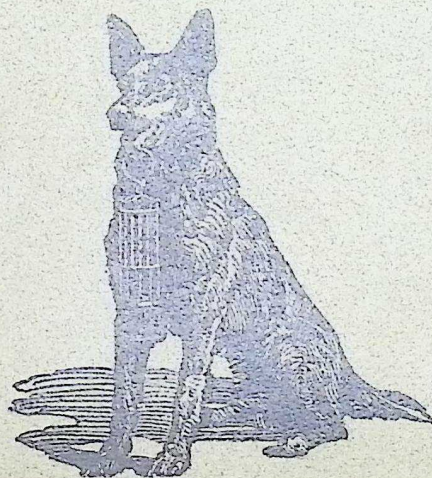


# WOLF SAFETY LAMP CO. OF AMERICA, INC.



Trademark  
"WOLF"  
REGISTERED U. S. PATENT OFFICE

MINE SAFETY APPLIANCES COMPANY  
BRADDOCK AVE. & THOMAS BLVD.  
HOMEROCK STATION  
PITTSBURGH, PENNA.

**Important-Do Not Destroy**

### INTRODUCTION

The Wolf Flame Safety Lamp is a bonneted, double gauze, underfed, naphtha burning lamp, magnetically locked and equipped with internal igniter. The air enters the lamp through the gauze protected opening at the bottom of the glass cylinder as well as over the top of the glass. The products of combustion pass through double gauzes and escape through a large opening at the top of the lamp between the bonnet and hood, and through numerous small slits in the surface of the bonnet. It is widely used by the mining industry for detecting methane (firedamp) and the presence of oxygen deficiency in coal mine atmospheres.

Wolf Safety Lamp Co. of America, Inc.

68-72 EMERSON PLACE  
227 GRAND AVENUE

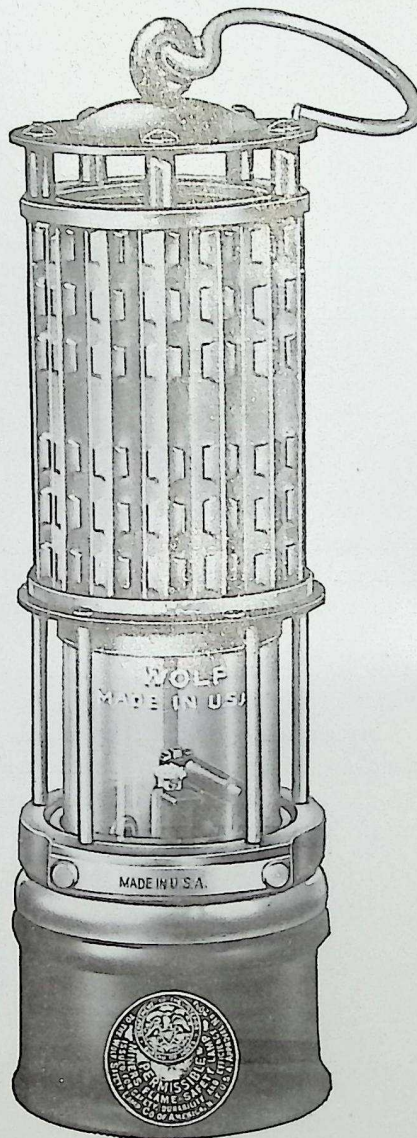
BROOKLYN, NEW YORK

Trademark  
"WOLF"  
Registered U. S. Patent Office

## WOLF MINERS SAFETY LAMP

No. 100

(Approved by the U. S. Bureau of Mines)



PRODUCT OF

# Wolf Safety Lamp Co. of America, Inc.

68-72 ~~EMERSON PLACE~~  
227 GRAND AVENUE

BROOKLYN, NEW YORK

# INSTRUCTIONS FOR THE CARE AND MAINTENANCE OF WOLF FLAME SAFETY LAMPS.

## OPENING OF LAMP

For opening Wolf Lamps provided with magnetic lock, the lock ring is pressed against the magnet so that the two projecting poles of the lock are pressed against both poles of the magnet. The upper part of the lamp is held in one hand while the font is grasped with the other. A slight turn is then made to the right so as to allow the anchor beam of the lock to free itself from the slot in the screw thread on the lamp font. Then the font is turned to the left until it is detached from the lamp top. The lamp has to be held against the magnet until this operation is completed.

## FUEL

Only naphtha or high grade gasoline of good quality should be used; which should have a specific gravity of 0.70 to 0.72.

## FILLING THE LAMP WITH FUEL

In filling the lamp only a sufficient amount of fuel to saturate the cotton, with which the font is packed, should be used. After the lamp has been filled it should be turned upside-down so that any excess fuel will drain out. Care should be taken to remove any fuel which may remain on the outside of the font after filling. This precaution is necessary because when the lamp becomes heated this excess fuel may evaporate and enter the testing flame; thereby tending to give false indications.

## EXAMINING AND CLEANING WIRE GAUZES

The wire gauzes constitute the safety feature of the lamp and any deterioration of them, slight as it may be, is a direct source of danger. It is therefore very important that they should be examined carefully for indications of wear or any other imperfections. Even though no indication of wear is visible, the gauzes should not be used for too great a length of time, since the heat of the flame oxidizes the wires which gradually reduces the diameter of the wires. This increases the area of the mesh of the gauzes, thus permitting the entrance of a greater amount of air with a subsequent decrease in the safety feature of the lamp. The air admission ring of the lamp is also provided with two wire gauzes which require careful attention. Although these latter gauzes are not exposed to the heat of the flame they should be carefully examined frequently to determine whether they are in good condition and are properly connected to the ring. If found deteriorated in any way, they should immediately be replaced with new gauzes.

## ASSEMBLING LAMP

Care should be taken to ensure the lamp has been properly assembled after filling or cleaning. Some of the errors likely to occur in assembling the lamp are:

- (a) Omission of one of the gauzes.
- (b) Failure to screw the fuel font into place so as to make a tight fit between the glass globe and gaskets.
- (c) Placing a defective gauze in the lamp.
- (d) Leaving one or both gaskets out.
- (e) Inserting a chipped or cracked glass chimney.

## IGNITION

The igniter is operated by means of the swivel located on the underside of the font. The swivel is attached to the swivel bar by means of a right-handed threaded connection. To operate the igniter the swivel should be swung into a vertical position and then pushed up so as to bring the friction wheel and spark pin on a level with the top of the burner tube. The swivel should then be turned to the right

until a spark is obtained. After the igniter has been operated, it should be lowered by pulling down on the swivel; after which the swivel should be swung to a horizontal position so as to clear the knob for the wick adjustment.

The wick is adjusted by turning the wick adjustment knob which is located on the bottom of the font.

When the lamp is not in use the wick should be lowered all the way down to prevent evaporation of the fuel.

### PREPARING LAMP FOR TESTING

After the lamp has been prepared for use it should be carefully examined to ensure that all parts are in good condition, that they fit properly and that no parts are missing. It is very important that the gauzes are free from dust, oil, rust, soot, or any other obstructions which will interfere with the air circulation of the lamp. Attention should also be given to the wick. It should be trimmed of excess crust to prevent clogging; so that the fuel will feed freely and produce a flame which is stable and uniform. The lamp should be lighted some time before it is taken to the place that is to be examined for the presence of gas, so that it may have an opportunity to reach its normal operating temperature.

### OBSERVATION OF THE FLAME

A Safety Lamp flame will show the presence of gas before the percentage of gas reaches the lower explosive limit. The elongation of the flame of the lamp, caused by gas, is a pale blue flame (cap) that appears to ride on the lamp flame. Two different methods are employed in testing for gas with a Safety Lamp—the use of a short, almost nonluminous flame, about 1/10" to 1/8" high, and the use of a normal service flame which is about 3/4" high. Both of these methods are reliable and accurate. A careful observer can detect as little as 1% of gas, or at least the approximate percentage of gas present.

While making tests the lamp must be held firmly upright with the hand underneath the fuel vessel. It should be raised very slowly. In a mine, gas (methane) rises to the roof because it is much lighter than air; thus the proportion of gas in the atmosphere will usually be found to increase as the roof is approached, and when the behavior of the flame indicates that a dangerous percentage of gas is being approached the lamp should be withdrawn.

Deficiency of oxygen in mine air will be indicated by a dimming of the flame, and when the oxygen gets as low as 17% the flame will be extinguished. The reduction of oxygen in mine air is due to the presence of black damp and often some of the oxygen in the air being absorbed by the coal.

### PRECAUTIONS

Certain precautions should be observed in the use of Safety Lamps:

1. Be sure that the lamp is locked before being taken into the mine.
2. Examine it carefully yourself to see that it is in good condition, even if it has passed the Lamp Inspector.
3. Do not set your lamp on the bottom of the mine. It may be accidently upset and extinguished, and the glass globe may be broken. It is better to hang the lamp on a timber by a stout nail.
4. When testing for gas be careful to prevent dripping water from striking the glass globe.
5. When gas flames up in your lamp, withdraw the lamp slowly and carefully, and if the flame goes out retire to fresh air before attempting to relight it.

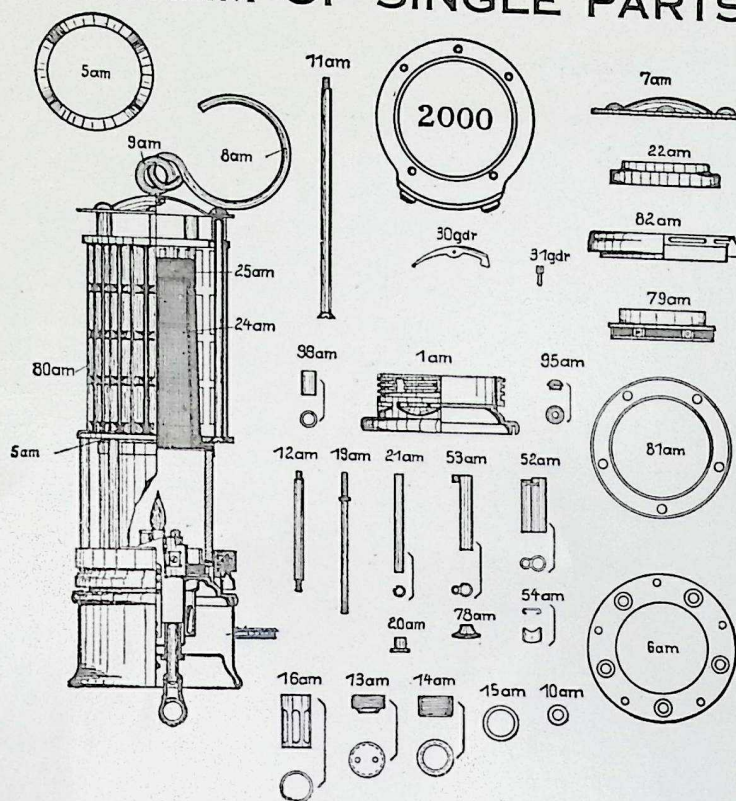
N. B.—(Bulletin No. 227 issued by the United States Bureau of Mines has been our guide in drafting the above instructions.)

## Wolf Safety Lamp Co. of America, Inc.

68-72 ~~EMERSON PLACE~~  
227 GRAND AVENUE

BROOKLYN, NEW YORK

# DIAGRAM OF SINGLE PARTS



- No. 2000 —Complete Magnetic Lock Ring
- No. 26 gdr—Plate covering lock
- No. 27 gdr—Spring Pole
- No. 28 gdr—Tail Pole
- No. 29 gdr—Spring only
- No. 30 gdr—Anchor Beam without spring

- No. 31 gdr—Screw for anchor beam
- No. 32 gdr—Anchor Beam with spring for new type lock ring
- No. 2550—Complete Key Lock Ring
- No. 31 nv—Lock Screw
- No. 34 nv—Key

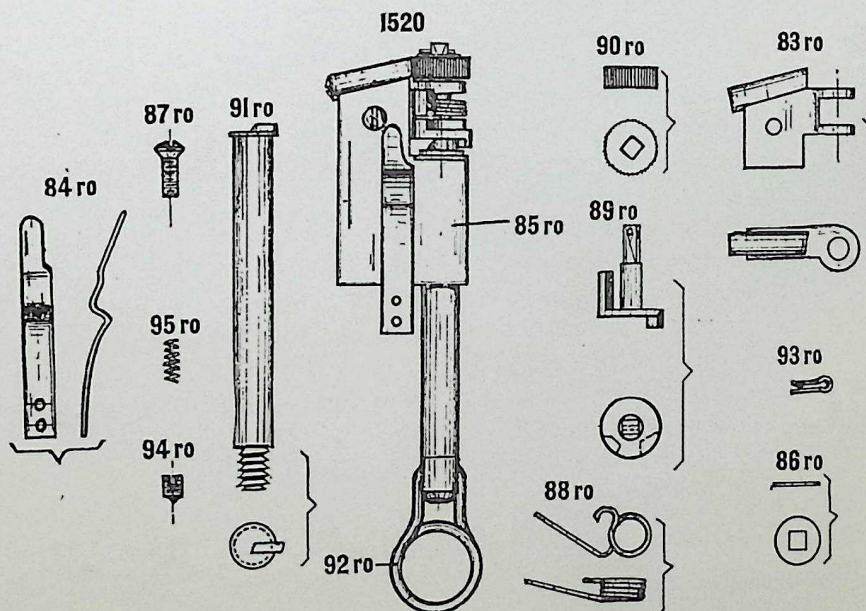
No. 1 am—Top of Lamp Font

- No. 5 am—Spring Ring
- No. 6 am—Middle Ring
- No. 7 am—Dome Top
- No. 8 am—Round hook
- No. 9 am—Eyelet
- No. 10 am—Washer
- No. 11 am—Rod with screw head
- No. 12 am—Rod fronting glass chimney
- No. 13 am—Filling Hole Stopper
- No. 13 am—Filling Hole Stopper, new type
- No. 14 am—Filling Hole with screw thread
- No. 15 am—Leather Washer
- No. 16 am—Cylindrical Cotton Spreader
- No. 19 am—Wick Adjuster
- No. 20 am—Bushing
- No. 21 am—Wick Adjuster Guide Tube
- No. 22 am—Gauze Ring
- No. 24 am—Outer Gauze
- No. 25 am—Inner Gauze
- No. 52 am—Burner for round wick
- No. 52 am—Burner for flat wick
- No. 53 am—Wick Holder for round wick
- No. 53 am—Wick Holder for flat wick
- No. 54 am—Wick Stop for round wick
- No. 54 am—Wick Stop for flat wick
- No. 78 am—Wick Adjuster Knob
- No. 79 am—Air Admission Ring
- No. 80 am—Corrugated Shield
- No. 81 am—Strengthening Ring (Upper)
- No. 82 am—Protecting Ring
- No. 83 am—Strengthening Ring (Lower)
- No. 95 am—Nut
- No. 98 am—Tube
- U. Z. Lamp Font Complete

It is essential when ordering Lamps to state whether round or flat burner is required. Lamps No. 100, equipped with magnetic lock, and No. 131, equipped with key lock, are made in Steel with brass trimmings, Brass and Aluminum. When ordering extra parts, state whether for steel, brass or aluminum lamps. Key lock Lamps do not bear the approval of the Bureau of Mines.

## DIAGRAM OF METAL SPARK IGNITER AND PARTS

- No. 1520 —Metal Spark Igniter complete
- No. 83 ro—Case for metal spark pin
- No. 84 ro—Side Spring
- No. 85 ro—Igniter Case
- No. 86 ro—Washer for friction wheel
- No. 87 ro—Screw for 83 ro
- No. 88 ro—Spring for friction wheel
- No. 89 ro—Spindle for friction wheel
- No. 90 ro—Friction Wheel
- No. 91 ro—Swivel bar threaded
- No. 92 ro—Swivel
- No. 93 ro—Cotter Pin
- No. 94 ro—Screw for adjusting ignition
- No. 95ro—Spiral Spring for spark pin
- No. 96 ro—Key for operating igniter
- No. 1506 —Metal Spark Pin

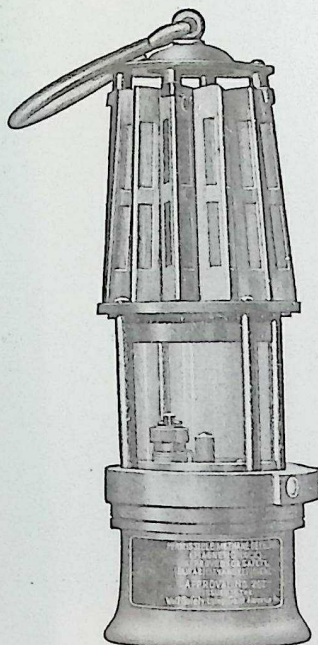


When ordering complete igniter and parts for Baby Lamps "RO. BE." should be specified.

# No. 603 Wolf Baby Methane Detector

(U. S. Bureau of Mines Approval)

No. 602c Same construction, but with key lock. (Not approved.)

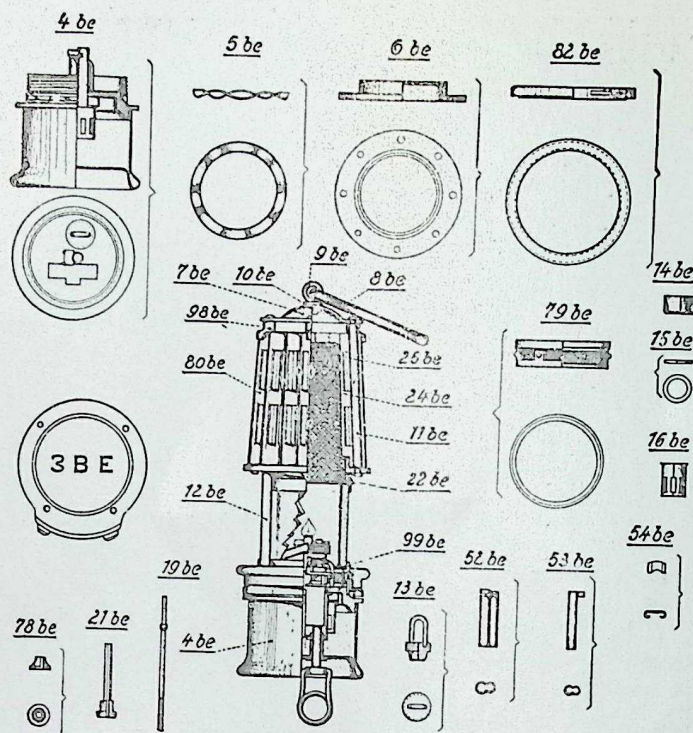


- No. 2 be—Screw Ring without lock
- No. 2 be—Screw Ring with key lock for 602c.
- No. 3 be—Magnetic Lock Ring
- No. 5 be—Expansion Ring
- No. 6 be—Middle Ring
- No. 7 be—Dome Top of Lamp
- No. 8 be—Handle of Lamp
- No. 9 be—Eyelet and Washer
- No. 11 be—Rod with screw head
- No. 12 be—Rod fronting glass chimney
- No. 13 be—Filling Hole Stopper

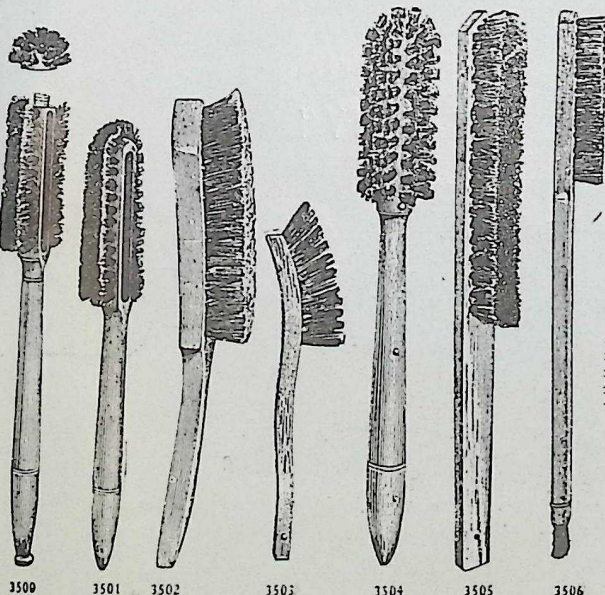
- No. 14 be—Filling Hole with screw thread
- No. 15 be—Leather Washer
- No. 16 be—Cotton Spreader
- No. 19 be—Wick Adjuster
- No. 21 be—Wick Adjuster Tube
- No. 22 be—Gauze Ring
- No. 24 be—Outer Gauze
- No. 25 be—Inner Gauze
- No. 52 be—Burrer
- No. 53 be—Wick Holder
- No. 54 be—Wick Stop

- No. 78 be—Wick Adjuster Knob
- No. 79 be—Air Admission Ring with gauze
- No. 81 be—Corrugated Shield
- No. 82 be—Protecting Ring
- No. 98 be—Tube for corrugated shield
- No. 99 be—Asbestos Washer
- U. Z. Complete Lamp Font
- No. 31 be—Lock Screw
- No. 34 be—Key for lock ring
- No. 35 be—Anchor Beam
- No. 36 be—Spring for anchor beam
- No. 37 be—Screw for anchor beam

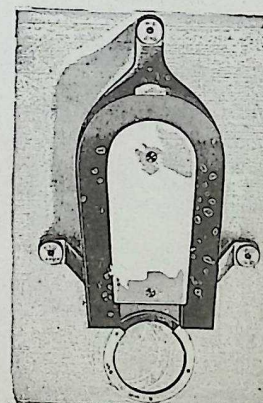
## DIAGRAM OF SINGLE PARTS



## Metal (Brass Wire) and Bristle Hand Brushes for cleaning lamps and gauzes

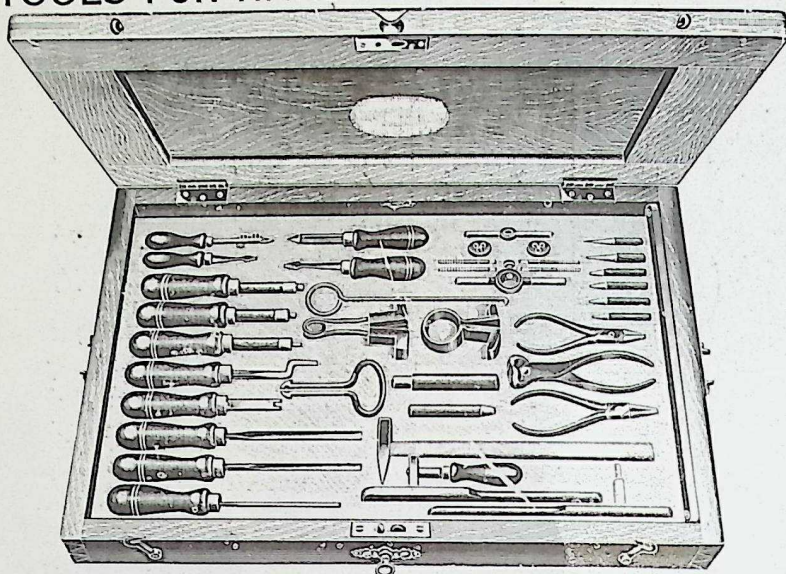


- No. 3500 —Metal Gauze Brush (large), round, movable top
- No. 3501 —Metal Gauze Brush (small), round
- No. 3502 —Flat Metal Gauze Brush (large)
- No. 3503 —Flat Metal Gauze Brush (small)
- No. 3504 —Round Bristle Brush
- No. 3505 —Flat Bristle Brush (large)
- No. 3505 —Flat Bristle Brush (small)
- No. 3504b —Small, half round, bristle brush for cleaning gauzes of Baby Lamps



Magnet for Locking and Opening Miners' Safety Lamps

# TOOLS FOR HANDLING AND REPAIRING WOLF SAFETY LAMPS

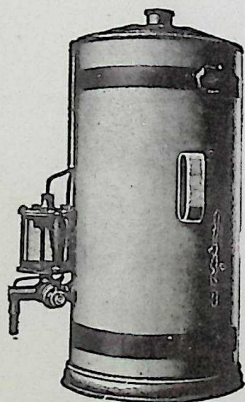


No. 4205

Order No. 4205—Tool chest, complete with tools for repairing Wolf Safety Lamps. Size 27½ x 20 x 5 inches.

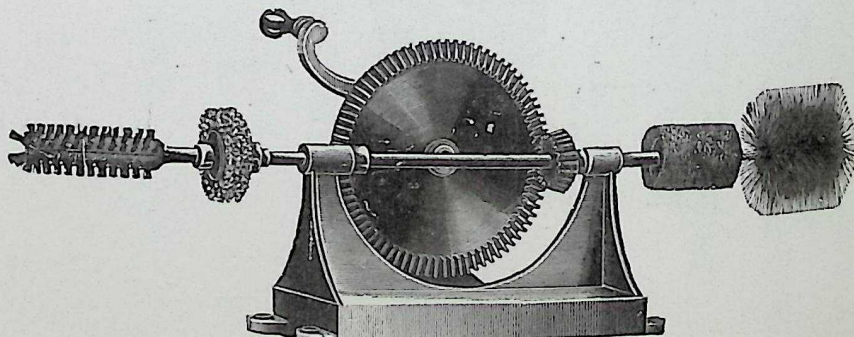
- No. 4000—Setting tool for riveting bonnets
- No. 4001—Setting tool for riveting dome of lamp with bonnet
- No. 4002—Setting tool for riveting dome of lamp
- No. 4003—Setting tool for riveting middle ring of lamp with undetachable bonnet
- No. 4004—Tool for inserting rivets in bonnet
- No. 4005—Tool for inserting rivets in dome top of lamp
- No. 4006—Tool for inserting rivets in middle ring
- No. 4009—Anvil block for riveting spring for igniter, Mod. 1905
- No. 4010—Anvil block for riveting spring for igniter, Mod. 1907 and 1914
- No. 4011—Punch to adjust wick holder of flat burner lamp
- No. 4012—Punch to adjust burner of flat burner lamp
- No. 4013—Punch to adjust cotton spreader
- No. 4014—Punch for inserting cotton spreader
- No. 4015—Vise jaws for riveting standards on lamps without bonnets
- No. 4016—Vise jaws for riveting standards on lamps with bonnets
- No. 4017—Vise jaws for screwing standards
- No. 4018—Vise jaws for riveting eyelets
- No. 4019—Vise jaws for riveting pullbars, Mod. 1905
- No. 4020—Vise jaws for riveting pullbars, Mod. 1907 and 1914
- No. 4021—Rivet set for standards
- No. 4022—Rivet set for igniter coil pin
- No. 4023—Punch for frame rods
- No. 4024—Punch for igniter coil pin
- No. 4025—Rivet header for frame rods

No. 3205



Filling Apparatus for Wolf's Naphtha Safety Lamps

## CLEANING MACHINE FOR WOLF'S SAFETY LAMPS



No. 3511—Small horizontal hand-power machine, suitable for small lamp cabins, for cleaning gauzes as well as glass chimneys.

- No. 4026—Header for igniter coil pin
- No. 4027—Key to insert lower heavy gauze ring (bayonet lock)
- No. 4029—Tongs for drawing out cotton spreader No. 16 on normal fonts
- No. 4029—Tongs for drawing out cotton spreader No. 16 on Baby Lamps
- No. 4030—Tongs for inserting flat wick
- No. 4031—Tongs for pushing flat wick into lamp font
- No. 4033—Tongs for drawing out lower heavy gauze ring
- No. 4034—Hook for drawing cotton from normal fonts
- No. 4035—Hook for inserting cotton into font
- No. 4036—Cutting pliers
- No. 4037—Flat pliers
- No. 4038—Round pliers
- No. 4039—Hand vise
- No. 4040—Small screw driver
- No. 4041—Large screw driver
- No. 4042—Forked key
- No. 4043—Three cornered scraper
- No. 4044—Scraper for magnetic lock ring
- No. 4045—Hooked scraper
- No. 4047—Template for soldering wax igniter case.
- No. 4049—Soldering iron
- No. 4050—Pushing tool for scratcher
- No. 4051—Lifter for scratcher on igniter
- No. 4053—Igniter brush, Model 93
- No. 4054—Igniter brush, Model 97
- No. 4057—Large hammer
- No. 4058—Small hammer
- No. 4059—Mill cutter for tube on igniter case holder
- No. 4060—Mill cutter for wick adjuster tube
- No. 4061—Mill cutter for tube on igniter case
- No. 4062—Fraising wheel for cutting lock grooves in screw tops of lamp fonts
- No. 4063—Reamer for tube on igniter case holder
- No. 4064—Reamer for tube on igniter case
- No. 4065—Reamer for wick adjuster tube
- No. 4066—Lock ring clamp for recutting thread
- No. 4068—Tap for cutting thread on screw rings
- No. 4069—Adjustable die with reserve cutter for threading screw tops of lamp fonts
- No. 4072—Tap for recutting filling holes
- No. 4073—Die for recutting filling hole stoppers
- No. 4074—Die for recutting frame rods and wick adjuster
- No. 4075—Tap for frame rods
- No. 4076—Tap for wick holder
- No. 4077—Small winged wrench
- No. 4078—Small chisel for loosening springs
- No. 4079—Punch for cutting leather rings
- No. 4040a—Small screw driver for metal spark igniter, Mod. 1914
- No. 4033a—Swivel tongs for metal spark igniter, Mod. 1914
- No. 4054a—Brush for cleaning igniter case for metal spark igniter, Mod. 1914
- No. 4055a—Forked key for nut for metal spark igniter, Mod. 1914

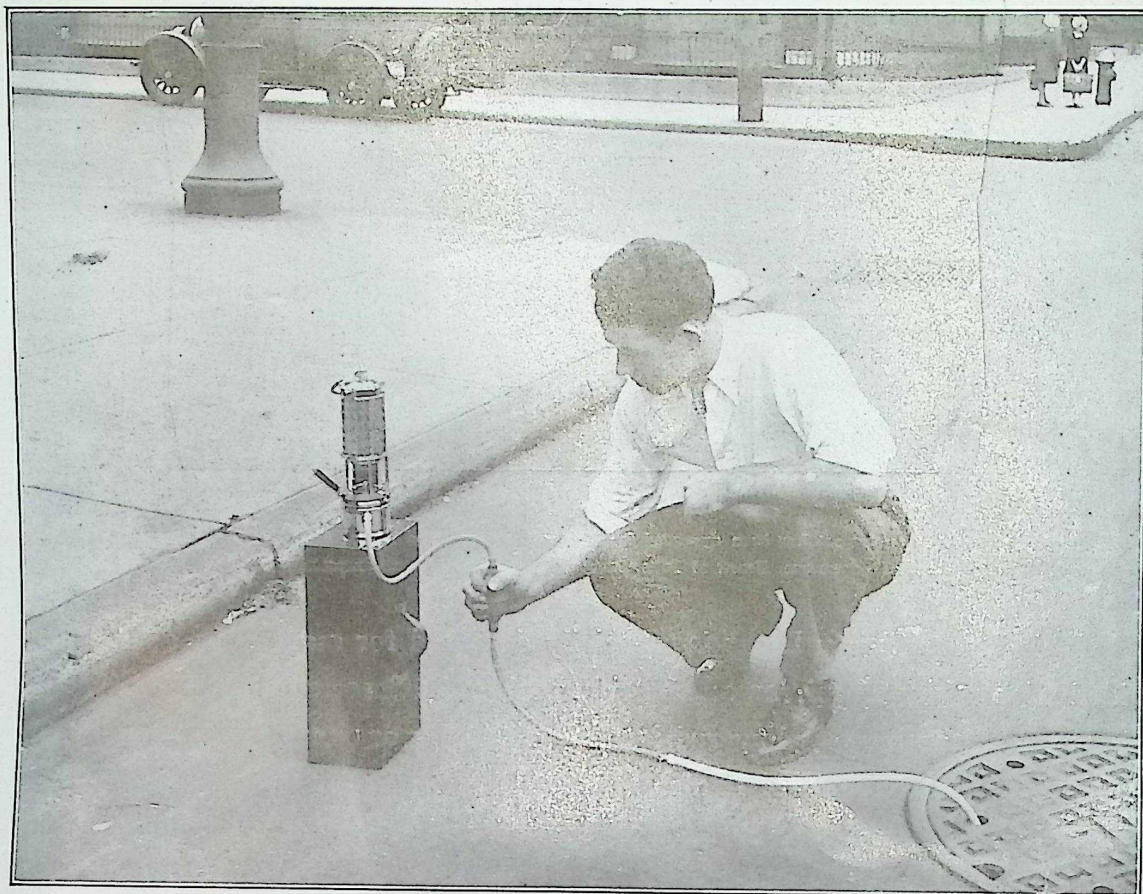
Wolf Safety Lamp Co. of America, Inc.

68-72 EMERSON PLACE  
227 GRAND AVENUE

BROOKLYN, NEW YORK

## WOLF'S OXYGEN DEFICIENCY INDICATOR

NO. 132



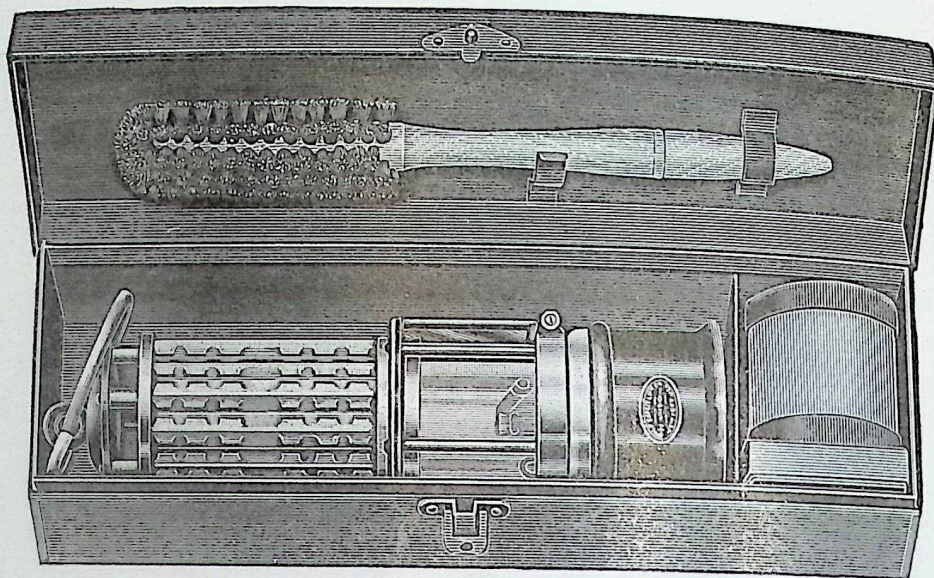
This instrument is used by leading Public Utility Companies for testing atmospheres suspected to be deficient in oxygen. It is also safe and suitable for detecting the presence of undiluted natural gas as well as a condition of oxygen deficiency in manholes located in areas supplied with manufactured gas, straight natural gas and natural gas diluted with manufactured gas. (Special booklet, fully describing this instrument, will be sent upon request.)

**Wolf Safety Lamp Co. of America, Inc.**

**68-72 EMERSON PLACE  
227 GRAND AVENUE**

**BROOKLYN, NEW YORK**

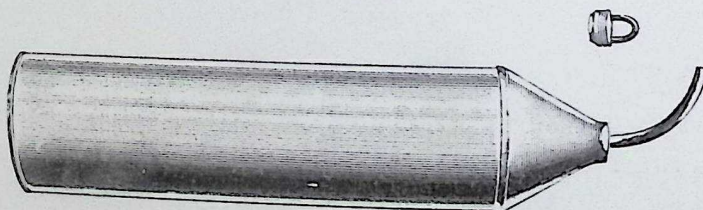
# SAFETY LAMP EQUIPMENT FOR MARINE USE



This equipment has been approved for Marine Service by the United States Department of Commerce, Board of Supervising Inspectors, Steamboat Inspectors' Service.

This Flame Safety Lamp is especially designed for marine use and is provided with a hinged mirror on the side so that the flame can be observed from above when the lamp is lowered into a tank, boiler or quarters under test. The Lamp only without mirror is also approved by the United States Department of Commerce, Steamboat Inspectors' Service, and can be furnished if desired.

No. 3200



The Safety Filling Can shown above is an important accessory to be used in connection with approved equipment and lamp. It prevents overcharging of font and is absolutely safe for the storage of fuel.

**Wolf Safety Lamp Co. of America, Inc.**

68-72 EMERSON PLACE  
227 GRAND AVENUE

BROOKLYN, NEW YORK

# PRICE LIST

for

Wolf Miners Safety Lamps, Parts, Tools etc.

EFFECTIVE JANUARY 1, 1937.

Terms--On approved credit, 30 days net. Order for C.O.D. shipment must be accompanied by sufficient cash to cover transportation charges both ways.

Prices:F.O.B. Brooklyn, New York.

We will not allow credit for goods returned except by special arrangement, and a handling charge of 10% will be made.

Prices are subject to change without notice --- invoices carry a minimum charge of 50¢.

APPROVED BIMETALLIC UNIT FOR ROUND BURNER LAMPS ONLY.....\$2.00 Each.

| No.  | Material                | Lamps                                                                                                                                                     | Each   |
|------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 100  | Steel, brass trimmings. | Wolf Miners Safety Lamp, corrugated shield, metal spark igniter, magnetic lock, round or flat burner, U.S. Bureau of Mines Approval Nos. 204 and 208..... | \$7.00 |
| 100  | Brass                   | Wolf Miners Safety Lamp, corrugated shield, metal spark igniter, magnetic lock, round or flat burner.....                                                 | 8.70   |
| 100  | Aluminum                | Wolf Miners Safety Lamp, corrugated shield, metal spark igniter, magnetic lock, round or flat burner, U.S. Bureau of Mines Approval Nos. 205 and 206..... | 9.50   |
| 131  | Steel, brass trimmings  | Wolf Miners Safety Lamp, corrugated shield, metal spark igniter, key lock, round or flat burner.....                                                      | 7.00   |
| 131  | Brass                   | Wolf Miners Safety Lamp, corrugated shield, metal spark igniter, key lock, round or flat burner.....                                                      | 8.70   |
| 131  | Aluminum                | Wolf Miners Safety Lamp, corrugated shield, metal spark igniter, key lock, round or flat burner.....                                                      | 9.50   |
| 602C | Aluminum                | Wolf Baby Safety Lamp, corrugated shield, metal spark igniter, key lock.....                                                                              | 13.75  |
| 603  | Aluminum                | Wolf Baby Methane Detector, U. S. Bureau of Mines Approval No. 207.....                                                                                   | 15.00  |
| 770  | Steel                   | Wolf Universal Safety Lamp, key lock.....                                                                                                                 | 5.00   |

## IGNITERS

| No.    |                                                                                   | Per C.   |
|--------|-----------------------------------------------------------------------------------|----------|
| 1520   | Wolf Metal Spark Igniter complete, approved by United States Bureau of Mines..... | \$150.00 |
| 1520BE | Wolf Baby Metal Spark Igniter Complete, approved by U.S. Bureau of Mines.....     | 300.00   |
| 1506   | Wolf Metal Spark Pin, approved by U.S. Bureau of Mines.....                       | 25.00    |
|        | Discounts on Spark Pins -- 40% in 100 lots and up; 50% in 500 lots and up.)       |          |

## FILLING APPARATUS

| No.   |                                                                       | Each    |
|-------|-----------------------------------------------------------------------|---------|
| 3205  | Filling Apparatus with one faucet.....                                | \$75.00 |
| 3206  | Filling Apparatus, large, with two faucets.....                       | 125.00  |
| 1F18F | Complete Filling Device for Filling Apparatus Nos. 3205 and 3206..... | 40.00   |
| 3200  | Brass Naphtha Can (1 qt. capacity).....                               | 5.00    |

WOLF SAFETY LAMP CO. OF AMERICA, Inc.

68-72 Emerson Place, Brooklyn, N. Y.  
227 GRAND AVENUE

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W YORK

# WIRE GAUZES

| No.  |                                              | Per C.  |         |
|------|----------------------------------------------|---------|---------|
|      |                                              | Brass   | Iron    |
| 24AM | Outer Gauzes for No. 100 and 131 lamps.....  | \$30.00 | \$22.00 |
| 25AM | Inner " " " " " " " ".....                   | 30.00   | 22.00   |
| 24BE | Outer Gauzes for No. 602C and 603 Lamps..... | 37.50   | -----   |
| 25BE | Inner " " " " " " " ".....                   | 37.50   | -----   |

## GLASS CHIMNEYS AND LENSES

|                                                                                                                    |             |        |  |
|--------------------------------------------------------------------------------------------------------------------|-------------|--------|--|
| Glass Chimneys, Wolf Special "A" Hardglass for No. 100, 131, 201 and 232 lamps, U.S. Bureau of Mines Approval..... |             |        |  |
| Glass Chimneys, Wolf Special No. 1 Red.....                                                                        | Per Doz.... | \$4.00 |  |
| Glass Chimneys, for No. 602C and 603 Lamps.....                                                                    | " C.....    | 50.00  |  |
| Glass Chimneys for No. 770 Lamp.....                                                                               | " Doz.....  | 5.00   |  |
| Glass Lenses for No. 100 and 131 Lamps.....                                                                        | " C.....    | 50.00  |  |
|                                                                                                                    | Each.....   | 3.00   |  |

## BRUSHES

| No.   |                                                                 | Per C      |
|-------|-----------------------------------------------------------------|------------|
| 3500  | Metal Gauze Brush, large, round, movable top, brass wire.....   | \$125.00   |
| 8501  | Metal Gauze Brush, small, round, brass wire.....                | 100.00     |
| 3502  | Metal Gauze Brush, large, flat, brass wire.....                 | 110.00     |
| 3503  | Metal Gauze Brush, small, flat, brass wire.....                 | 80.00      |
| 3504  | Round Bristle Brush.....                                        | 85.00      |
| 3505  | Flat Bristle Brush, large.....                                  | 75.00      |
| 3506  | Flat Bristle Brush, small.....                                  | 50.00      |
| 3504B | Small half round Bristle Brush for No. 602C and 603 lamps.....  | 60.00      |
| 4042  | Forked Key.....                                                 | 75.00      |
| 4040A | Small Screw Driver for metal spark igniter.....                 | 50.00      |
| 4033A | Swivel Tong for metal spark igniter.....                        | 150.00     |
| 3511  | Small Hand Power Cleaning Machine.....                          | Each 30.00 |
| 4206  | Tool Chest, complete with tools for repairing safety lamps..... | " 65.00    |

### Spare Parts for No. 1505 Metal Spark Igniter (Igniter discontinued)

| No.  | Per C                                | No.  | Per C                                       |
|------|--------------------------------------|------|---------------------------------------------|
| 83RM | Side Spring.....\$4.00               | 93RM | Nut for fastening friction wheel.....\$3.00 |
| 86RM | Curve Guide.....9.00                 | 94RM | Screw for spark pin.....2.50                |
| 87RM | Screw for fastening same.....1.50    | 95RM | Spiral Spring for spark pin.....2.00        |
| 88RM | Spring for friction wheel.....8.00   | 96RM | Brake Bolt.....3.50                         |
| 89RM | Spindle for friction wheel.....17.00 | 97RM | Spiral Spring for brake bolt.....2.00       |
| 90RM | Friction Wheel.....9.00              | 98RM | Screw for brake bolt.....1.50               |
| 91RM | Swivel Bar.....24.00                 |      |                                             |
| 92RM | Swivels.....9.50                     |      |                                             |
|      | Key for swivel bar...25.00           |      |                                             |

## LOCK RINGS AND MAGNETS

| No.  |                                                         | Per C.    |          |
|------|---------------------------------------------------------|-----------|----------|
|      |                                                         | Brass     | Alum.    |
| 2000 | Magnetic Lock Ring, complete for #100 Lamp.....         | \$150.00  | \$175.00 |
| 2550 | Key Lock Ring, complete, for No. 131 Lamp.....          | 150.00    | 175.00   |
| 3000 | Horseshoe Magnet for opening and locking #100 Lamp..... | Each..... | \$25.00  |

### Spare Parts for No. 2000 Magnetic Lock Ring

| No.   | Per C.                         | No.   | Per C.                                               |
|-------|--------------------------------|-------|------------------------------------------------------|
| 26GDR | Plate covering lock.....\$7.50 | 30GDR | Anchor Beam (old construction).....\$12.00           |
| 27GDR | Spring Pole.....6.00           |       | 1.50                                                 |
| 28GDR | Tail Pole.....8.00             | 31GDR | Screw for same.....                                  |
| 29GDR | Spring.....1.00                | 32GDR | Anchor beam with Spring (new construction).....15.00 |

WOLF SAFETY LAMP CO. OF AMERICA, Inc.

227 GRAND AVENUE, Brooklyn, N. Y.

227 GRAND AVENUE

Spare Parts for No. 100 and 131 Safety Lamps

| No.  |                                                                      | Per C.           |                  |         |
|------|----------------------------------------------------------------------|------------------|------------------|---------|
|      |                                                                      | Steel            | Brass            | Alum.   |
| 1AM  | Top of Lamp Fount.....                                               | \$225.00         | \$225.00         |         |
| 2AM  | <del>Wick Adjuster Knob</del> .....                                  | <del>12.00</del> | <del>12.00</del> |         |
| 5AM  | Spring Ring.....                                                     | 12.00            | 12.00            | \$12.00 |
| 6AM  | Middle Ring.....                                                     | 12.00            | 30.00            | 30.00   |
| 7AM  | Dome Top.....                                                        | 24.00            | 28.00            | 35.00   |
| 8AM  | Handle with round hook.....                                          | 8.00             | 12.00            | 18.00   |
| 9AM  | Eyelet.....                                                          |                  | 13.00            | 15.00   |
| 10AM | Washer.....                                                          |                  | 1.25             | 1.50    |
| 11AM | Rod with screw head.....                                             |                  | 10.00            | 10.00   |
| 12AM | Rod fronting glass chimney.....                                      | 3.50             | 3.50             | 6.50    |
| 13AM | Filling Hole Stopper, new type.....                                  | 15.00            | 15.00            | 15.00   |
| 14AM | Filling Hole with screw thread.....                                  | 8.50             | 8.50             | 8.50    |
| 15AM | Leather Washer.....                                                  | 1.00             | 1.00             | 1.00    |
| 16AM | Cylindrical Cotton Spreader.....                                     | 7.00             | 7.00             | 7.00    |
| 19AM | Wick Adjuster.....                                                   | 10.00            | 10.00            | 10.00   |
| 20AM | Bushing.....                                                         | 3.00             | 3.00             | 20.00   |
| 21AM | Wick Adjuster Guide Tube.....                                        | 5.00             | 5.00             |         |
| 22AM | Gauze Ring.....                                                      |                  | 8.00             | 10.00   |
| 52AM | Burner for round wick.....                                           | 9.00             | 9.00             | 9.00    |
| 52AM | Burner for flat wick.....                                            | 13.85            | 13.85            | 13.85   |
| 53AM | Wick Holder for round wick.....                                      | 10.00            | 10.00            | 10.00   |
| 53AM | Wick Holder for flat wick.....                                       | 12.00            | 12.00            | 12.00   |
| 54AM | Wick Stop for round wick.....                                        | 6.00             | 5.00             | 5.00    |
| 54AM | Wick Stop for flat wick.....                                         | 5.20             | 5.20             | 5.20    |
| 78AM | Wick Adjuster Knob.....                                              | 5.75             | 5.75             | 5.75    |
| 79AM | Air Admission Ring.....                                              | 40.00            | 40.00            | 45.00   |
| 80AM | Corrugated Shield.....                                               | 55.00            | 55.00            | 70.00   |
| 81AM | Strengthening Ring (Upper).....                                      |                  | 10.00            | 12.00   |
| 82AM | Protecting Ring.....                                                 | 17.00            | 17.00            | 25.00   |
| 83AM | Strengthening Ring (Lower).....                                      |                  | 13.00            | 15.00   |
| 95AM | Nut.....                                                             |                  | 2.50             | 3.50    |
| 98AM | Tube.....                                                            | 3.00             | 3.00             | 4.80    |
| U.Z. | Lamp Fount Complete.....                                             | 350.00           | 400.00           | 500.00  |
|      | Complete Upper Part equipped with magnetic lock.....                 | 450.00           | 475.00           | 500.00  |
|      | " " " " " key lock.....                                              | 450.00           | 475.00           | 500.00  |
|      | Magnetic Lock Ring, Middle Ring and 5 Rods completely assembled..... | 205.00           | 225.00           | 265.00  |

Spare Parts for Approved No. 1820 Metal Spark Igniter for No. 100 and 131 Lps.

| No.  |                              | Per C   | No.  |                                     | Per C   |
|------|------------------------------|---------|------|-------------------------------------|---------|
|      |                              |         |      |                                     |         |
| 83RO | Case for spark pin.....      | \$30.00 | 91RO | Swivel Bar.....                     | \$20.00 |
| 84RO | Side Spring.....             | 5.00    | 92RO | Swivel.....                         | 9.50    |
| 86RO | Igniter Case.....            | 55.00   | 93RO | Cotter Pin.....                     | .50     |
| 86RO | Washer for friction wheel... | 1.00    | 94RO | Screw for spark pin....             | 2.50    |
| 87RO | Screw for #83RO.....         | 2.50    | 95RO | Spring for spark pin....            | 2.00    |
| 88RO | Spring for friction wheel... | 6.50    |      | Key with swivel for swivel bar..... | 25.00   |
| 89RO | Spindle for friction wheel.. | 26.00   |      |                                     |         |
| 90RO | Friction Wheel.....          | 9.00    |      |                                     |         |

Spare Parts for No. 2550 Key Lock Ring

| No.  |                          | Per C.  |
|------|--------------------------|---------|
| 31NV | Lock Screw in Brass..... | \$12.00 |
| 34NV | Key in brass.....        | 18.00   |

WOLF SAFETY LAMP CO. OF AMERICA, Inc.  
 60-72 Emerson Place, Brooklyn, N. Y.  
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Spare Parts for No. 602C and 603 Baby Lamps

| No.  |                                     | Per C    |
|------|-------------------------------------|----------|
| 2BE  | Screw Ring without lock.....        | \$105.00 |
| 2BE  | Screw Ring with key lock.....       | 112.50   |
| 3BE  | Magnetic Lock Ring.....             | 217.50   |
| 5BE  | Expansion Ring.....                 | 15.00    |
| 6BE  | Middle Ring.....                    | 52.50    |
| 7BE  | Dome Top of Lamp.....               | 30.00    |
| 8BE  | Handle of Lamp.....                 | 15.00    |
| 9BE  | Eyelet.....                         | 15.00    |
| 11BE | Rod with screw head.....            | 7.50     |
| 12BE | Rod fronting glass chimney.....     | 6.00     |
| 13BE | Filling Hole Stopper.....           | 18.50    |
| 14BE | Filling Hole with screw thread..... | 13.50    |
| 15BE | Leather Washer.....                 | 1.50     |
| 16BE | Cotton Spreader.....                | 13.50    |
| 19BE | Wick Adjuster.....                  | 13.50    |
| 21BE | Wick Adjuster Tube.....             | 6.00     |
| 22BE | Gauze Ring.....                     | 15.00    |
| 52BE | Burner.....                         | 13.50    |
| 53BE | Wick Holder.....                    | 13.50    |
| 54BE | Wick Stop.....                      | 7.50     |
| 78BE | Wick Adjuster Knob.....             | 12.00    |
| 79BE | Air Admission Ring with gauze.....  | 60.00    |
| 81BE | Corrugated Shield.....              | 90.00    |
| 82BE | Protecting Ring.....                | 30.00    |
| U.Z. | Complete Lamp Fount.....            | 600.00   |
| 31BE | Lock Screw.....                     | 15.00    |
| 34BE | Key for key lock ring.....          | 27.00    |
| 98BE | Tube for corrugated shield.....     | 10.50    |

Spare Parts for No. 1520BE Metal Spark Igniter  
for No. 602C and 603 Baby Lamps.

| No.    | Per C                                    | No.                                          | Per C                                    |
|--------|------------------------------------------|----------------------------------------------|------------------------------------------|
| 83ROBE | Case for spark pin.....\$45.00           | 90ROBE                                       | Friction Wheel.....\$13.50               |
| 84ROBE | Side Spring..... 7.50                    | 91ROBE                                       | Swivel Bar..... 30.00                    |
| 85ROBE | Igniter Case..... 82.50                  | 92ROBE                                       | Swivel..... 14.25                        |
| 86ROBE | Washer for friction wheel 1.50           | 93ROBE                                       | Cotter Pin..... .75                      |
| 87ROBE | Screw for #83ROBE..... 3.75              | 94ROBE                                       | Screw for spark pin... 3.75              |
| 88ROBE | Spring for friction wheel 9.75           | 95ROBE                                       | Spiral Spring for<br>spark pin..... 3.00 |
| 89ROBE | Spindle for friction<br>wheel..... 39.00 | Key with swivel for swivel<br>bar..... 22.00 |                                          |

WASHERS.

|                                                            | Per C. |
|------------------------------------------------------------|--------|
| Asbestos Washers for Lamps Nos. 100, 131, 201 and 232..... | \$2.50 |
| Perpetual Washers for Lamps as above.....                  | 2.50   |
| Perpetual Washers for Lamps Nos. 602C and 603.....         | 3.00   |
| Asbestos Washers for Lamps as above.....                   | 3.00   |

COTTON AND WICK

|                                              | Per Pkge. | Per Doz. |
|----------------------------------------------|-----------|----------|
| Cotton for filling lamp founts.....          | \$ 1.00   |          |
| Wicking for standard round burner lamps..... | 1.70      | \$ .30   |
| " " " flat " "                               | 1.90      | .30      |
| " " Baby Lamps.....                          | 2.85      | .45      |

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