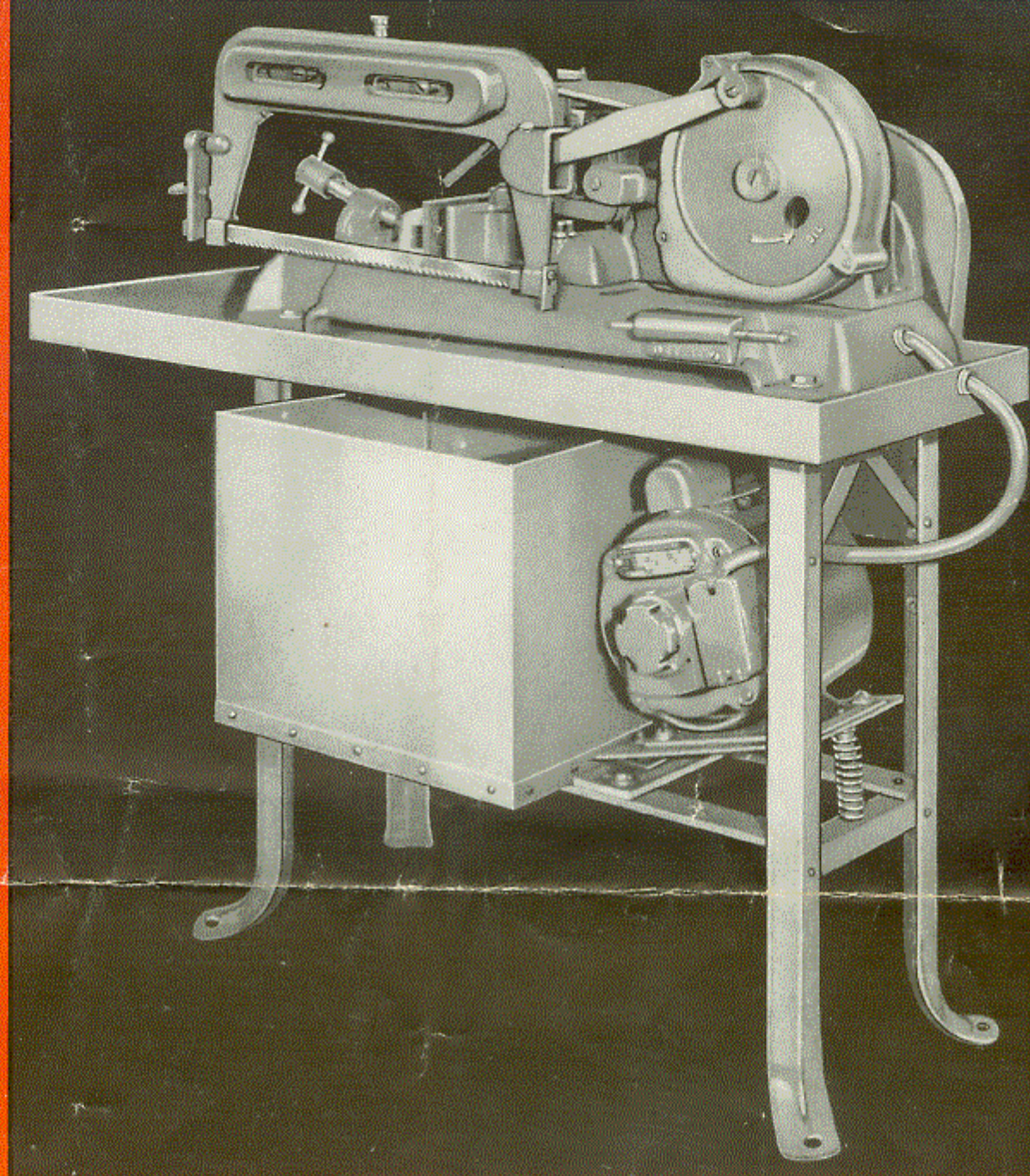


EXCEL

Bulletin 548



● COVEL EXCEL POWER HACKSAWS • FLOOR AND BENCH MODELS • WET OR DRY SAWING

COVEL MFG. CO.
BENTON HARBOR, MICH., U.S.A.

EXCEL

FLOOR TYPE POWER HACKSAW

This model is designed to meet the more extended requirements of a hacksaw possessing the same features as the bench model, but with the added features of a self-contained wet unit propelled by the same power.

Motor, pump and coolant tank are contained within the unit itself in a very compact space, yet easily accessible and amply guarded for safety.

Conservation of space was one of the factors entering into the designing of this model, being intended for use in departments away from the production sawing room, yet possessing the features necessary for the range of work required.

Floor Model

CONSTRUCTION — This saw embodies all the features contained in the bench model as described on page 2.

FRAME — The frame is sturdily built of angle iron securely braced.

COOLANT TANK — Is of welded steel construction with a capacity of approximately five gallons, mounted within the frame of machine. It is easily removable for cleaning.

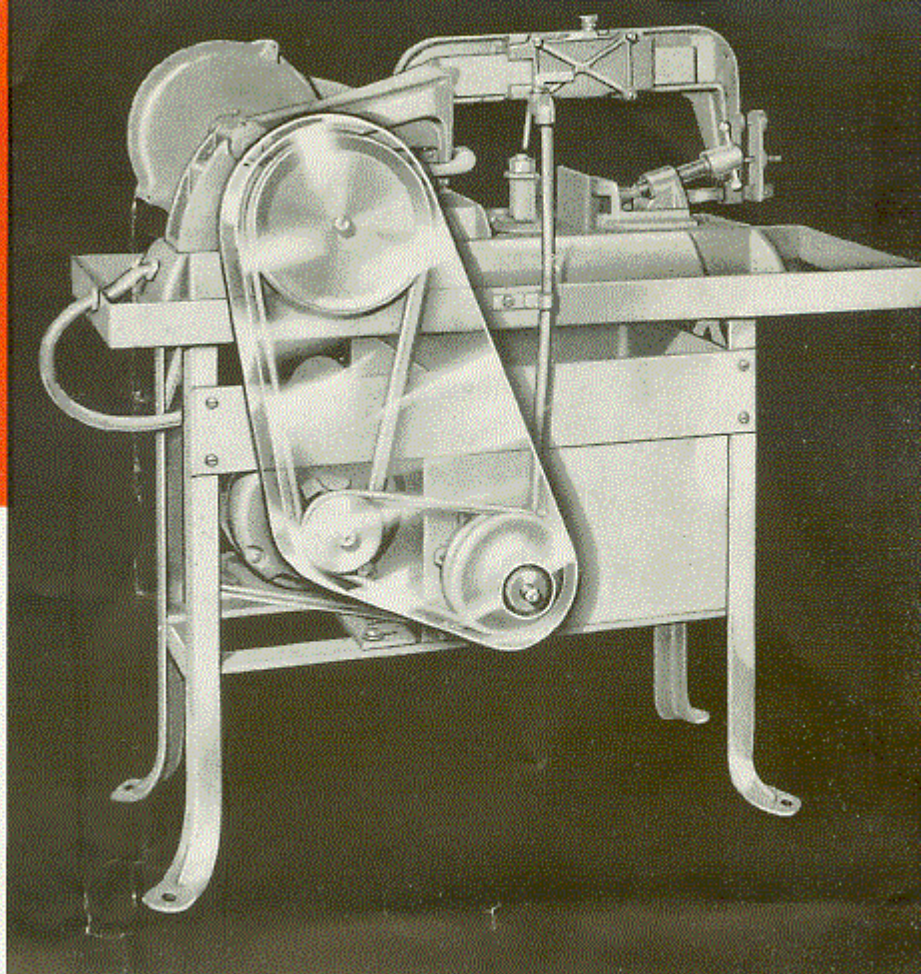
COOLANT COLLECTING DRAIN PAN — Is of welded steel construction, of ample size, mounted on the top of the frame.

SAW MOUNTING — Saw base is mounted on pads within the drain pan projecting to sufficient height to clear the coolant. Bolts penetrate the pads, attaching the saw directly to the frame, holding the saw and pan in correct relationship, firmly in place.

COOLANT PUMP — Centrifugal type, self-priming, pump supplies the coolant in ample quantities for efficient operation. Specially constructed stuffing box with bronze take-up nut and bearing prevents leakage and affords perfect performance. Hub of pump pulley protrudes through belt and pulley guard, for easy access in lubricating. Volume of coolant is controlled by pet cock placed near the cutting.

MOTOR MOUNTING — Motor is mounted within the frame on hinged, spring suspension motor base plate, eliminating noise, vibration and maintaining belt tension.

TRANSMISSION — Power is transmitted to the saw and pump by means of two V-type belts from a two-step pulley on the motor shaft, the diameter of the pulleys coinciding with the speed requirements of the two units.



SAFETY — A substantial belt and pulley guard of welded steel construction covers belts and pulleys for protection.

Specifications—Floor Model

SAW — Specifications are identical with bench model. Mounted over coolant collection drain pan on top of frame.

FRAME — Rigid angle iron construction securely braced.

COOLANT TANK — Welded steel construction capacity approximately 5 gallons.

COOLANT COLLECTING DRAIN PAN — Welded steel construction size 10 $\frac{3}{4}$ " x 31" x 1 $\frac{1}{2}$ " high.

PIPING — $\frac{1}{8}$ " steel pipe with pet cock and $\frac{1}{4}$ " copper tubing.

PUMP — Special design centrifugal, with V-belt drive.

MOTOR BASE PLATE — Hinged to frame with spring suspension. Size 4 $\frac{1}{2}$ " x 7 $\frac{1}{2}$ ".

FLOOR SPACE REQUIRED — 14 $\frac{3}{4}$ " x 31".

NET WEIGHT COMPLETE — 125 lbs.

SHIPPING WEIGHT — Crated 225 lbs.

BOXED FOR EXPORT — Weight 350 lbs. Size 3' x 3' x 1 $\frac{1}{2}$ '. 14 cu. ft.

MOTOR REQUIRED — $\frac{1}{4}$ H.P., 1725 R.P.M.

Speed Recommendations

KIND OF MATERIAL	Drive Shaft R. P. M.	Strokes Per Min.	Pulley Diameter
Soft — Aluminum, Bakelite, Fibre, Cast Iron, etc.	580	80	2"
Medium — Annealed Tool Steel, Alloy, Machine Steel, etc.	435	60	1 $\frac{1}{2}$ "
Hard — Spring Steel, etc.	290	40	1"

[1]

EXCEL

Line at a Competitive Price • Manufactured By COV

EXCEL Bench Type Power Hacksaw

◀ This saw is designed primarily for use in departments remote from the sawing room. As an auxiliary and stand-by unit and for the requirements of the smaller shop. ▶

CONSTRUCTION — Ruggedly constructed, the base of solid cast iron, one piece, with all working parts bolted to the base, easily accessible.

SAW ARM — Is constructed of special, wear-resisting alloy iron of considerable strength.

WISE — Quick action, clamping requiring but a few turns of the vise screw. Jaws swivel up to 45 degrees to receive and hold material of various shapes and at suitable angles. The front jaw seats automatically.

BEARINGS — Bronze bearings on drive shaft and pitman gear.

ACTION — Draw cut, saw lifting on return stroke.

PRESSURE — Adjustable weight attached to saw slide provides the required pressure as needed.

WEAR — Slide is provided with adjustable take-up gib to compensate for wear.

FEED RATCHET AND DOGS — Constructed of hardened steel.

OILERS — Convenient for all bearings and slides.

SPACE REQUIRED — Over all, extended, 9" x 29".

AUTOMATIC CONTROL — Automatic cut-off switch, built-in, which automatically cuts off the electric current to the motor on completion of the cut.

Specifications

BENCH MODEL

CAPACITY — 4" stock when sawing square.

SAW BLADE FURNISHED — 12" x 1/2". Teeth 14 per inch.

DRIVE — 6 1/2" diameter V-belt pulley.

SPEED — Drive shaft 435 R. P. M. With pulley furnished.

POWER REQUIRED — 1/4 H. P. motor, 1725 R. P. M.

WISE ANGLE — Up to 45 degrees.

SPACE REQUIRED — Base 6" x 24". Over all extended, 9" x 29".

NET WEIGHT — 55 lbs.

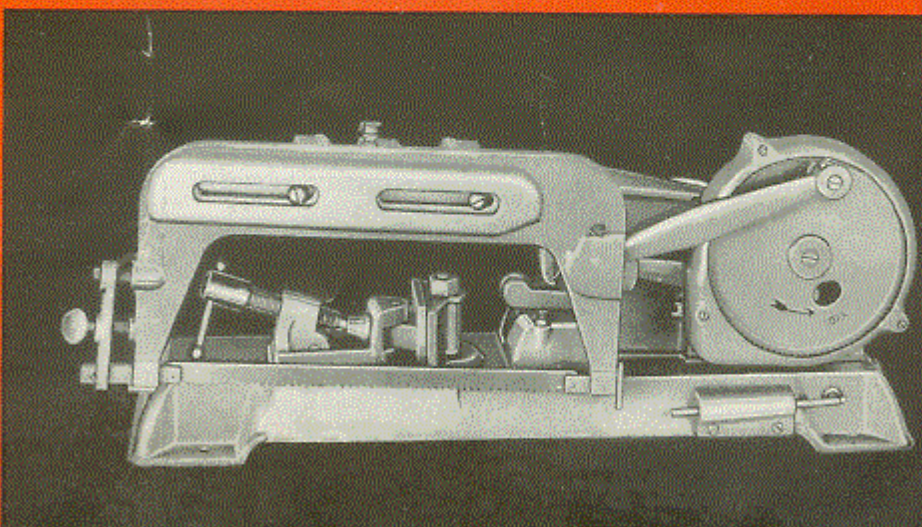
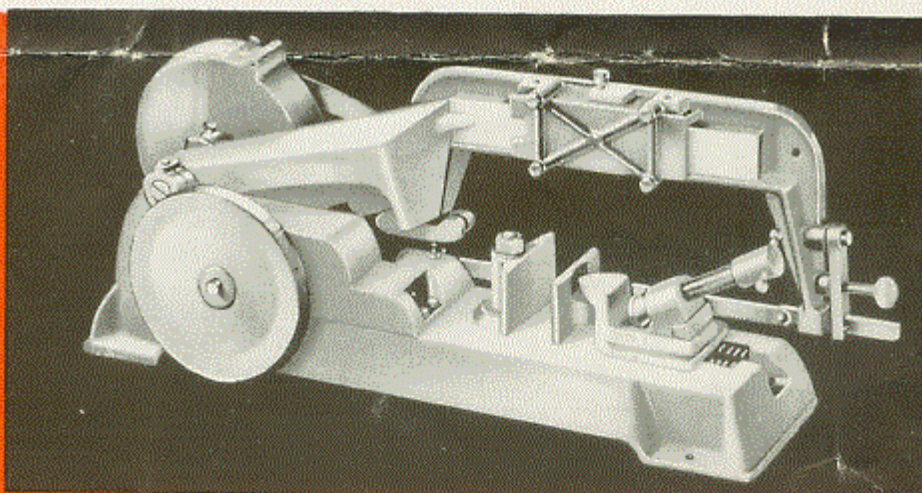
SHIPPING WEIGHT — In wire bound box, 65 lbs.

BOXED FOR EXPORT — Two saws in wooden box, 165 lbs. Size over all, 26" x 22" x 13", 5 cu. ft.

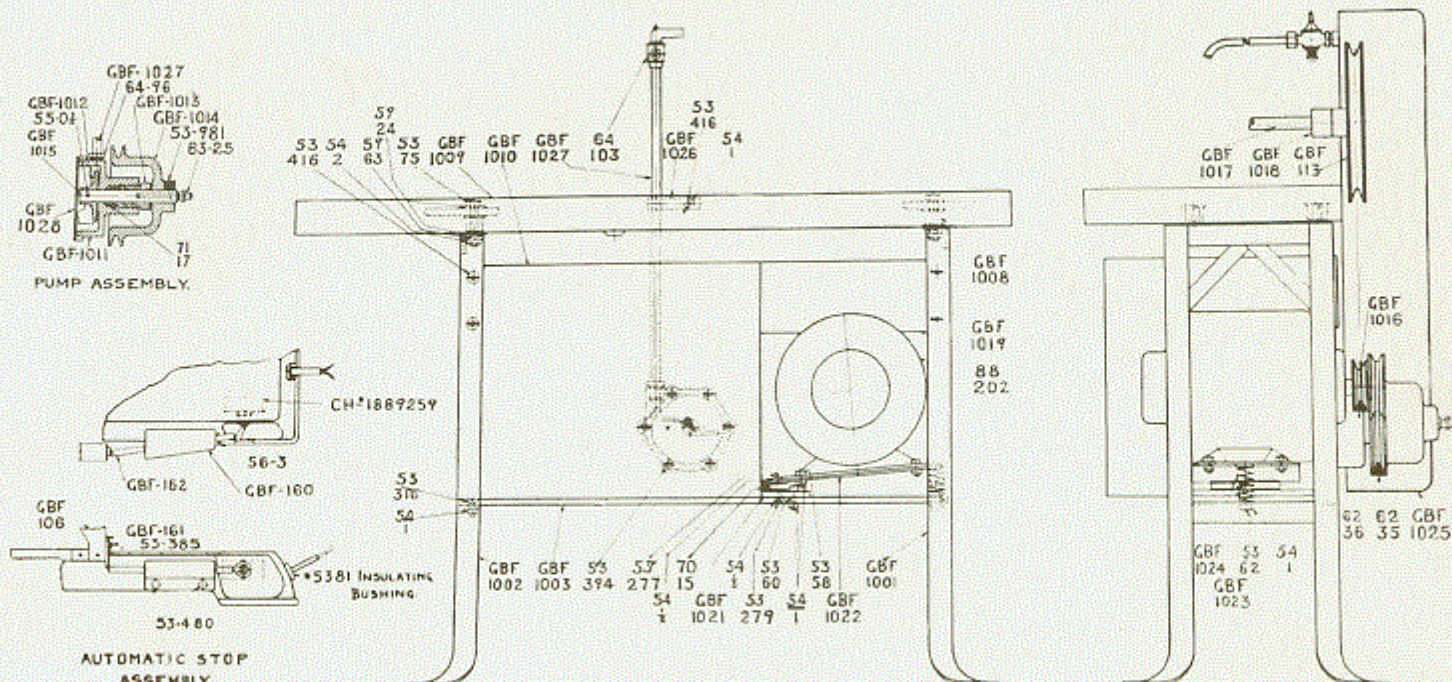
SAW BLADES RECOMMENDED — For stock up to 3/8". Teeth per inch 18.

For stock 3/8" to 1 1/4". Teeth per inch 14.

For stock 1 1/4" to 4". Teeth per inch 10.



Repair Parts List for Draw-cut Power Hacksaw



Floor Model with Wet Attachment

ASSEMBLY GBF-1000

Part No.	Description	Quantity
GBF-1001	Stand End (right hand)	1
GBF-1002	Stand End (left hand)	1
GBF-1003	Tank Support	2
GBF-1008	Bushings in Water Pan	4
GBF-1009	Water Pan	1
GBF-1010	Water Tank	1
GBF-1011	Pump Housing	1
GBF-1012	Pump Impeller	1
GBF-1013	Packing Gland	1
GBF-1014	Pulley for Pump	1
GBF-1015	Pump Shaft	1
GBF-1016	Motor Pulley (for wet attachment)	1
GBF-1017	Pinion Shaft (used in place of GBF-141)	1
GBF-1018	Pinion Shaft Spacer (for wet attachment)	1
GBF-1019	Water Tank Brace	1
GBF-1021	Motor Support	1
GBF-1022	Motor Plate	1
GBF-1023	Button for Coil Spring	1
GBF-1024	Spring for Motor Mount	1
GBF-1025	Belt Guard (for wet attachment)	1
GBF-1026	Clip for Water Pipe	1
GBF-1027	1/8" Steel Water Pipe 14 1/2" Long	1
GBF-1028	Gasket for GBF-1011	1
3240	Gilmer Belt for Pump	1
3245	Gilmer Belt for Saw	1
71-17	Packing, Q. P.	3
27-E.F.	1/8" Imperial Shut-off Cock 1/4" O.D. x 1. P.T.	1

Part No.	Description	Quantity
1889259	Cutler Hammer Switch	1
53-81	Insulating Bushing for Electric Cord	1
59-24	Fibre Washers, 3/8" x 1" x 1/4"	12

Standard Parts Procurable In the Open Market

63-25	One-fourth H.P., 1750 R.P.M. Motor	1
64-51	Zerk Pressure Grease Fitting, 1/8" Pipe Thread	1
4	1/4" O.D. Copper Tubing, 5 1/4" Long	1
60-F	Imperial Sleeve for 1/4" O.D. Copper Tubing	1
61-F	Imperial Nut for 1/4" O.D. Copper Tubing	1
64-96	1/4" x 1/8" Reducing Bushing	1
55-0 3/4	Taper Pin No. 0 x 3/4"	1
59-63	Commercial Lock Washers, 1/4 x 3/8 x 1/8"	4
54-1/2	Hex Nuts, 8-32"	6
54-1	Hex Nuts, 1/4"	16
54-2	Hex Nuts, 3/8"	4
53-977	Socket Set Screw 5/16 x 1/2"	1
53-981	Socket Set Screw 3/8 x 3/8"	1
53-277	Flat Head Machine Screws 8-32 x 3/8"	3
53-279	Flat Head Machine Screws 8-32 x 1/2"	3
53-316	Flat Head Machine Screws 1/4 x 3/4"	4
53-394	Round Head Machine Screws 10-24 x 3/8"	6
53-416	Round Head Machine Screws 1/4 x 1/2"	5
53-417	Round Head Machine Screws 1/4 x 5/8"	2
53-58	Hex Head Cap Screws 1/4 x 1/2"	4
53-60	Hex Head Cap Screws 1/4 x 3/4"	2
53-62	Hex Head Cap Screws 1/4 x 1"	1
53-75	Hex Head Cap Screws 5/16 x 1 3/4"	4

INSTALLATION

On receipt of the machine, uncrate carefully. Pulley and weight will be found packed under the base. Remove all protective coating by cleaning the machined surfaces with kerosene.

Select a location with ample light and space for handling bar stock, and bolt the machine securely to the bench or floor, governed by the model being used. For best operation, keep the machine level.

Lubrication

Before setting the machine in motion, lubricate all bearings and slides, using a good grade of machine oil, viscosity S. A. E. 30 or its equivalent.

Operating Instructions

Rotate the machine in the direction indicated by the arrow on the main gear.

If the bench model is to be driven from a drive shaft, use a pulley of the proper size. In average work for medium materials, rotation of the drive shaft of saw should be 435 R.P.M. (Refer to speed recommendations and sizes of pulleys required in conjunction with a 1725 R.P.M. motor, covering various materials.)

To cut stock at an angle, adjust rear jaw of vise, GBF-114 to the angle desired. Front jaw will automatically adjust itself.

To clamp stock in vise, move the front jaw of vise against the stock by hand, sliding it on the base. Back pressure will engage the dog in the ratchet on the base then vise may be tightened against the stock by vise screw.

Pressure may be applied or relieved for the cutting of hard, soft or medium stock as required, by adjusting the weight GBF-131. Hole A in saw arm may be utilized to extend the weight still further and provide extreme pressure if required.

When sawing dry, without the use of coolant, and when considerable pressure is used on hard material, it is advisable to use oil on the cutting blade which may be applied with an oil can.

The cutting action takes place when the blade is being drawn toward the pitman gear; therefore, when inserting a saw blade the teeth should be inserted pointing in that direction. The saw is lifted on the return stroke and is not in contact with the work.

For inserting stock, the saw arm may be raised and turned back out of the way. Position of pitman gear should rest with the crank opposite the arrow B on the gear guard.

After work has been inserted, to bring the saw in contact with the work, raise the two levers marked GBF-110 and 111, holding them up with the one hand while lowering the saw with the other. Control switch will automatically stop the motor that drives the saw when the cut is finished.

Adjustments

The following adjustments are provided to compensate for wear.

Lifting arm, part GBF-112, swings on tapered, pivoted bearings which are adjustable by means of a screw driver as they become worn. When readjusted they are locked in place with set screw part No. 53-689.

The lifting action of the saw arm is manipulated and controlled by a cam mechanism attached to the pitman gear, GBF-109, connected to two dogs, parts GBF-110 and 111 by connecting rod part GBF-107. On top of these two dogs are attached two hardened steel plates, parts GBF-140, which are sharpened and serve as the pawl against the hardened steel ratchet plate, part GBF-132.

These two plates are adjustable by means of set screws with which they are attached, parts No. 53-523. When they become worn they may be removed and resharpened, then easily replaced when entirely worn out. They should be so adjusted as to clear the ratchet on the cutting stroke but engage on the return stroke.

The main saw carrier slide part GBF-106 should slide freely on the lifting arm, part GBF-112, but without any side play.

Take-up gib part GBF-143 is provided for this adjustment. Set screws, parts No. 53-680 and 681 will lock this adjustment when made.

Following are several diagrams to aid in the proper sawing of material.

