

The
Walker Surface Grinders
CIRCULAR C

Horizontal
Type

—
No. 1½
18" x 6" x 10"

—
No. 2½
20" x 8" x 10"

—
No. 3
30" x 8" x 10"



Vertical
Type

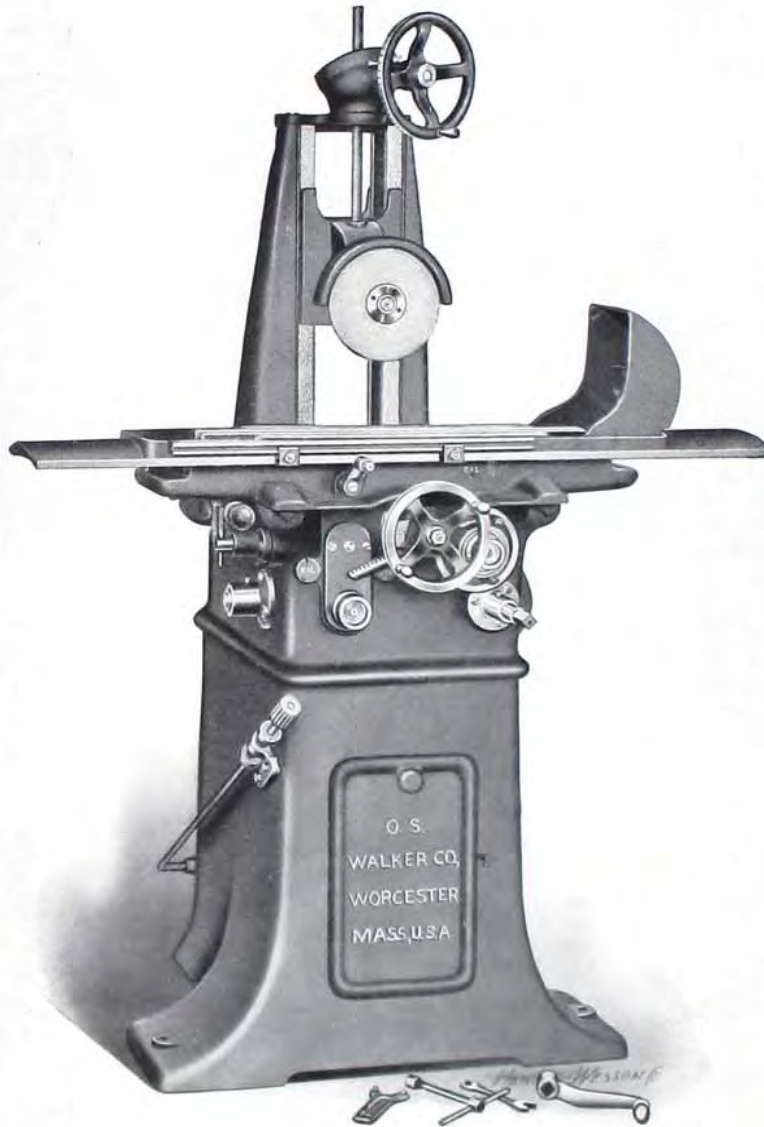
—
Walker
Single
Stroke

—
The complete
surface
ground at
one
stroke

—
Takes work
to 10"
diameter

Northern Machinery & Supply Co.
Minneapolis, Minn.

O. S. WALKER CO., WORCESTER, MASS.



Walker No. 1½ Flat Surface Grinder
Code Word "ARCO"

No. 1½ Flat Surface Grinder

Specifications

Net Weight, about 1,000 lbs.
Gross Weight, boxed, about 1,500 lbs.
Cubic Feet, 72. Floor Space, 64" x 36".
Longitudinal Feed, 18". Cross Feed, 6".
Vertical Capacity, 10". Grinding Wheel, 7" x ½" x 1¼".
Tight and Loose Pulleys rear of column, 7" x 3¼".
Speed of Tight and Loose Pulleys, 550 Rev.

Other Details

Automatic Cross Feed in either direction.
Dust catchers with each machine.
Platen with three T slots.
Length of Platen, 46".
Adjustable automatic limit stop for cross-feed.
Instantaneous hand stop ditto.
Micrometer graduations for down-feed.
Platen lubricated by rollers in oil wells.
Cross-feed ditto.
Spindle hardened and ground and ring oiled.
Countershaft self-contained in base of machine.

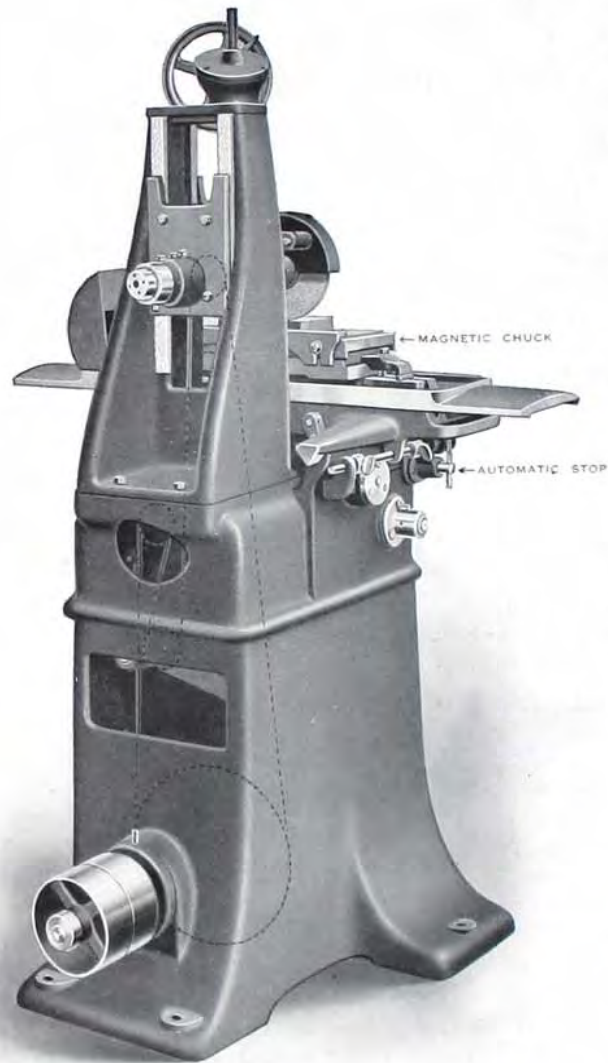
Description

The cut on opposite page illustrates our new No. 1½ Flat Surface Grinder which is designed for grinding small parts of machinery to a true flat surface. This surface grinder is offered as the highest type of its class and great care has been taken to incorporate in its design all modern and up-to-date features. A notable characteristic of the machine is the self-contained feature which eliminates all the usual overhead works, incorporating the countershaft in the base of the machine and facilitating motor drive when required. We call special attention also to the ring oiled grinding spindle and the roller oiled tracks, both for the longitudinal and the cross slides.

Illustration and descriptive details of the belt drive, etc., will be found on pages 4 and 5.

The machine is furnished either with or without magnetic chuck and if desired machine will be furnished with magnetic chuck made integral with platen.

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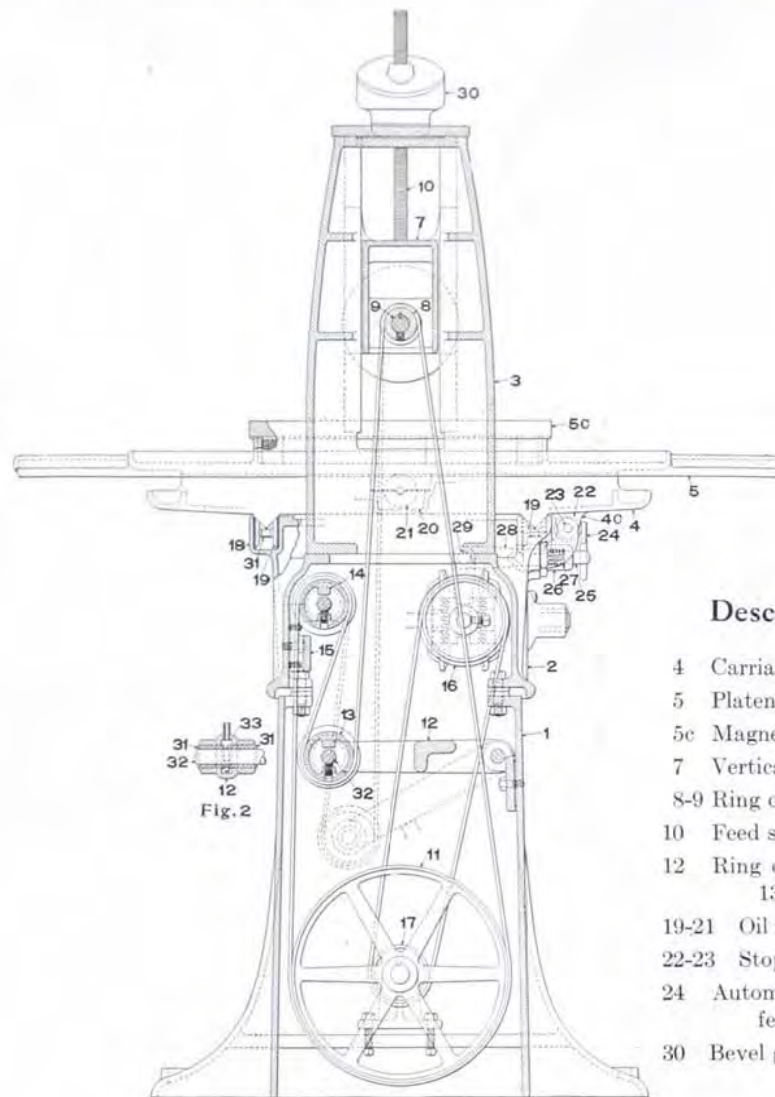


No. 1½ Flat Surface Grinder

Rear View

For details see opposite page

(Magnetic Chuck extra)



Description of Parts

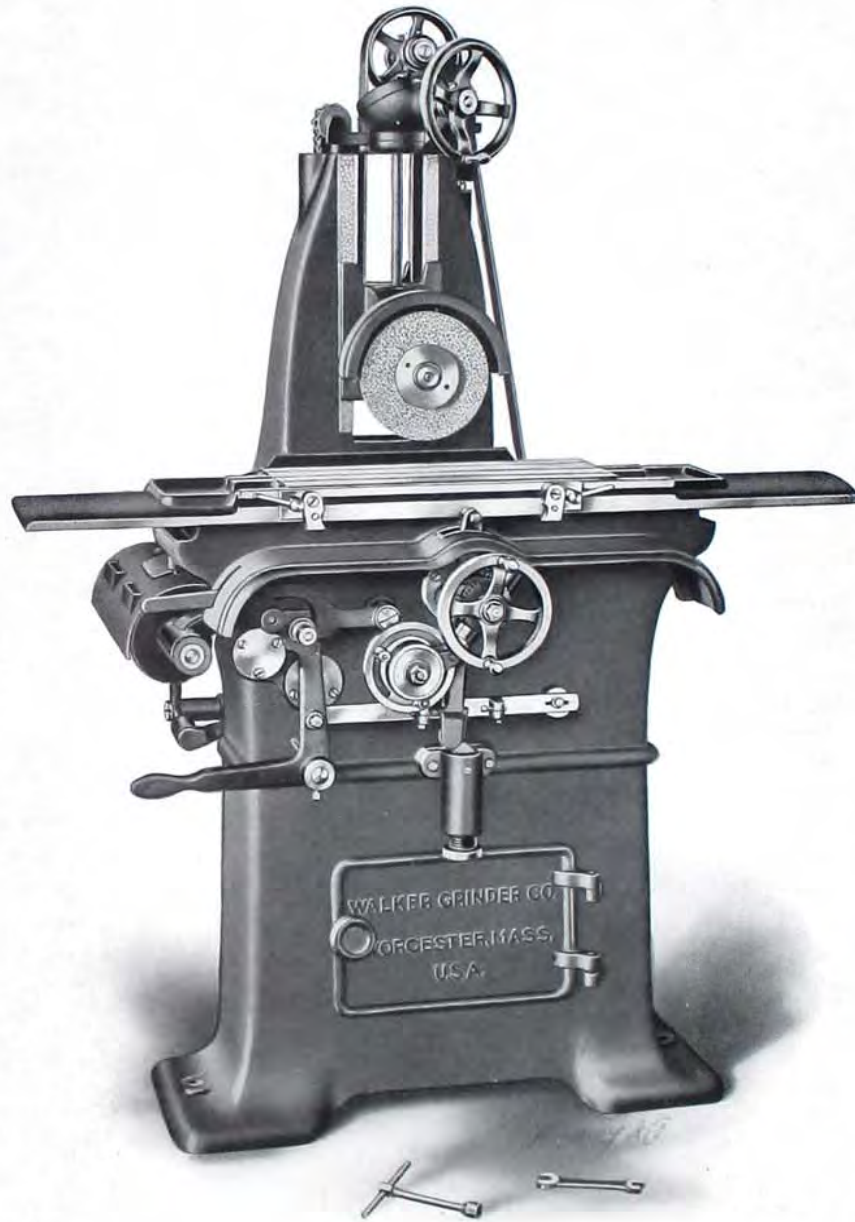
- 4 Carriage
- 5 Platen
- 5c Magnetic Chuck
- 7 Vertical Slide
- 8-9 Ring oiled grinding spindle
- 10 Feed screw
- 12 Ring oiled box for idlers, No. 13 and 14
- 19-21 Oil rolls for track
- 22-23 Stop rod and flange
- 24 Automatic stop finger for cross feed
- 30 Bevel gear box

Details No. 1½ Flat Surface Grinder

The details of the method employed in driving the No. 1½ Surface Grinder are plainly shown in the above cut and we call special attention to the rigid support for the grinding spindle head also to the automatic take-up for the belt as the head is raised or lowered. Fig. 2 shows one of the ring oiled boxes.

The automatic stop for the platen is shown underneath the end of the carriage at the right and is operated by push rod provided with adjustable dogs. An instantaneous hand stop is provided in addition. A variable feed is provided by means of the stepped feed pulleys, 16 and 17, mounted on feed shaft and countershaft respectively in the interior of the column.

O. S. WALKER CO., WORCESTER, MASS.



Walker No. 2½ Flat Surface Grinder
Code Word "ARGOSY"

No. 2½ Flat Surface Grinder

Specifications

Net Weight, about 1,550 lbs.
Gross Weight, boxed, about 2,000 lbs.
Cubic Feet, 110.
Capacity 20" x 8" x 10" high.
Floor Space required, 72" x 48".
Tight and Loose Pulleys on countershaft 8" x 3½".
Speed of Countershaft, 260 Rev.

Other Details

Grinding Wheel 8" x ½" x 1¼" (quick change).
Vertical Slide counter-balanced.
Automatic Feed at each end of Stroke.
Hardened and Ground Ring Oiled Steel Spindle.
Platen oiled from oilers in oil wells.
Cross Slide on protected "V" tracks.
Two speeds for Grinding Wheel.
Machine can be arranged for motor drive without overhead works.

It will be seen from the accompanying cut that the No. 2½ Surface Grinder is of a different type from the No. 1½ size inasmuch as the bed is immovable and the grinding wheel is provided with the transverse movement. The latter is mounted on a heavy housing provided with long V tracks horizontally at the base and with projections toward the front that enter apertures in the rear of the bed. These projections give an extended bearing for the slide and at the same time protect the tracks from grit in all positions. The wheel slide is also counterweighted to take up any slack that might develop in the vertical feed screw or nut.

This type of grinder seems best adapted for large and heavy surface grinders where the carriage becomes too cumbersome to be utilized for both the longitudinal and cross feed movements. As the driving belt pull on these machines is always downward, there is no possible danger of lifting.

In addition to the No. 2½ machine here shown, we build a similar machine on same lines and using same base which is designated the No. 3. The illustration and specifications of this machine will be found on pages 8 and 9.

There are two variations of wheel speed for the No. 2½ machine for the purpose of maintaining more nearly the proper surface velocity as the wheel becomes worn down.

O. S. WALKER CO., WORCESTER, MASS.



No. 3 Flat Surface Grinder

Code Word "AJAX"

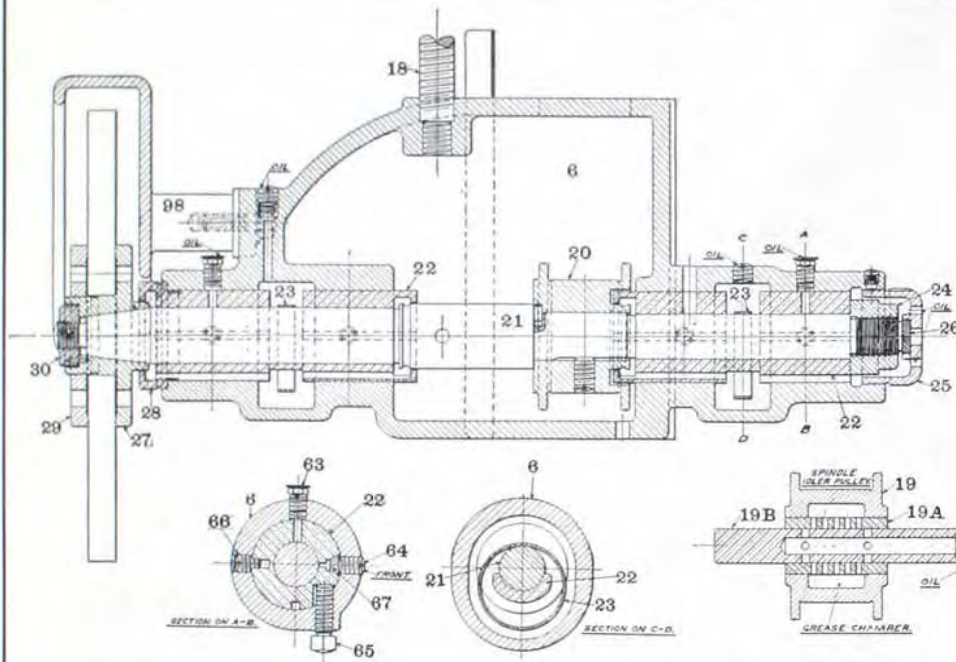
This machine is similar in construction to the No. 2½ Surface Grinder shown on page 6
(The Magnetic Chuck shown on the table is not part of regular equipment)

O. S. WALKER CO., WORCESTER, MASS.

Description of Outline Cut

The above outline cut shows a longitudinal section through the grinding spindle and boxes of both the No. 2½ and No. 3 Surface Grinders, the only difference being in the diameter of bearings of the grinding wheel.

Note the construction of the idler (19) and the ring oiled spindle boxes (22). The boxes are adjusted for wear by simply loosening screw (64) and tightening screw (65).



Spindle details of No. 2½ and No. 3 Flat Surface Grinders

Walker No. 3 Flat Surface Grinder

Specifications

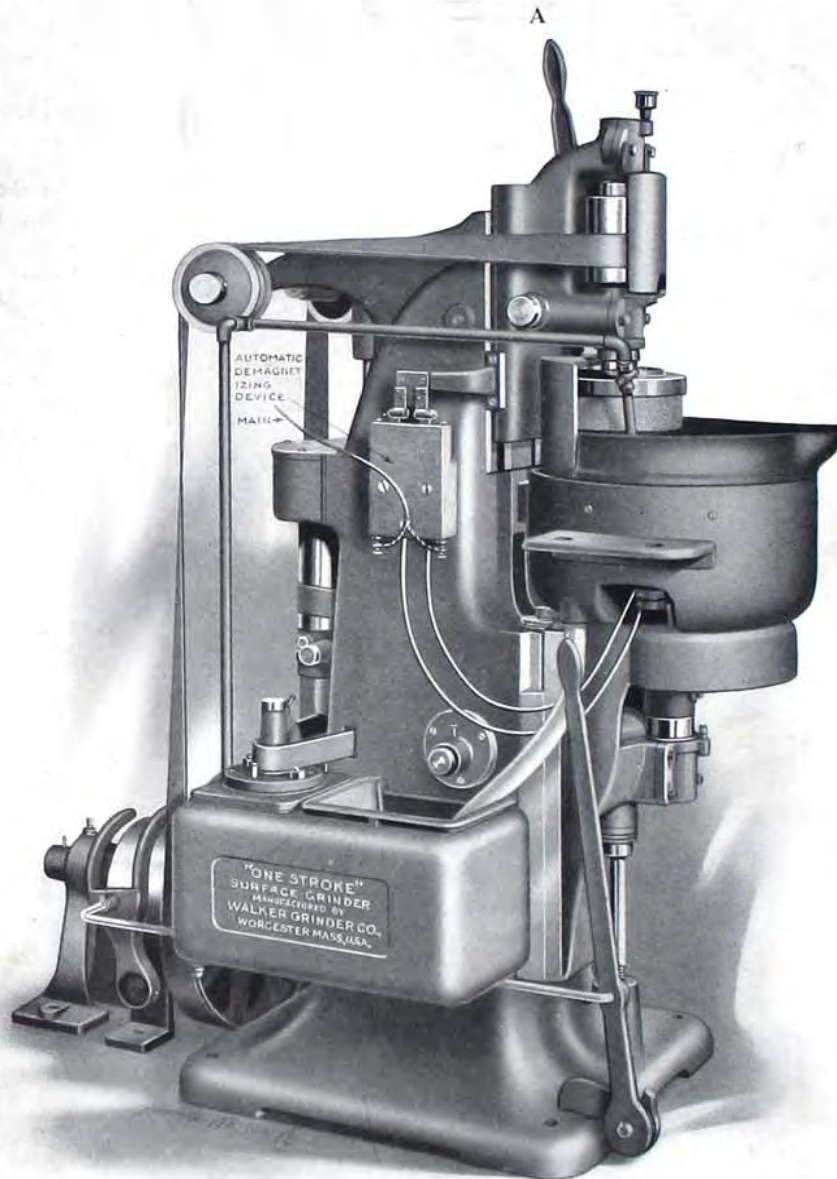
Net Weight with counter, 1,650 lbs.
Gross Weight, boxed, about 2,100 lbs.
Cubic Feet, 120.
Longitudinal Feed, 30". Cross Feed, 8".
Vertical Capacity, 10". Grinding Wheel, 10" x 5/8" x 1 3/4".
Tight and Loose Pulleys on Counter, 8" x 3 1/2".
Speed of Main Countershaft, 260 Rev.
Floor Space occupied, 82" x 48".

Other Details

Three speeds for grinding wheel.
Quick Detachable Wheels.
Two speeds for platen.
Hardened and ground ring oiled spindle.
Roller oiled platen tracks.
Vertical Slide Counterbalanced.
Automatic Feed at each end of stroke.
Machine can be arranged for motor drive without overhead works.

The No. 3 Flat Surface Grinder, as explained on page 7, is very similar in construction to the No. 2½ size but it has greater longitudinal capacity, is provided with two speeds for the platen and has three speeds for the grinding wheel, the latter being 10" diameter. The speed changes for the grinding wheel provide for maintaining the surface velocity as the wheel wears down, this having an important relation to the output of the grinder. Otherwise than above the description of the No. 2½ machine on page 7 applies to the No. 3.

O. S. WALKER CO., WORCESTER, MASS.



Walker Single Stroke Vertical Surface Grinder

Code Word "NEPTUNE"

All the work including the stopping and starting of the machine done with one movement
(down and back) of the Lever A

Machine arranged also for dry grinding

Code Word "APOLLO"