	4-1/4	4-3/4	10-3/4	11-1/4	5-3/4	6-1/4	2	2-3/4	8
5	4-3/4	5-1/4	11	11-3/4	5-7/8	6-3/4	2	2-3/4	8

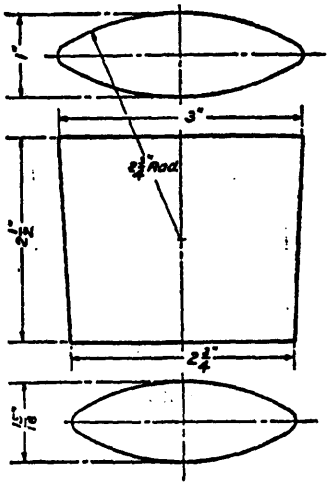

FIGURE 6. Standard eye No. 10.

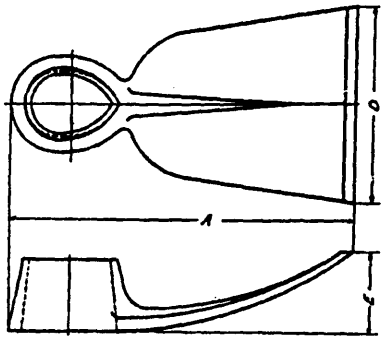

FIGURE 7. Type I, class A hoes, accomac.

3.4 **Eye for hoes.** Unless otherwise specified in the invitation for bids, the blade may be forged integral with the eye or securely riveted, at the option of the contractor.

3.5 **Handles.** When specified (see 6.1), the tools shall be furnished with properly fitting handles. The handles shall be in accordance with NN-H-93.

3.6 **Marking.** Each tool shall be marked in a plain and permanent manner with the manufacturer's name or trademark of such known character that the source of manufacture may be readily determined.

3.6.1 *Military purchases.* The characters "U. S." shall be marked on all items for military use in accordance with MIL-STD-130.

3.7 **Finish.** Hoes, mattocks, and picks shall be coated with paint, oil, or any other rust-resistant material.

3.8 **Type I, class A hoes, accomac.** Type I, class A, accomac hoes shall be in substantial agreement with figure 7, and shall conform to the requirements of table II.

3.9 **Type I, class B hoes, grub.** Type I. class B grub hoes shall be in substantial agreement with figure 8 and shall conform to the requirements of table III.

TABLE III. *Type I, class B hoes, grub*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)						Eye No.
			A		D		E		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
3-1/2	3-1/4	3-3/4	10-1/2	11-1/2	3-1/4	4	2	2-3/4	8

TABLE IV. *Type I, class C hoes, hazel*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)						Eye No.
			A		D		E		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
3	2-3/4	3-1/4	9-3/8	10-1/2	5-3/8	6-1/4	2	2-3/4	9

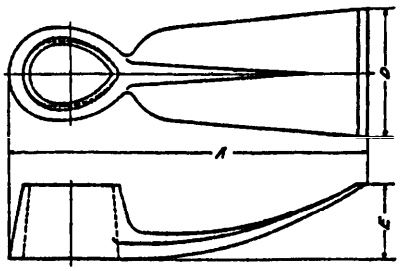

FIGURE 8. Type I, class B hoes, grub.

3.10 **Type I, class C hoes, hazel.** Type I, class C, hazel hoes shall be in substantial agreement with figure 9 and shall conform to the requirements of table IV.

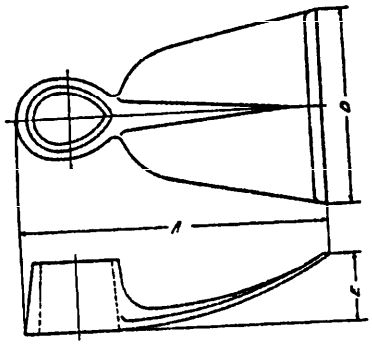

FIGURE 9. Type I, class C hoes, hazel.

3.11 **Type I, class D hoes, planters', tapered round eye.** Unless otherwise specified (see 6.1), type I, class D hoes shall be either of the tapered round eye patterns, known commercially as "American" and "Scovil" (see figures 10 and 11). Unless otherwise specified (see 6.1) type I, class D hoes shall be provided with either a straight or curved blade as shown in figures 10 and 11. At the option of the contractor, the hoe may be furnished plain or with a brace forged integral with the blade and socket. The surface of the forged blade may be either enameled or painted, except that for approximately 1-1/2 inches from the cutting edge it shall be finished smoothly to remove surface irregularities. A hole, groove, or other suitable means shall be provided for insertion of a pin or peg for securing the blade to the handle. The hoe shall conform to the requirements of table V and shall be similar to figure 10 or 11.

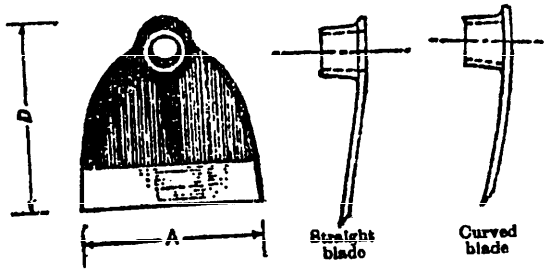

FIGURE 10. Type I, class D hoes, planters' tapered round eye, "American" pattern.

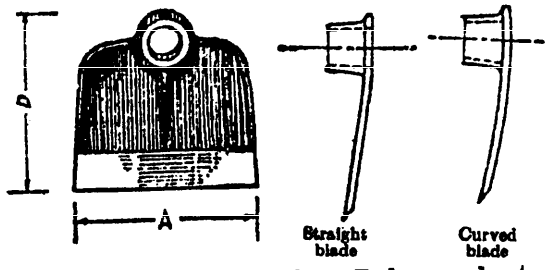

FIGURE 11. Type I, class D hoes, planters' tapered round eye, "Scovil" pattern.

TABLE V. *Type I, class D hoes, planters', tapered round eye, "Scovil" pattern*

Nominal size (pounds)	Actual weights (pounds)		Dimensions (inches)				Large end of eye (inches)	
			A		D			
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1-5/8	1-1/2	1-3/4	7	7-3/4	7-1/8	8-1/4	1-1/2	2

TABLE VI. *Type I, class E hoes, grub tapered round eye*

Nominal size (pounds)	Actual weights (pounds)		Dimensions (inches)				Large end of eye (inches)	
			A		D			
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1-5/8 or 1-7/8	1-1/2	2-1/4	4-1/4	4-3/4	8	9-1/4	1-1/2	2

3.12 Type I, class E hoes, grub, tapered round eye. Type I, class E hoes shall be of the tapered round eye, grub pattern. At the option of the contractor, the hoe may be furnished plain or with a brace, forged integral with the blade and socket. The surface of the forged blade may be either enameled or painted, except that for approximately 1-1/2 inches from the cutting edge it shall be finished smoothly to remove surface irregularities. A hole, groove, or other suitable means shall be provided for insertion of a pin or peg for securing the blade to the handle. The hoe shall conform to the requirements of table VI and shall be similar to figure 12.

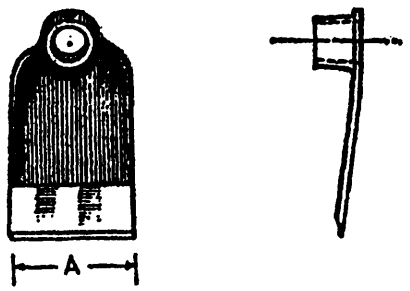

FIGURE 12. Type I, class E hoes, grub tapered round eye.

3.13 Type II, class A, mattocks, asphalt, double eye. Type II, class A, double-eye asphalt mattocks shall be in substantial agreement with figure 13 and shall conform to the requirements of table VII.

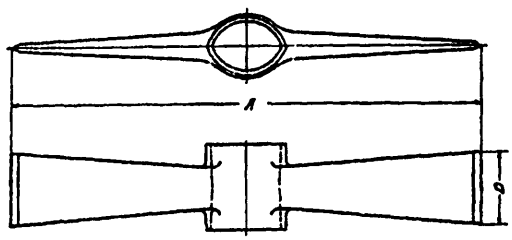

FIGURE 13. Type II, class A mattock, asphalt, double eye.

3.14 Type II, class B mattocks, asphalt, single eye. Type II, class B, single-eye asphalt mattocks shall be in substantial agreement with figure 14 and conform to the requirements of the table VIII.

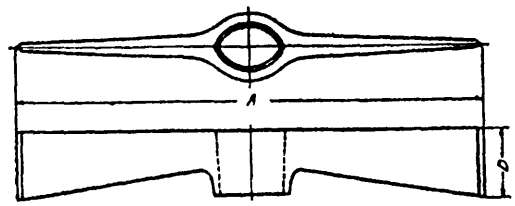

FIGURE 14. Type II, class B mattock, asphalt, single eye.

TABLE VII. *Type II, class A mattock, asphalt, double eye*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)			
			A		D	
	Min.	Max.	Min.	Max.	Min.	Max.
10	9-5/8	10-3/8	19-3/8	20-3/8	2-7/8	3-1/8

TABLE VIII. *Type II, class B mattock, asphalt, single eye*

Nominal size (pounds)	Actual weight (pounds)		Dimensions (inches)				Eye No.
			A		D		
	Min.	Max.	Min.	Max.	Max.	Min.	
9	8-3/4	9-1/4	19-1/4	20-1/4	2-5/8	3	6

3.15 Type II, class C mattocks, brush. Type II, class C, brush mattocks shall be in substantial agreement with figure 15 and shall conform to the requirements of table IX.

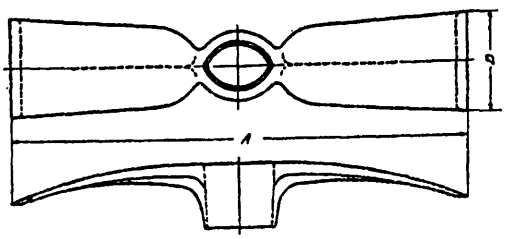

FIGURE 15. Type II, class C mattock, brush.

TABLE IX. *Type II, class C mattock, brush.*

Nominal size (pounds)	Actual weight (pounds)		Dimensions (inches)				Eye No.
			A		D		
	Min.	Max.	Min.	Max.	Min.	Max.	
6	5-3/4	6-1/4	18-1/4	19-1/4	3	3-5/8	6

TABLE X.—*Type II, class D, mattock, cutter*

Nom. size (lbs.)	Actual weight (pounds)		Dimensions (inches)										
			A		B		C		D		E		Eye No.
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
3	2-3/4	3-1/4	12-3/4	13-1/2	7-1/2	7-3/4	5-1/4	5-3/4	2-7/8	3-5/8	2-1/4	2-3/4	7
5	4-3/4	5-1/4	15-1/4	16-1/4	9-1/4	9-3/4	6	6-1/2	2-7/8	3-5/8	2-1/2	3-1/4	6

3.16 Type II, class D mattocks, cutter. Type II, class D, cutter mattocks shall be in substantial agreement with figure 16 and conform to the requirements of table X.

TABLE XI. *Type II, class E mattock, nursery.*

Nominal size (pounds)	Actual weight (pounds)		Dimensions (inches)				Eye No.
			A		D		
	Min.	Max.	Min.	Max.	Min.	Max.	
3	2-3/4	3-1/4	15-1/2	16-1/4	2 3/8	3-1/4	7

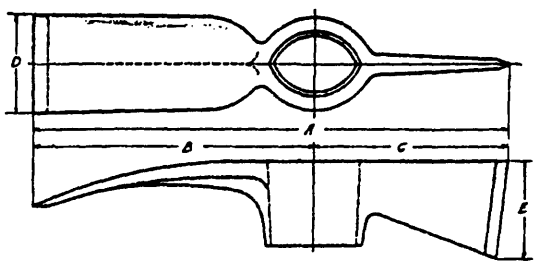

FIGURE 16. Type II, class D mattock, cutter.

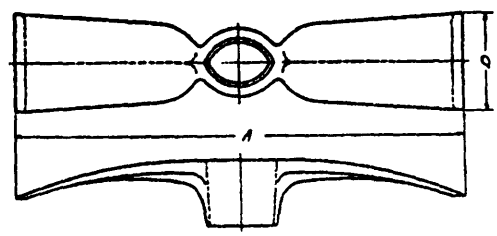

FIGURE 17. Type II, class E mattock, nursery.

3.17 **Type II, class E mattocks, nursery.** Type II, class E nursery mattocks shall be in substantial agreement with figure 17 and shall conform to the requirements of table XI.

3.18 **Type II, class F, mattocks, pick.** Type II, class F pick mattocks shall be in substantial agreement with figure 18 and shall conform to the requirements of table XII.

TABLE XII. *Type II, class F mattock, pick*

Nom. size (lbs.)	Actual weight (pounds)		Dimensions (inches)								Eye No.
			A		B		C		D		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
5	4-3/4	5-1/4	18-1/2	19-1/2	8-3/4	9-3/4	9-3/4	10-1/4	3-3/8	3-5/8	6

TABLE XIII. *Type III, class A picks, contractors' point and chisel ends*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)						Eye No.
			A		B		C		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
9	8-3/4	9-1/4	29-1/2	30-1/2	14-3/4	15-1/4	1-1/2	1-3/4	6

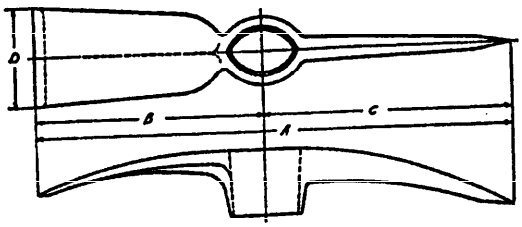

FIGURE 18. Type II, class F mattock, pick.

3.19 Type III, class A picks, contractors', point and chisel ends. Type III, class A, contractors' point and chisel-end picks shall be in substantial agreement with figure 19 and shall conform to the requirements of table XIII.

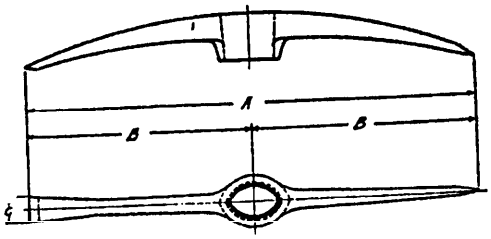

FIGURE 19. Type III, class A picks, contractors' point and chisel ends.

3.20 Type III, class B picks, contractors' round tapered points. Type III, class B, contractors' round tapered-point picks shall be in substantial agreement with figure 20 and shall conform to the requirements of table XIV.

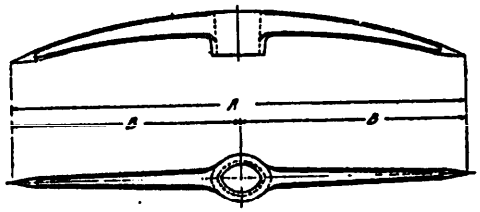

FIGURE 20. Type III, class B picks, contractors', round tapered points.

3.21 Type III, class C picks, contractors', square point each end. Type III, class C, contractors' square point each end picks shall be in substantial agreement with figure 21 and shall conform to the requirements of table XV.

TABLE XIV. *Type III, class B, picks, contractors', round tapered points*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)				Eye No.
			A		B		
	Min.	Max.	Min.	Max.	Min.	Max.	
8	7-3/4	8-1/4	29-1/2	30-1/2	14-3/4	15-1/4	6

TABLE XV. *Type III, class C, picks, contractors' square point each end*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)				Eye No.
			A		B		
	Min.	Max.	Min.	Max.	Min.	Max.	
7	6-3/4	7-1/4	27-1/2	28-1/2	13-3/4	14-1/4	6
8	7-3/4	8-1/4	28-1/2	29-1/2	14-1/4	14-3/4	6
9	8-3/4	9-1/4	29-1/2	30-1/2	14-3/4	15-1/4	6

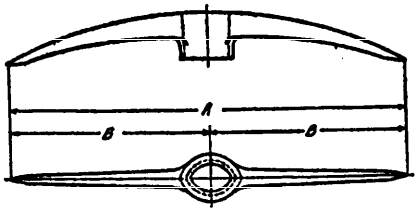

FIGURE 21. Type III, class C picks, contractor's square point each end.

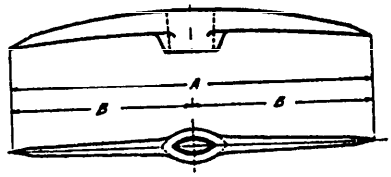

FIGURE 22. *Type III, class D picks, drifting.*

3.22 **Type III, class D picks, drifting.** Type III, class D, drifting picks shall be in substantial agreement with figure 22 and shall conform to the requirements of table XVI.

3.23 **Type III, class E picks, ore, point and chisel ends.** Type III, class E, ore picks with point and chisel ends shall be in substantial agreement with figure 23 and shall conform to the requirements of table XVII.

TABLE XVI. *Type III, class D picks, drifting*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)				Eye No.
			A		B		
	Min.	Max.	Min.	Max.	Min.	Max.	
4	3-3/4	4-1/4	20-1/2	21-1/2	10-1/4	10-3/4	10
5	4-3/4	5-1/4	24-1/2	25-1/2	12-1/4	12-3/4	10
6	5-3/4	6-1/4	25-1/2	26-1/2	12-3/4	18-1/4	10

TABLE XVII. *Type III, class E picks, ore point and chisel ends*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)				Eye No.
			A		B		
	Min.	Max.	Min.	Max.	Min.	Max.	
7	6-3/4	7-1/4	21-1/2	22-1/2	10-3/4	11-1/4	6

TABLE XVIII. *Type III, class F picks, poll or mining*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)						Eye No.
			A		B		C		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
5	4-3/4	5-1/4	15-1/4	16-3/4	9-5/8	10-3/8	5-5/8	6-3/8	10

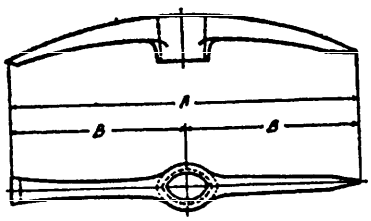

FIGURE 23. Type III, class E picks, ore point and chisel ends.

3.24 Type III, class F picks, poll or mining. Type III, class F, poll or mining picks shall be in substantial agreement with figure 24 and shall conform to the requirements of table XVIII.

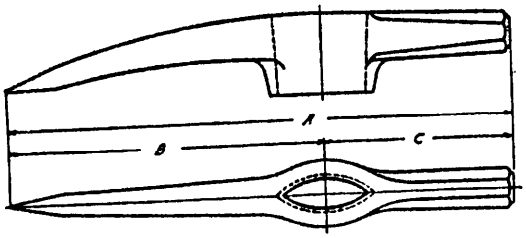

FIGURE 24. Type III, class F picks, poll or mining.

3.25 Type III, class G picks, railroad, double point. Type III, class G, railroad, double-point picks shall be in substantial agreement with figure 25 and shall conform to the requirements of table XIX.

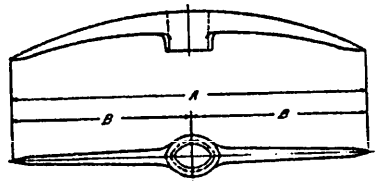

FIGURE 25. Type III, class G picks, railroad, double point.

3.26 Type III, class H picks, railroad or clay, point and chisel ends. Type III, class H, railroad or clay picks with point and chisel ends shall be in substantial agreement with figure 26 and shall conform to the requirements of table XX.

TABLE XIX. *Type III, class G picks, railroad, double point*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)				Eye No.
			A		B		
	Min.	Max.	Min.	Max.	Min.	Max.	
6	5-3/4	6-1/4	22-1/4	24	11-1/8	12	6
7	6-3/4	7-1/4	24-1/2	25-1/2	12-1/4	12-3/4	6
9	8-3/4	9-1/4	26-1/2	27-1/2	13-1/4	13-3/4	6

TABLE XX. *Type III, class H picks, railroad or clay, point and chisel ends*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)						Eye No.
			A		B		C		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
6	5-3/4	6-1/4	22-1/2	23-1/2	11-1/4	11-3/4	1-1/4	1-1/2	6
7	6-3/4	7-1/4	24-1/4	25-1/2	12-1/8	12-3/4	1-1/4	1-5/8	6
9	8-3/4	9-1/4	26-1/2	27-1/2	13-1/4	13-3/4	1-1/4	1-5/8	6

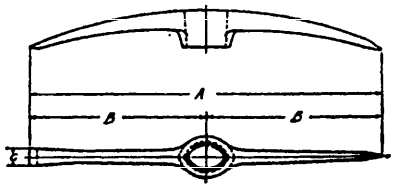

FIGURE 26. Type III, class H picks, railroad or clay, point and chisel ends.

3.27 Type III, class I, picks, rock or ore, double point. Type III, class I, rock or ore, double point picks shall be in substantial agreement with figure 27 and shall conform to the requirements of table XXI.

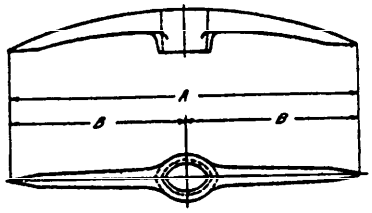

FIGURE 27. Type III, class I picks, rock or ore, double point.

3.28 Type III, class J picks, stone. Type III, class J, stone picks shall be in substantial agreement with figure 28 and shall conform to the requirements of table XXII.

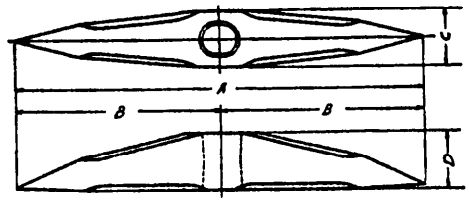

FIGURE 28. Type III, class J picks, stone.

3.29 Type III, class K, picks, tamping (railroad standard). Type III, class K, tamping picks (railroad standard), shall be in substantial agreement with figure 29, and shall conform to the requirements of table XXIII.

TABLE XXI. *Type III, class I picks, rock or ore, double point*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)				Eye No.
			A		B		
	Min.	Max.	Min.	Max.	Min.	Max.	
7	6-3/4	7-1/4	21-1/2	22-1/2	10-3/4	11-1/4	6

TABLE XXII. *Type III, class J picks, stone*

Nom. size (pounds)	Actual weight (pounds)		Dimensions (inches)						Eye		
			A		B		C and D		No.	Width (W) Min. Inch	Length (L) Max. Inches
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.			
7	6-3/4	7-1/4	15-1/2	16-1/4	7-3/4	8-1/8	1-3/4	1-7/8	2	1	1-3/8
8	7-3/4	8-1/4	16	16-3/4	8	8-3/8	1-3/4	2	2	1	1-3/8

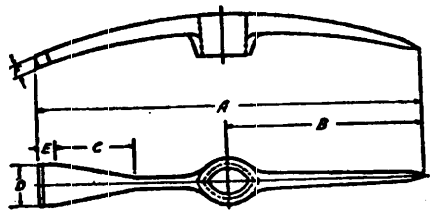

FIGURE 29. Type III, class K picks, tamping (railroad standard).

TABLE XXIII. *Type III, class K picks, tamping (railroad standard)*

Actual weight (pounds)		Dimensions (inches)												Eye No.
		A		B		C		D		E		F		
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
7/3-4	8-1/4	24	25	12-1/4	12-3/4	4-7/3	5-1/8	2-3/8	2-5/8	7/8	1-1/8	3/4	7/8	6

3.30 Workmanship. Workmanship shall be first class. The tools shall be free from rust and defects which may affect their serviceability, durability, appearance, or the safety of the user.

4. SAMPLING, INSPECTION, AND TEST PROCEDURE

4.1 Inspection responsibility. The supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own or any other inspection facilities and services acceptable to the Government. Inspection records of the examinations and tests shall be kept complete and available to the Government as specified in the contract or order. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Sampling for inspection and acceptance. Sampling for inspection and acceptance shall be performed in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated herein.

4.2.1 *Inspection of materials and components.* In accordance with 4.1, the supplier is responsible for insuring that components and materials used were manufactured, tested and inspected in accordance with the requirements of referenced subsidiary specifications and standards to the extent specified herein, or, if none, in accordance with this specification.

4.2.2 *Inspection of the end item* Representative samples of the completed hoes, mattocks, or picks shall be inspected to determine compliance with this specification. A lot shall consist of hoes, mattocks, or picks of one type and class. The sample unit shall be one completely fabricated end item.

4.2.2.1 *Visual examination.* Examination of the hoes, mattocks or picks shall be made for the defects listed in table XXIV. Inspection level shall be level II with an acceptable quality level of 4.0 defects per 100 units.

4.2.2.2 *Dimensional examination.* Each sample unit shall be examined for dimensions specified in applicable paragraphs and tables. Any deviation therefrom shall constitute a defect. The inspection level shall be level L-4, with an acceptable quality level of 4.0 defects per 100 units.

TABLE XXIV. *Classification of defects*

Examine	Defect
Material	Type and class not as specified.
	Steel forging not as specified.
Design	Any characteristic not in accordance with specifed design.
Finish	Not coated as specified.
	Rust or scale on tool.
Paint (when applicable)	Paint peeling, blistering or chipping.
	Paint not dry.
Handle (when applicable)	Handle not of specified wood.
	Handle not properly fitted.
Tool	Not coated with paint, oil or other rust-resistant material.
	Break or crack in eye of tool, eye buckled or spread.
	Tool edge not sharpened as specified.
	Evidence of cracks, burrs or forging flash.
Marking	Missing, incomplete, not as specified.

4.2.3 *Testing.* Each sample unit of one type and class tool of the same heat-treated batch shall be tested as specified in 4.3 through 4.3.2.2 as applicable. Any determination not within specified requirements shall constitute a defect. The inspection level shall be level L-4, with an acceptable quality level of 1.5 defects per 100 units.

4.2.4 *Inspection of preparation for delivery.* Unless otherwise specified (see 6.1), inspection to determine compliance with pre-

paration for delivery requirements shall be accomplished in accordance with MIL-H-15424.

4.3 Tests. Any or all tests as outlined below shall be conducted on the representative samples. Failure to meet any of the prescribed tests shall be sufficient cause to consider that the lot represented by the specimen hoe, mattock, or pick does not comply with the specification.

4.3.1 *Hardness.* The sample tool or tools shall be tested to determine compliance with the requirements as to Rockwell or Brinell hardness specified herein (see 3.2.1.1).

4.3.2 *Physical test.*

4.3.2.1 *Hoes.* Clamp the outer edge of the eye securely so that the tool curves upward, and then place a distributed load of 200 pounds over the entire width of the blade. The sample hoe shall be considered as not meeting the requirements of this specification if the resulting deflection is greater than 1/4 inch and the permanent set when the load is removed is greater than 1/8 inch, as measured from the cutting edge.

4.3.2.2 *Mattocks and picks.* Place a load of 1,000 pounds on the eye of the mattock or pick when the tool is in a convex position with the ends supported on steel blocks. The sample mattock or pick shall be considered as not meeting the requirements of this specification if under this load the deflection of the mattock or pick at the eye is more than 1/4 inch and when the load is removed the permanent set is greater than 1/8 inch.

5. PREPARATION FOR DELIVERY

(Civil agencies. Fed. Std. No. 102 should be referred to for definitions and applications of the various levels of packaging protection for supplies and equipment).

5.1 Preservation and packaging.

5.1.1 *Level A.* Level A cleaning, preservation, and packaging shall be in accordance with level A of MIL-H-15424.

5.1.2 *Level C.* Level C cleaning, preservation, and packaging shall be in accordance with the contractor's commercial practice.

5.2 Packing.

5.2.1 *Level A.* Level A packing shall be in accordance with level A of MIL-H-15424.

5.2.2 *Level B.* Level B packing shall be in accordance with level B of MIL-H-15424.

5.2.3 *Level C.* Hoes, mattocks and picks, cleaned, preserved and packaged as specified in 5.1 shall be packed in a manner to insure carrier acceptance and safe delivery at destination. Containers shall be in accordance with the rules or regulations of carriers as applicable to the mode of transportation.

5.3 Marking.

5.3.1 *Civil agencies.* In addition to any special marking specified in the contract or order, each unit and intermediate package and shipping container shall be marked in accordance with Federal Standard No. 123.

5.3.2 *Military.* Interior packages and shipping containers shall be marked in accordance with MIL-H-15424.

6. NOTES

6.1 Ordering data. Purchasers should exercise any desired options offered herein, and procurement documents should specify the following:

(a) Title, number, and date of this specification.

(b) Type and class required (see 1.2.1).

(c) Size required (see 1.2.2 and tables).

(d) If the tools are to be furnished with fitted handles, so state (see 1.2.1 and 3.5).

(e) If type I, class D planters' hoes are to be of a specific pattern, state whether "American" or "Scovil" pattern is required (see 3.11).

(f) If type I, class D planters' hoes are to be furnished with specific shape blade, state whether "straight" or "curved blade is required (see 3.11).

(g) State the level of packaging and packing protection required (see section 5).

6.2 **Illustration.** The illustrations shown herein are for the purpose of identification and are not intended to preclude any tool which otherwise meets the requirements of this specification.

6.3 It is believed that this specification adequately describes the characteristics necessary to secure the desired material, and that normally no samples will be necessary prior to award to determine compliance with this specification. If, for any particular purpose, samples with bids are necessary, they should be specifically asked for in the invitation for bids, and the particular purpose to be served by the bid sample should be definitely stated, the specification to apply in all other respects.

6.4 **Transportation description.** Transportation descriptions and minimum weights applicable to this commodity are:

HOES

Rail: Hoes, not wheeled.

Carload minimum weight 24,000 pounds, subject to Rule 34, Uniform Freight Classification.

Motor: Hoes, not wheeled.

Truckload minimum weight 24,000 pounds.

MATTOCKS AND PICKS

Rail: Mattocks or picks, without handles.

Carload minimum weight 36,000 pounds.

Motor: Mattocks or picks, without handles.

Motor volume minimum weight 36,000 pounds.

Rail: Mattocks or picks, handled.

Carload minimum weight 30,000 pounds.

Motor: Mattocks or picks, handled.

Mattocks—Motor volume minimum weight 30,000 pounds.
Picks —Truckload minimum weight 30,000 pounds, subjest to Rule 34, National Motor Freight Classification.

MILITARY CUSTODIANS:

Army—Q

Navy—Y

Air Force.