

1  
NAGGAR  
Kulu  
Punjab

Sep 11 1929

S.C.Seal, Esq  
15-3 Lakshmi Dutta Lane.  
Bagbazar.  
Calcutta.

Dear Sir,

With reference to your advert in  
the Sptmbr copy of the Modern Review, please  
send me to my above address in one V.P.POSTal  
parcel

4 separate bottles (or whatever the packing  
may be) of 1 dram each of your ge-  
nuine LOTUS HONEY eye cure.

Please pack very welll, as mail is very roughly  
handled by postal runners up hill here.

Awaiting your early delivery,

Yours very truly



HCL

acids. HCL.

H. No. 3.

Calomel 1 pound

5 lb. Sal Ammoniac -

8oz opium

Sulphur

Sublimed -

Mercur. rot.

New York  
 Calomel  
 West Merck's

~~[scribble]  
 [scribble]  
 [scribble]~~



(5).

3

4 both at 1 lb each

of Ether Sulph (best  
chem) dish of Sodium  
as 2/4/-

1 lb. Acet Hydrate

purest Merck

Reagent 1/12/-

4 oz. Oil of Cinnamon

8 oz Oil of Nutmeg



4  
NAGGAR  
Kulu  
Punjab

Dec 10 1929.

Messrs B.G. Jack and Co.  
Lamington Road  
Bombay. 4

Dear Sirs,

I have been recommended your firm for medical, chemical and scientific appliances, and we are very often in need of these, I shall be glad if you could kindly send me a copy of your catalogue, together with prices.

The nearest railway station being some hundred miles away from here, everything has to be sent by V.P. Parcel post, but I expect you can arrange to pack glassware etc. safely in wood-wool and wooden boxes.

Thanking you in anticipation of your early reply

Yours very truly,

P.S. If there is any charge for your catalogue, or postage I am well prepared to carry same.



5  
NAGGAR  
Kulu  
Punjab

May 21 1930

Messrs Daniran,  
Harware Merchants  
LAHORE.

Dear S<sup>r</sup>s,

Following my recent order for screws, which I hope is well on the way, it occurred to me that you may possibly also stock

VERNIER CALLIPERS

same as or similar to W.LESLIE's No:484, page 127, of whom you no doubt keep a copy. If you have such or similar callipers, to cost 5 to 6 Rs., then please send them by V.P.POST WELL PACKED in wooden box as mail is very roughly handled up hill here.

It is ABSOLUTELY essential that the callipers:

- 1) show both inches and millimeters.
- 2) that they have a vernier
- 3) that they have a depth gauge attachment
- 4) and that they show up to at least  $4\frac{1}{2}$  inches.

If you have none like this, then please describe and quote price for nearest you can offer.

Thanking you in anticipation of your early reply  
Yours very truly,



6  
July 20 1930

Calcutta  
Messrs The ~~Pharmat~~ Lab. and Chem. Works,  
35/1 Panditla Rd, Ballygunge.  
Calcutta

Dear Sirs,

In connection with our orchards we are constantly in need of all sorts of chemicals, and shall therefore be glad if you would kindly send us your complete pricelists WITH ALL PRICES, for the complete range of chemicals you stock.

Should you have Strontium nitrate and Lithium chloride in stock, please send by return 2 oz of each by V.P.POST Also please send 1 lb Plaster of Paris powder, 4 oz of colophony, 4 oz Gum arabic, 8 oz potato starch, 1 lb rosin, 4 oz glycerine (pure medical), 2 oz graphite (powdered).

The Gum arabic required should be best quality, genuine, and all chemicals should be pure.

Thanking you in anticipation of your early delivery

Yours very truly



7  
July 20 1930

Messrs Butto Kristo Paul and Co.  
Manufacturing Chemists  
1 & 3 Bonfield's Lane  
Calcutta

Dear Sirs,

In connection with our orchards we are constantly in need of all sorts of chemicals, and shall therefore be glad if you would kindly send us your complete pricelists WITH ALL PRICES, for the complete stock you sell.

Should you have Strontium nitrate and Lithium chloride in stock, please send by return 2 oz. of each. by VPPPOST

Thanking you in anticipation of your early  
reply

Yours v. truly



P. C. 50.....

The Calcutta Chemical Co., Ltd.

35-1, Panditia Road, Ballygunge.

Calcutta, 30.7.32, 192 .

Dear Sir,

Re your ~~4<sup>th</sup>~~ enquiry of 20.7.32. Please refer to

- ✓ 1. We thank you for your order which is receiving our best attention.
2. Please send an advance of Rs. \_\_\_\_\_ to enable us to execute the order.
- ✓ 3. The Articles mentioned below are ~~out of~~ <sup>not in</sup> stock. Please let us know whether we shall execute the order omitting them.
4. Please confirm the prices noted below.
5. We have not received the said order. Please send us a copy.
6. Your order has already been executed and the goods have been despatched for booking. R/R will be sent as soon as the same is received.
7. Please send us an early reply to our letter of \_\_\_\_\_
8. Please let us know why the V.P.P. for Rs. \_\_\_\_\_ sent in execution of your order \_\_\_\_\_ has been refused.
9. Full instructions of despatch are requested.
10. Your order/address is unintelligible. Please write clearly.

✓ 11. We have no printed pricelist at present for chemicals at present.

✓ 12. Lithium Chloride (we can supply lithium citrate instead)  
Colophony.

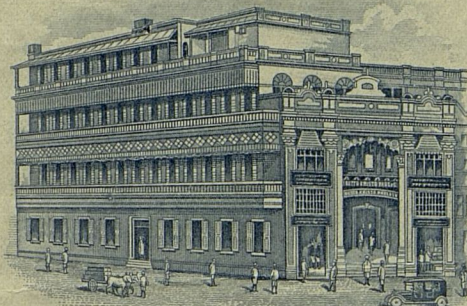
Yours faithfully,

The Calcutta Chemical Co., Ltd.



No. ....  
PLEASE REFER TO NO. & DATE OF THIS LETTER.

Codes used A.B.C. 4TH & 5TH EDITIONS.  
LIEBER'S STANDARD CODE.  
BENTLEY'S CODE.



BRANCH: 92, SHOVA BAZAR ST  
FACTORY AND WORKSHOP } DUM DUM JUNCTION (E.B. RY.)  
LONDON OFFICE, 17, ST. HELENS PLACE, E.C.3.

Suppliers to the Govt Medical Stores,  
Municipalities, Hospitals,  
Tea-Gardens, etc.

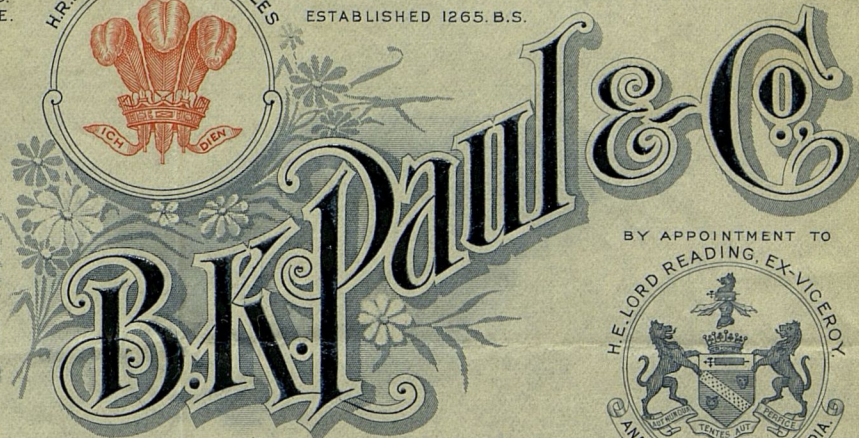
BY APPOINTMENT TO



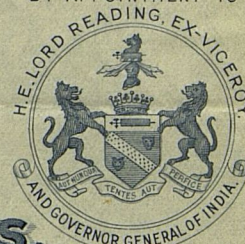
ESTABLISHED 1265 B.S.

Post Box 359.

TELEPHONE NOS 4510 & 4511 CALCUTTA.  
TELEGRAPHIC ADDRESS: "BHUTY," CALCUTTA.



BY APPOINTMENT TO



**CHEMISTS & DRUGGISTS,**

HEAD OFFICE, 1 & 3, BONFIELD'S LANE,

*Calcutta the 14th August, 1930.*

Ref: LE/2350.

14713

COPIED.

The Secretary,  
Hall Estate,  
P.O. Naggan  
Kulu,  
punjab.

Dear Sir,

In acknowledging with thanks receipt of your esteemed order dated 20.7.30, we regret very much to inform you that Lithium Chloride is not available in our stock for which we hope to be excused. We are now in a position to supply Strontium Nitrate which if required, will be sent separately on hearing from you in reply. Further we beg to say that we got no pricelist at present but we shall be glad to quote our lowest rates on receipt of a list of your requirements which please note.

Yours faithfully,

*B.K. Paul & Co.*



Aug 4 1930

Massrs The Calcutta Chemical Co., Ltd  
35-1 Panditia Road  
Ballygunge. CALCUTTA

Dear Sirs,

With reference to your postcard No:50 of the 30th ult. asking us whether you shall execute the order as per our letter of July 20th, omitting the articles not in stock, we request you to kindly send us the rest of our immediately, as we are much in need of same.

Thanking you in anticipation of your early delivery

Yours very truly,





A soap to cleanse, purify and beautify the skin and complexion.

POST CARD.



The Secretary  
Hall Estate  
Naggar  
Kulu  
Punjab



11  
Aug 26, 1930

Messrs B.A. & Brothers  
11 Ezra Street  
Calcutta

Dear Sirs,

With reference to recommendation of our friends from  
"Waltonia Farm" Katrain, please send us by V.P.POST, well packed  
as mail is very roughly handled in the hills here

6 tubes ZELIO Paste against rats, at Re:1 each. plus postage

Thanking you in anticipation of your early delivery

Yours very truly,

Secretary



Calcutta Office  
8, Clive Street.

Established 1853

**D. Waldie & Co., Ltd.**  
Chemical Manufacturers.

Managing Agents—ANGLO ORIENTAL (India), Ltd.

Head Office & Factory

12  
Telegrams & Cables  
"WALDIE" CALCUTTA

Codes  
A. B. C. 5th & 6th Editions  
BENTLEY'S

Telephone  
366 Calcutta.

Ref. No. 5769/

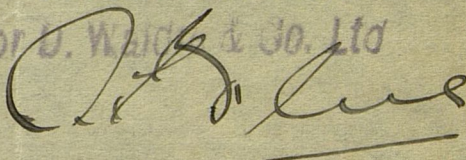
KONNAGAR, 14th October, 193<sup>0</sup>.

V. Shibayeff Esq.,  
Naggar,  
Kulu,  
Punjab.

Dear Sir,

With reference to your order of the 30th ultimo, for 2x1 lb. bottles of Carbon Bisulphide, we regret to advise that in accordance with postal regulations Carbon Bisulphide cannot be forwarded per post, and we shall therefore be pleased if you kindly will let us know the name of the Railway Station to which you wish the parcel despatched.

Yours faithfully,

*D. Waldie & Co. Ltd.*  




NAGGAR  
Kulu  
Punjab

Oct 25 1930

Messrs D.Waldie and Co. Ltd  
3 Clive Street  
Calcutta.

Dear Sirs,

In reply to your letter of the 14th inst. #5169/  
please send the Carbon Bisulphide (THREE bottles at one lb each,  
instead of two as ordered previously) well packed in wooden box  
to the Clive Transport Co. Ltd, Joggindarnagar, N.W.Ry. by  
passenger train (if possible) sending us the r/r by V.P.POST.

This method is rather inconvenient, as it will take  
weeks longer to reach, and we were somewhat suprised that carb.bis.  
cannot be sent by mail, since we received recently two bottles  
of your own make, though ordered through another chemist. But  
since you state you cannot send we have to request you to send  
it through Jogindarnagar, though this is connected with much  
extra expense and great loss of time.

Yours very truly



14

(                      )

NAGGAR, Kulu  
Punjab.

Dec. 20th 1930

Messrs Thacker, Spink & CO.  
Postbox 54  
Calcutta

Dear Sirs,

With reference to your Bookshelf Issue July 1930,  
page 45, we require urgently

*GR* 1 British Association Rain Gauge, as described,  
priced at Rs:29/-

Which we request you to kindly send us CAREFULLY PACKED by  
V.P.POST.

We also require

- 1 Mercury Barometer with Vernier
- 1 Aneroid Barometer (Casella preferred)
- 1 Aspiration Psychrometer

for which we request full particulars, specifications and prices.  
(with illustrated leaflets if available).

It is customary for scientific and educational institutions to receive a special discount on purchase, and as we receive such discount from all other firms, we trust you will also allow us a discount on the above Rain Gauge, as well as on other scientific instruments we intend purchasing from you.

Please also add to the above parcel 2 sets of Dennisons Alphabetic Indexes A-Z.

Thanking you in anticipation of your early delivery and reply  
Yours very truly

Secretary.



Nagggar,  
Kulu,  
Punjab  
Br.India

Jan. 31st 1931.

Messrs Martin and Harris Ltd.  
8 Waterloo Street  
Calcutta

Dear Sirs,

We not from Thacker and Spincks' Directory that you are the India Agents of Messrs E. Merck Chemical works, Darmstadt. Please send us a complete catalogue with PRICES of their chemicals, you have in stock here, and please also let us know whether you can allow us some discount of your prices, as is customary with scientific Institutions, and as we usually receive on equipment and chemicals.

I shall be obliged if you would kindly send you catalogue by registered mail, as such parcels are otherwise liable to be lost en route.

Thanking you in anticipation of your early  
reply

Yours very truly

Secretary.



Telegraphic Address—**UNCUT.**

Telephone—1990, Calcutta.

## Industrial Machinery Co.

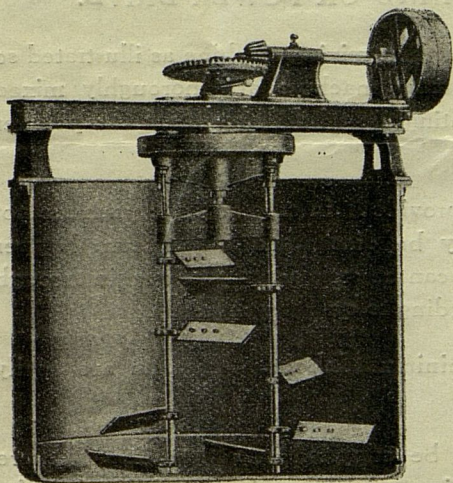
14, Clive Street, Calcutta.

### MIXING MACHINE for Paste or Powder.

HAND OR POWER DRIVE.

This machine is well suited and adopted for the thorough mixing and blending all kinds of Pastes and dry powders as well as face creams, snows and all sorts of toilet powders. In this machine the stirrers work on the planet system that is to say the stirrers revolve on their own axis and at the same time travel round the inner surface of the mixing pan.

The special design and construction of the machine give the following important advantages.



1. Perfect amalgamation of the component parts of the mass and a perfect mixing is brought about by the stirrers.
2. Suitable for working up mixing of tough dough like consistency as well as more or less heavy oils and liquids.
3. Also equally well suited and adapted for thorough mixing and blending of all kinds of dry powder like substances.
4. Stirring apparatus and mixing pans can both be quickly and easily removed.

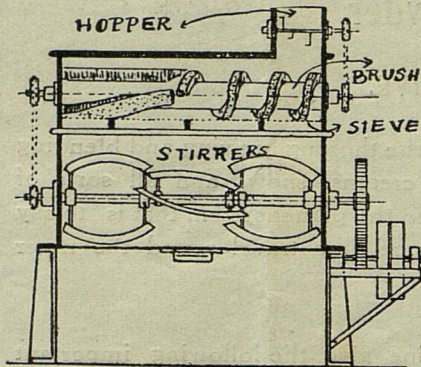
**Construction.**—The mixing pans are of copper thickly tinned inside and outside. The stirrers are of brass nickelled or tinned as desired. If required the mixing pan may be water jacketted at an extra cost.

Size	No. 1	Hand power	Capacity	1	Gallon	Rs.	38/-
"	"	2	"	"	2 Gallons	"	60/-
"	"	3	Hand or power	"	6	"	120/-
"	"	4	Power drive	1 to 2 H. P.	Capacity 25 gallons—Price—Rs.	250/-	



## Sieving Machines Hand or Power Drive.

This machine is very suitable for sieving powders of any kind. From the hopper the material is taken up by a helical brush which cleans the holes of sieves and at the same time carries the coarse material, which does not pass through the sieve, to a discharging outlet at the outside. Every part is completely closed and packed with felt so that there is no escape of fine material to the outside of the receptacle box.



The sieve frame is easily detachable and that of different mesh can be changed quickly. There are two inspection doors one providing access to the brush and the other to the underside of the shifter.

The illustration shows a combined sieving and mixing machine. In case of only sieving machine the mixing machine is replaced by a receptacle box.

Price of the machine with one kind of sieve—Rs. 75/-

Extra sieve frame ... .. " 7/- to 10/-  
according to fineness of mesh.

### SIEVING AND MIXING MACHINE HAND OR POWER DRIVE.

The above sieving machine is combined with a mixing machine as illustrated so that after sieving, the powder which falls in the mixing machine are thoroughly mixed by the stirrers revolving in the same and thus agitating the whole contents. The powder is finally taken out by the outlet at the bottom.

Also there is a Hopper pocket which is provided, in case any materials are not required to pass through the sieve but can easily be discharged direct from hopper into mixing chamber. Essences and other liquids can be satisfactorily passed in through this pocket by means of a simple drip bottle according to quantity required.

The cleaning of the machine is reduced to a minimum labour. All parts are easily accessible.

Spare parts such as sieve, brush, etc., can be supplied in a short time. Where colour or essence are used, we would advise having separate sieves and brushes for various colours and flavourings.

If desired the mixing machine can be provided with wood lining at an extra cost.

Price—Rs. 140/-

Capacity—lbs. 60.



Telegraphic Address—UNCUT.

Telephone—1990, Calcutta.

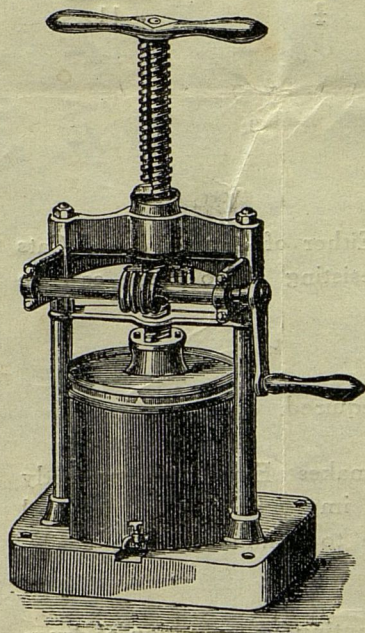
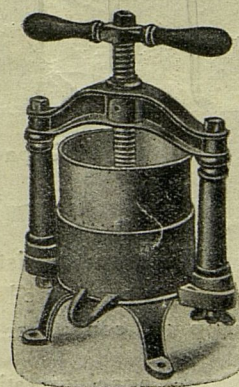
## Industrial Machinery Co.,

14, Clive Street, Calcutta.

### Pharmaceutical Machines.

#### Juice Extracting or Single-Action Tincture Press.

These Presses are strongly built of iron. The base through which the liquid finally passes is enamelled white to prevent any action on the metal. The perforated cylinder in which the substance is pressed is heavily tinned. The juice flows from the channel at the front. The press is excellently suited for extracting juice from fruits, crushed herbs, leaves etc., and also for producing raw meat juice. It is also used as Tincture Press. These are built in several sizes from 1 gallon to 4 gallons



Capacity of	Gallon.	Gallon.	Gallon.	Gallon.	Gallon.
the cylinder	$\frac{1}{6}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Price. Rs.	18/-	22/-	32/-	45/-	68/-

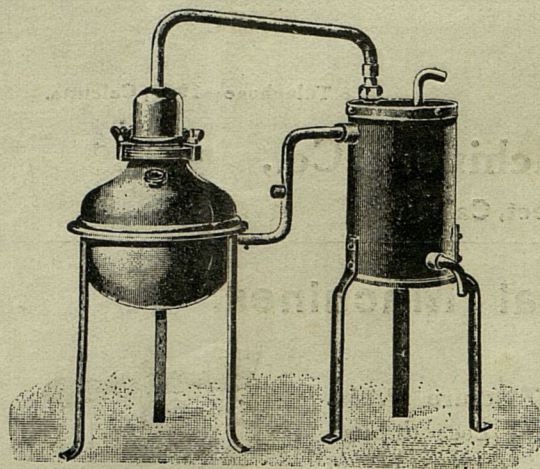
#### Double action Tincture Press.

The Presses are fitted with large steel screw deep slot and stout steel keys. After filling the strainer or cylinder, pressure is brought to bear by means of the lever and screw and afterwards a greater pressure is applied by means of worm and wheel. The fluid passes into the outer cylinder and can be drawn off at interval, pressure being retained the whole time.

Capacity of	Gallon.	Gallons.	Gallons.
the cylinder	1	2	4
Price. Rs.	150/-	250/-	450/-

**Hydraulic Tincture Press.** These are built for Pressures of 30, 45 & 75 tons pressure with Boxes of 8, 12&15 gallons capacity. The hydanlic Pump is driven by handpower. Prices on application.





**Distilling Apparatus.** It consists of a copper still tinned inside and fitted with a draw off cock. The still is connected to a pure block tin condensing worm in Tank by a tinned copper swan-neck and between the still & worm is an automatic feed water regulator. The apparatus simply requires connecting by India Rubber tubes to water mains and heating the still by stove or coal-stove. The water enters and passes by a rubber tube to the bottom of the worm tank, overflows warm from the worm tank into the still in which it is heated and vapourised and as each particle is condensed into distillate so is an equally proportionate amount fed automatically into the still.

Capacity of the Still.	Gallons.	Gallons.
	2	4
Price. Rs.	65/-	110/-

**Vaccum Distilling Apparatus.** The same is provided with water bath or steam heated and capsule of porcelain or copper with thermometer, ejection air pump and condenser of copper with receiver of copper.

Capacity of still of porcelain with water bath.	Gallon.	Gallons.
	$\frac{1}{4}$	$1\frac{1}{4}$
Price. Rs.	600/-	725/-
Still of copper steam heated		
Price. Rs.		975/-

For greater capacities prices on application.

**Steam Jacketted Boiling Or Evaporating Pans.** Either of copper or of Cast iron coated with Gebbler's enamel highly acid or alkali resisting. Also these can be provided with stirring arrangement and tilting system.

Prices on application stating capacity required.

**Percoiators.** Prices on application stating the sizes required.

**Emulsifiers Or Homogenizer.** This machine makes Emulsions perfectly homogeneous or fixed and which will not separate. It improves the colour and distintegrates the oil globules and causes the Emulsion to assimilate more easily. Capacity 11 gallons per hour Price Rs. 450/-

**Extraction Apparatus.** The apparatus is used for continuous extraction of drugs etc by hot spirit percolation and ultimate recovery of the spirit. It consists of steam jacketted copper still with copper container fitted with wire basket and contents, gauge Reflux copper condenser and pipes. Standard sizes 10, 20, 30, to 100 gallons. Prices on application.



Telephone—1990, Calcutta.

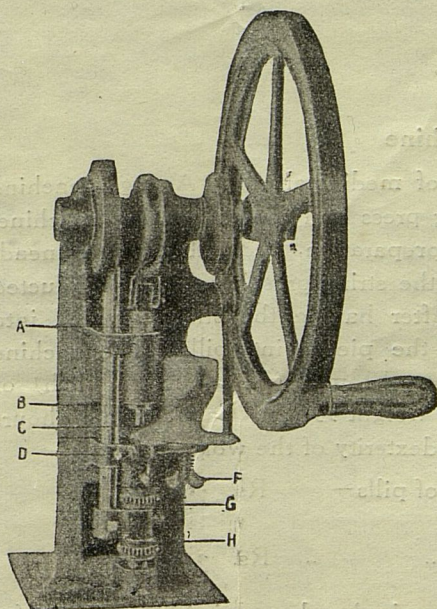
14, Clive Street, Calcutta.

Serial No. 3.

1. **Hand-power machine.**—This machine is extensively used by pharmaceutical firms and ink tablet manufacturers. The handling of the machine is exceedingly simple. The following are the advantages of the machine :—

- (a) The easy and convenient manufacturing of small quantities of tablets to prescriptions.
- (b) Absolutely accurate weight of the tablets.
- (c) Equally elegant appearance of the tablets as from bigger machine.
- (d) Can be driven by women and children as well.
- (e) Extremely simple exchanging of dies.
- (f) Complete utilisation of the material filled in the feed cup.
- (g) All parts easily accessible.
- (h) Fully automatic in action.

It makes tablets from  $1/8''$  to  $1/2''$  diameter or according to specific gravity up to 12 grains in weight. The maximum thickness 100 tablets compressed is  $\frac{7}{16}''$ . It compresses 100 tablets per minute.



The machine is 18 inches high and weighs 75 lbs.

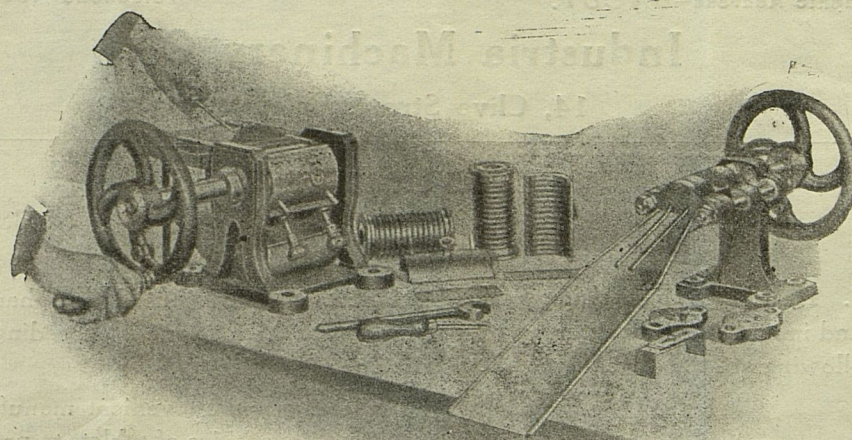
Indian make with two sets of dies and punches	...	Rs. 150/-
American make	...	Rs. 325/-
Indian-make dies and punches	...	Rs. 10 per set.
American	...	Rs. 16

2. **Large size machine, hand or power drive.**—It makes tablets up to 1" dia. The machine is heavy in construction and very durable. It is very conveniently used for the manufacture of medicinal tablets, ink-tablets, chemical and confectionery tablets such as peppermint, chocolate, lozenges, mineral water tablets, etc.

Price with one set of dies and punches hand and power-drive ..	Rs. <b>350/-</b>
Extra set of dies and punches .. .. .	Rs. <b>20/-</b>

With each machine, a booklet containing full instructions for working the machine and for making tablets with formulas of various standard preparations is supplied.





### Pill-making Machine.

These machines serve for the production of medicinal pills. A single machine consists of two separate apparatus, i.e., the string press and the pill-cutting machine. The handling of both parts is very simple. After preparation, preferably on a kneading and mixing machine, the mass is transferred to the string press where it is conducted into desired thickness of any endless length. After having the strips divided into lengths, the machine cuts these up and rounds the pieces into pills. The machine is suitable for making pills of diameter from 2 mm. to 10 mm. (25.4 mm. = 1 inch) or  $\frac{1}{8}$  grain to 5 grains. Net weight about 52 lbs., gross weight 95 lbs. Capacity in 10 hours up to 1,50,000 pills, according to their size and the dexterity of the workmen.

Price with die for one size of pills— Rs. 285/-

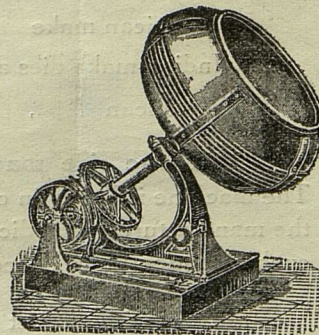
Extra dies— ... .. Rs. 105/-

**Granulating Machine.**—This machine is driven by hand and is indispensable for tablet manufacturing firms. It is a rapid worker and turns out a large amount of an excellent granulation that will dry readily.

Capacity— 10 lbs.

Price— Rs. 90/-

**Sugar-Coating Machine.**—This machine is used for coating tablets or pills with sugar, chocolate, gelatine, etc. These are built in sizes from 24 to 48 inches diameter of pans. The pans are beaten from thick copper and are made very deep and will carry heavy load. The pans are with or without steam-heating coils. If required, blowers for blowing air into the pan are provided. For coating with silver or gold foil, glass pans are used. H. P. required— $\frac{1}{2}$ .



Capacity of pan without steam coil—24" Diameter Price Rs. 562/-

" " " " 16" " Rs. 185/-

" " with " " 24" " Rs. 727/-

Extra Polishing Head for coated pills and tablets Price Rs. 60/-

—do— 150/-

For 16" Dia.

For 24" "

Machine with glass pan for gold or silver coating Rs. 225/-



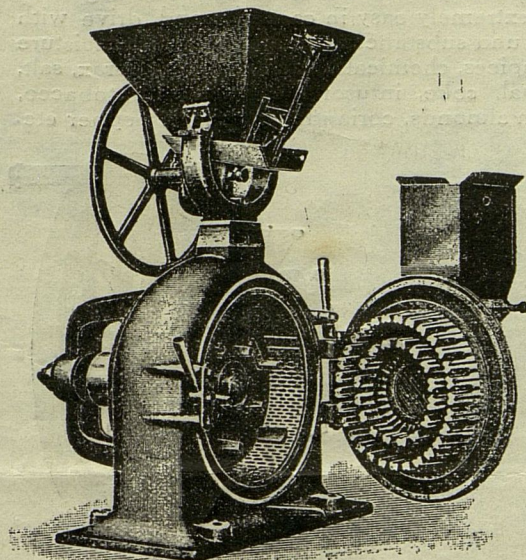
## THE IDEAL-TRIUMPH-MILL.

The **Ideal-Triumph-Mill** has the largest output with the smallest power and space. Its construction is so simple with few wearing parts which are interchangeable, and it will grind any article to any degree of fineness.

The **Ideal-Triumph-Mill** will take pieces according to the size of the machine, up to lumps as large as the fist and grind to perfect fineness in one operation. It grinds materials which cannot be economically or completely pulverized in any other single machine and consequently takes the place of two or three ordinary grinding Mills.

All parts of the **Ideal-Triumph-Mill** are interchangeable.

The **Ideal-Triumph-Mill** grinds: Asbestos, Ammonia Salts, Aniline, Cotton Seed Cake, Chicory, Chemical Products, Cacao Shell, Colours, Cork, Chalk, Sulphate, Clay, Salpetre, China clay, Cloves, Dextrine, Drugs, Dyewoods, Oilcakes of all kinds, Graphite, Ginger, Napthalene, Paper, Potash, Pulp, Rubber, Soap, Saponin, Starch, Silcate, Straw, Leaves, Flowers, Roots, Fruits, Tanning stuffs, Barks, **Drugs**, **Sugar**, **Spice**—in fact almost anything.



Size No. 0.      No. 1.

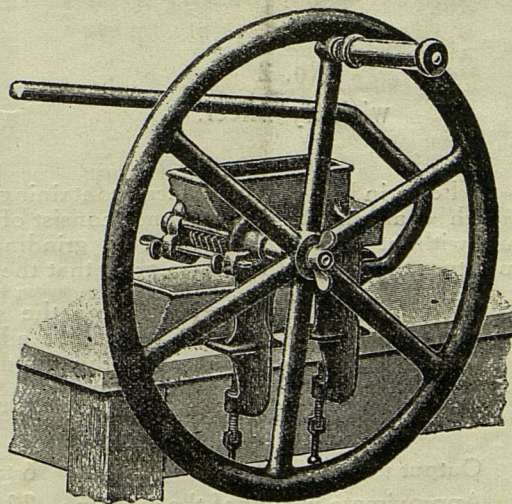
Output per hour 35 to 250lbs. 70 to 500lbs  
according to  
fineness ma-  
terial.

Power required      1.2 H. P.      3.4 H. P.

Price      **Rs.**      220/-      415/-

### Cutting and Crushing Machine.—

This machine is indispensable for preliminary treatment of material which cannot be ground suitably before any operation. It cuts into small pieces and crushes very tough, hard and fibrous substances such as Nux Vomica, roots, barks, bone, horn, nuts, etc. The substance to be ground is put in a funnel shaped recipient and pressed by means of a lever with wavy shaft-shaped cutters which are made of best steel.



Hand power	...	Size No. 1
Power drive	...	" No. 2
Hand ..	...	" "
Power ...	...	" No. 3

Output per hour	15lbs.	Price Rs.	
"	30lbs.	"	45/-
"	20lbs.	"	75/-
"	60lbs.	"	65/-
			175/-



Telegraphic Address—**UNCUT.**

Telephone—1990, Calcutta.

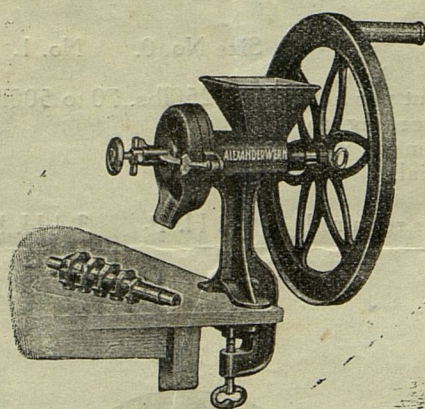
## Industrial Machinery Co.,

14, Clive Street, Calcutta.

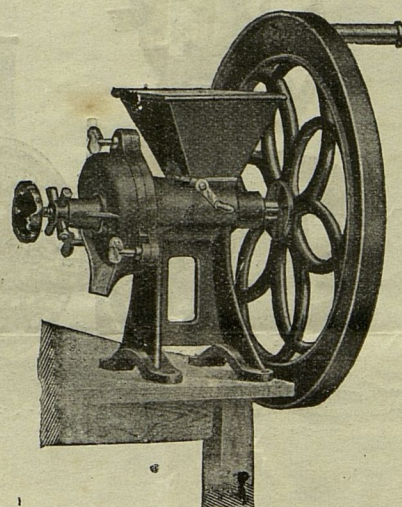
### GRINDING MACHINES.

Suitable for households, laboratories, Ayurvedic purposes, apothecary and druggist shops, dealers in spices, bakeries and various other industries.

These machines work with a toothed breaking-up roller which is in the form of dented work, shown in Fig. No. 2 below, and interchangeable chilled toothed or grooved discs of first class material and so a preliminary breaking up is not necessary. All parts are strongly built and can readily be taken into pieces for cleaning. The degree of fineness is adjustable. The rotation becomes extremely easy in case of hand drive with fly wheel. The machine grind dry substances and substances containing a little moisture and oil, such as corn, pulses, maize, rice, etc., spices, chemicals, such as alum, borax, salt, soda, etc., colours, toasted bread, coffee, coal, coke, infusorial earth, sulphur, tobacco, glass, starch, roots, sugar, mustard seed, ajowan almonds, coriander, nutmegs, pepper etc.



No. 2  
with fly-wheel.



No. 3  
with fly-wheel and adjustable side-in  
hopper for regulating feed,

For grinding dry substances containing a little moisture and oil the toothed discs, which sharpen themselves and consist of best special material, are used. These discs are without rival with respect to grinding capacity and durability. The richness of moisture or oil must not be so great that the toothed discs become sticky.

For completely dry substances the grooved discs are used. For coarse and fine grinding, the grinding discs are easily adjustable by means of a thumb-screw with lock-nut. The pressure caused by the grinding operation is taken up by ball-bearing located at the front end of the worm.

	Machine No. 2.	Machine No. 3.	Machine No. 5. Power-drive.
Output per hour	6 to 8 seers.	10-15 seers.	25 to 30 seers.
Approximate weight of the machine	22 lbs.	45 lbs.	60 lbs.
Price with one type of grinding discs German make	Rs. 28/-	Rs. 58/-	Rs. 105/-
Indian make	Rs. 23/-	Rs. 47/-	Rs. 75/-
Price of extra discs German make	Rs. 8/-	Rs. 14/-	Rs. 14/-

*extra  
fine*





# THE NEW CHART OF THE ATOMS

According to Hubbard

Secretary U. S. Bureau of Standards, Washington, D. C.

Latest 1931-32 Edition

Larger—42x64 Inches

Combined in one chart are:

1. The Periodic Table, showing atomic number, symbol, and atomic weight.
2. The Atomic Weight Table, with the elements arranged alphabetically—latest revised values.
3. A Chart of the Atoms giving forty characteristics and properties of atoms and their component parts.

New edition with explanatory matter on the chart.

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The new chart shows the following forty different fundamental properties and characteristics of the atoms:

1. The Mendeleeff Table
2. The New Periodic Charting of the Atoms
3. Atomic Number
4. Atomic Name and Symbol
5. Atomic Weight
6. Groups (Columns or Families)
7. Periods (Rows or Series)
8. Electron Orbit Groups
9. Configuration of the Atom
10. Ionization Potential
11. Atomic Structure Number Formula
12. End-Atom Cubic Structure
13. Planets and Their Motions
14. Orbit-type Transition
15. Quantum State of Last Added Electron
16. Nuclear Composition
17. The Negative Electron
18. The Positive Electron (or Proton)
19. Electron and Proton Constants
20. Crystal Lattice.
21. Radioactive Atom Transformations
22. Isotopes
23. Atomicity
24. Valence (Electronic)
25. Valence (Ionic)
26. Electropositeness
27. Electronegateness
28. Atomic Radius
29. Mass of Atoms
30. Mass-Energy Equivalent
31. Density
32. Compressibility
33. Melting Point
34. Boiling Point
35. State
36. Specific Heat
37. Expansivity
38. Paramagnetism
39. Diamagnetism
40. Lowest Spectral Term of Normal State

Revised Edition

## PERIODIC CHART OF THE ATOMS

Compiled by Henry D. Hubbard

The Atoms Grouped According to the Number of Outer (Valence) Electrons

Electronic Planets	I	II	III	IV	V	VI	VII	VIII	Planetary electrons in the completed orbits	Orbits
Atom No. =	2	2	2	2	2	2	2	2	2	2
1	H 1.008								2 = 2	1
2	He 4.00								2 = 2	2
3	Li 6.940	Be 9.02							2 = 2	3
4	Na 22.997	Mg 24.32	Al 26.97	Si 28.06	P 31.027	S 32.064	Cl 35.457	Ar 39.91	2 = 2	4
5	K 39.096	Ca 40.07	Sc 45.10	Ti 48.1	V 50.96	Cr 52.01	Mn 54.93	Fe 55.84	2 = 2	5
6	Rb 85.44	Sr 87.63	Y 88.9	Zr 91	Nb 93.1	Mo 96.0	Tc 98	Ru 101.7	2 = 2	6
7	Cs 132.81	Ba 137.37	La 138.90	Hf 178.6	Ta 181.5	W 184.0	Re 187	Os 190.8	2 = 2	7
8	Fr 223	Ra 226	Ac 227	Th 232	Pa 231	U 238			2 = 2	8

58-71 Rare Earths

58 Ce 140.25	59 Pr 140.92	60 Nd 144.27	61 Pm 145	62 Sm 150.43	63 Eu 152.0
64 Gd 157.26	65 Tb 159.2	66 Dy 162.52	67 Ho 163.4	68 Er 167.7	69 Tm 169.4
70 Yb 173.0	71 Lu 175.0				

Published by W. M. Welch Manufacturing Company  
1516 Orleans Street, Chicago, Illinois, U. S. A.

No. 4854 New Periodic Chart of the Atoms, according to Hubbard, with 24-page Key.....\$5.00

**READY FOR DELIVERY**

Recent research gives a physical basis for the Mendeleeff Table.

The New Chart of the Atoms shows numerically and graphically these physical properties.

This new chart shows many times more information than any chart of its kind.

Much effort and expense has been involved in revising and correcting all data to the latest determined values of the constants, etc.

Scores of constants have been revised, based upon more recent determination of atomic data, including a completely new standardized method for indicating quantum numbers.

Atomic weights and all data brought up-to-date.

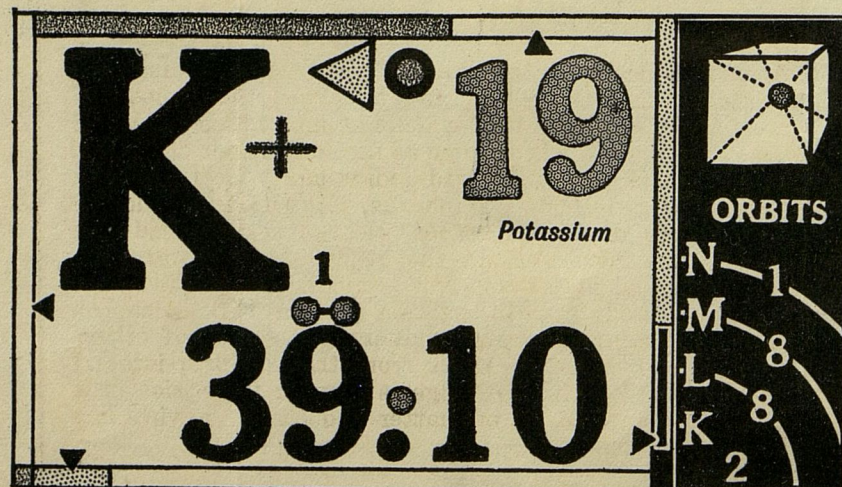
A twenty-four page Key, also revised, of explanatory and supplementary reading matter is supplied with the Chart.

The Chart is lithographed in six colors on clear white stock, mounted on cloth, with double split rollers on top and bottom.

Size 42"x64"

An encyclopedia of information regarding the atom.

See last page for more detailed information of charted data.



The rectangular space at the left gives a full size reproduction in one color only of the rectangle in which is shown potassium. All data is large enough to be easily read. The color combinations add to its legibility and attractiveness.

See last page of this sheet for more detailed information of chart data.

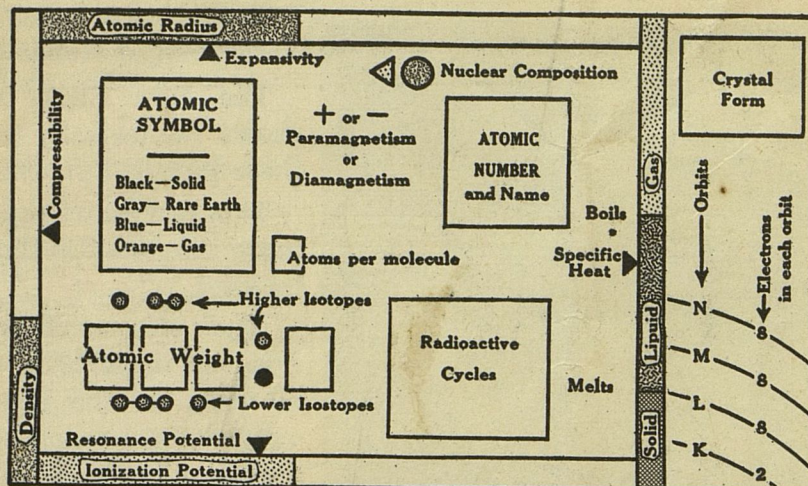
"The new Periodic Chart of the Atoms is designed to give the physicist, chemist, and student a vivid grasp of the unity of the atoms, their structure and behavior, their mode of formation and disintegration. The atom is today the outstanding topic of interest to the world of science. When its magic is more widely known the atom will become as fascinating for study and experiment as radio has become. Indeed, the varied properties and individuality of the atoms already form a subject of surpassing interest: the light-giving phosphorus, magnetic iron, odorous bromine, light-sensitive selenium, the superhardness of crystal carbon; the softness of lead; the toughness of tantalum, the explosive radium, the inert helium, the active oxygen; nitrogen, the keystone of unstable molecules of food, drug, and high explosives; copper, the speedway for electrons; chlorine, the scavenger; iodine controlling body growth; gallium that never boils, carbon that never melts, helium that never freezes; chromium the color maker; and scores of others having equally interesting individuality and unique behavior. Apart from the intrinsic interest in the new knowledge of the atom, the importance of such knowledge is seen in the vision of a new power given to the chemist of tomorrow to create forms of matter and energy having any desired properties."



At the lower right of each chart appears a key similar to the following key, which enables the student to clearly interpret all of the graphic illustrations on the chart.

"As language is in the alphabet, so is entire nature, the play of all its laws in one atom."  
Emerson.

"Nature with all her craft has but one stuff . . . to serve up all her dreamlike variety."  
Emerson.



"Matter is a microcosm of innumerable and, it may be, immaterial motes."  
Galton.

"Les propriétés des corps sont les propriétés des nombres."  
Chancourtois.

The colored graphs are drawn to scale. Some of the scales of plotting are as follows:

Atomic Radius is drawn to the scale of .036 Angstrom units per millimeter.  
Boiling and Melting Point are plotted to the scale of  $56^\circ$  Absolute per millimeter.  
Compressibility is plotted to the scale of  $.92 \times 10^{-6}$  per millimeter.  
Density is plotted to the scale of .34 per millimeter.  
Expansivity is plotted to the scale of  $.033 \times 10^{-6}$  per millimeter.  
Ionization potential is plotted to the scale of .37 volts per millimeter.  
Specific heat is plotted to the scale of .018 per millimeter.

Isotopes are shown by red dots above and below the Atomic Weights. They indicate Atomic Weights which are whole numbers above or below the whole number portion of the accepted Atomic Weight, and the red dot over the decimal point indicates the whole number of the accepted Atomic Weight as being an Isotope.

In addition, a twenty-four page booklet or key giving first, a summary of the modern conception of the atom, and, second, a complete explanation of each characteristic and its meaning is included with each chart.

Besides the characteristics shown on each rectangle containing the specific data of each atom, there is also shown in separate spaces on the chart other general features and constants as follows:

The Configuration of the Atoms, that is their geometrical form, is shown at the top of the chart.

Constants of electron and proton which are fixed properties for all atoms are also shown as follows:

- Mass of Atom and its method and computation.
- Mass Energy Equivalent.
- End-Atom Cubic Structure.
- End-Atom Number Formula, etc.

The chart as a whole shows the Group (column or family); Orbit-type transitions from one group to another; the Period (row or series) which depends on the number of orbits; Electronegateness or Electropositiveness of the atom and the Electronic and Ionic Valences.

The explosion series for the radioactive atoms and the products of their disintegration are shown in colored graphs.

More specific and complete information is tabulated separately on the chart regarding the radioactive explosion series, the Configuration of the Atoms, Data on the Electron and Proton, Isotopes, Crystal Type, Paramagnetism, and Diamagnetism.

The Crystal types are indicated as shown by X-ray analysis of atomic distribution.

**No. 4854 Chart of the Atoms, complete with 24-page Key.....\$5.00**

**Student's Edition**—For student's individual use. We have reproduced the Periodic Chart of the Atoms in a size 22"x30"—lithographed in six colors on heavy India tinted stock, with metal calendar strips at top and bottom, for hanging.

The Student's Edition contains the charted information on the atom and its constituents—as does the large chart—but is available only in the 1924 edition.

The twenty-four page Key is also supplied with this edition of the Chart.

By cutting the calendar strips off, the chart may be folded and placed in a loose leaf notebook. Students are requested to club together in buying this chart to save postage. Special discount if ordered in quantities of twenty-five.

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The Secretary,

Urusvati Himalayan Research

Institute of Roerich Museum,

Naggar, Kulu,

Punjab.

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We are in receipt of your esteemed enquiry of the 9th instant for Pharmaceutical machines and are pleased to enclose herewith leaflet with description and prices F.O.R. Calcutta for your information.

We shall be very glad to furnish you with further particular and estimate if necessary on hearing from you.

TERMS OF PAYMENT. One third with order and the balance against R/Receipt per V.P.Post or shipping documents in Calcutta in case of machineries to be imported.

Assuring you of our best attention at all times and awaiting your esteemed order.

Yours very truly,  
For Industrial Machinery Co.

*R. S. Singh*



# A NEW CHART OF THE METALS

METAL	LITHIUM	POTASSIUM	SODIUM	CALCIUM	MAGNESIUM	ALUMINUM	MANGANESE	ZINC	CHROMIUM	IRON	CADMIUM	NICKEL	LEAD	TIN	ANTIMONY	BISMUTH	ARSENIC	COPPER	MERCURY	SILVER	PLATINUM	GOLD								
SYMBOL	Li	K	Na	Ca	Mg	Al	Mn	Zn	Cr	Fe	Cd	Co	Ni	Sn	Pb	Sb	Bi	As	Cu	Hg	Ag	Pt	Au							
ATOMIC NO.	3	19	11	20	12	13	25	30	24	26	48	27	28	50	82	51	83	33	29	80	47	78	79							
ATOMIC WT.	6.94	39.1	22.99	40.08	24.32	26.97	54.93	65.38	52.01	55.84	112.4	58.94	58.69	118.7	207.2	121.8	209	74.93	63.57	200.6	107.9	195.2	197.2							
VALENCE*	+	+	+	++	++	+++	+++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++							
EASE OF REDUCTION	VERY DIFFICULT					DIFFICULT					EASY					VERY EASY					NO									
REDUCED BY	HYDROGEN IN ACID					CARBON WITH DIMINISHING DIFFICULTY					CARBON					ELECTROLYTIC					NO									
ACTIVITY	← DECREASING →																													
OXIDATION IN AIR	OXIDIZE RAPIDLY					OXIDIZE WITH COMPARATIVE EASE										DO NOT OXIDIZE														
ACTION ON WATER AND ACIDS	RAPIDLY REACTS WITH WATER					FURIOUSLY REACTS WITH ACIDS					LITTLE ACTION ON ACIDS					NO ACTION ON ACIDS														
OCCURRENCE IN NATURE	COMBINED FORM ONLY												FREE 1/2 COMBINED						FREE											
MELTING PT. °C	186	623	97	810	650	660	1260	419	1615	1530	321	1480	1452	232	327	253	631	271	814	1083	369	961	1755	1063						
DENSITY	534	862	971	1.55	1.74	2.70	7.20	7.14	6.92	7.86	8.65	8.90	8.90	7.31	11.34	5.76	6.68	9.80	5.73	8.92	13.55	10.5	21.45	19.32						
SYMBOL	Li	K	Na	Ca	Mg	Al	Mn	Zn	Cr	Fe	Cd	Co	Ni	Sn	Pb	Sb	Bi	As	Cu	Hg	Ag	Pt	Au							

NO.4853 CHART OF THE METALS

INTERNATIONAL ATOMIC WEIGHTS 1963

W. H. WELCH MANUFACTURING COMPANY

NO. 4853 CHART OF THE METALS

No. 4853

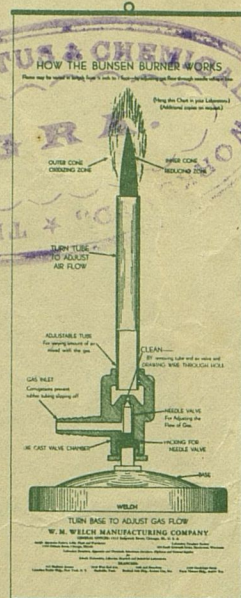
## Information Included:

SYMBOL,  
ATOMIC NUMBER,  
ATOMIC WEIGHT,  
VALENCE,  
EASE OF REDUCTION,  
METHOD OF REDUCTION,  
ACTIVITY,

METHOD OF OXIDATION,  
ACTION ON WATER AND  
ACIDS,  
OCCURRENCE IN NATURE  
MELTING POINT  
AND  
DENSITY

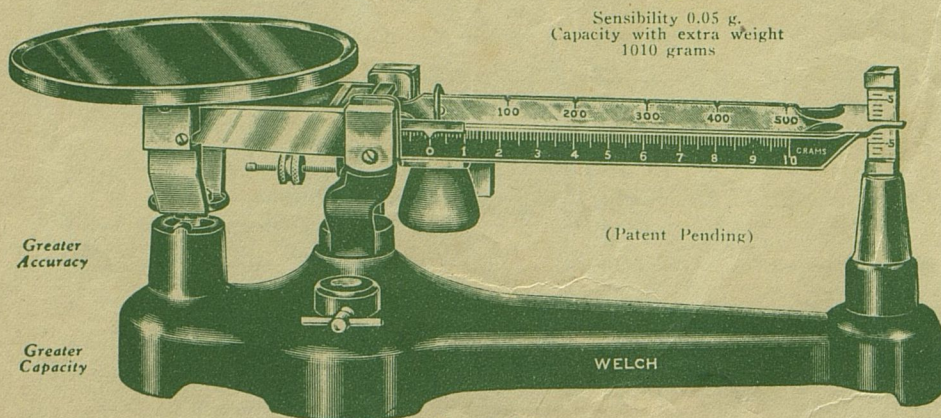
## Gives 12 Characteristics of 22 Metals as Referred to Hydrogen

4853. Chart of the Metals, lithographed on heavy paper stock with double roller at top and bottom and loop for hanging. Size 28 in. by 42 in. \$ 2.75



FREE—We will send with your next order a copy of our wall chart of "The Bunsen Burner—How It Works"—if you request it. Size 11"x 27 1/2", mounted suitably for hanging on the wall.

# A NEW Triple Beam Trip Balance



No. 4040

This balance has three times the beam capacity of double beam trip scales

## SPECIFICATIONS:

Front beam weighs from 0-10 grams by 0.1 grams.  
Center beam weighs from 0-500 grams by 100 grams.  
Third beam weighs from 0-100 grams by 10 grams.  
Total capacity on beams 610 grams.  
Honed knife edges rest on agate planes.  
Pan made of molded Bakelite.

## PRICES:

No. 4040 Triple Beam Balance, Harvard Trip Scale construction. Complete with sliding weights on the beams.  
Each ..... \$12.00  
In lots of 6 or more, each ..... 9.00  
No. 4040W Extra Weight ..... .75



# Special Sale

## 22 Per Cent Discount

We offer a special discount of 20% on all items in this list except the few that are marked "Net." The offer of 20% discount positively expires MARCH 15th, 1933. This offer is limited strictly to sales for cash within 30 days after delivery, and for orders totaling \$25.00 or more.

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2% ADDITIONAL. TO SECURE THIS DISCOUNT  
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In the above list, the discount does not apply to any items of Coors Porcelain, Pyrex Glassware, Reagent Bottles, Bausch and Lomb Microscopes, and similar items upon which the selling price has been established by the manufacturer.

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6  
24

# Memorandum.

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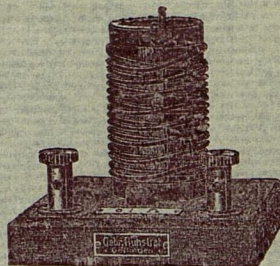
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Ref. No. M/2279

Dear Sir,

With reference to your esteemed letter of the 4th instant,  
we beg to enclose herewith the details of the New <sup>Periodic</sup> Charts of the  
~~metals~~ <sup>Atoms</sup> and Triple Beam Balance, and hope you will find them of  
interest to you. We are also giving the rates for them as below:-  
A new Chart of the metals (latest edition) Rs. 20/- each.  
A New triple Beam Balance. Rs. 55/- each.

Hoping to be favoured with your valued orders, We are,

Yours faithfully,

MTHRA.

For the Scientific Apparatus & Chemical Works Ltd.,

*R. J. K. M.*  
Secretary.



( )

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*none.*

Requisition forms.

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What have we to pay for the Secotine.



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Rx. Distilled water	85. c.c.
Glycerin (neutral)	10. c.c.
Sodium Sulphate	4. gms.
Sodium Chloride	0.5 gm.
Methyl Violet, just enough to	
give a slight tint	

2. Acetic acid (strong) — 50. c.c.

3. Methyl violet (stain), solids or  
prepared — 100. c.c.

4. Romanovski's, or Wright stain for  
blood in solids. (Pp, or prepared) - 100. c.c.

X 5. Methylated spirit — 500. c.c.

6. Epsom salt 1 tin box

7. Bismuth subnitricum. 100 gms

8. Dermatal 1 sm. tin box

gR.