

Box 4

THE ARAB PLATEN PRINTING MACHINE

Erection Instructions for
Foolscap Folio and Crown Folio Sizes
Treadle and Power driven
Fast and loose pulley models

INVENTORS, PATENTEES AND SOLE MAKERS

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THE "ARAB" PLATEN PRINTING MACHINE

INTRODUCTION

This world famous light jobbing press has enjoyed the very highest reputation for almost a hundred years.

It is of sturdy design and the workmanship and quality of material are of the highest class.

Every "Arab" is first built "in the black", run for a time and then dismantled, painted and polished. It is then re-erected, set to print a full forme quite level, again run for a period and finally despatched.

A machine may be transported in parts, packed in woodwool in one case or be sent fully erected.

Hundreds of printers have erected "Arabs" and it is mainly for the printer that these notes are compiled.

Having received your "Arab" and decided what position it shall occupy, lay out all the parts near the site.

Make sure that every part has been removed from the case and before beginning to erect, read carefully the following notes.

Clean each part carefully. Don't neglect the smallest hole. Paraffin oil on waste or rags will soon remove the vaseline rust preventive.

Every shaft, stud and moving part should be liberally covered with good machine oil as the machine is being assembled.

Always remember that the machine is so well built, there is no room for grit, and neglect to lubricate every working part may result in serious damage.

A steel hammer must NOT be used on an "Arab" at any time. If really necessary, use a lump of lead or a mallet of wood, hide or brass.

Do not knock or damage any part. This will cause a bruise or swell which must be filed away and polished off but it should be quite unnecessary to use a file on anything whatever.

All shafts, except the crank, are inserted in the same direction namely, through No. 1 frameside (that on operator's right) into No. 2 frameside.

The Platens are correctly set to English type height with three two-sheet boards and rubber tympan on the front platen.

If, therefore, the machine is correctly built, the impression should be quite level without any adjustment of the back platen screws.

The upper-face of flywheel runs **away** from the operator.

It is advisable to raise the machine on wood battens 4" wide, 2" thick, and 30" long, fixed lengthways, one under each frameside.

In conjunction with the leaflet "Description of "Arab" Parts" and numerical references, the following instructions should be quite sufficient to enable anyone capable of using a spanner intelligently, to erect an "Arab" successfully.

NOTE—To determine right and left hand, the machine is viewed from operator's position.

HOW TO BUILD AN "ARAB" FOOLSCAP FOLIO OR CROWN FOLIO

Always remembering the notes on CLEANLINESS AND OILING, proceed as follows:—

Hold or rear up No. 1 FRAME SIDE (196). Into the stay holes numbered 1 to 4 place the correspondingly numbered ends of STAYS, (189, 190, 191), figures upwards and pull them nearly up to their flanges with their own nuts.

The CRANKSHAFT (110) must now be passed through the CRANK BUSH (115) of No. 1 FRAME SIDE. Remove nut and washer.

DON'T FORGET TO OIL WELL.

No. 2 FRAME SIDE (192) is next put on to the FLY-WHEEL END OF CRANK SHAFT, and also fitted to the free ends of the STAYS, then both frames are carefully and uniformly drawn into position by means of the nuts.

When this is done the CRANK should revolve QUITE FREELY.

Put small Collar (117) on Crank Shaft from Flywheel end, and see that the screw point goes into the recess in the shaft.

On the other end of crank shaft fit the PINION WHEEL (113) close up to bush (115) With keyway facing flat on shaft, push in the KEY (114) well oiled. Rock the pinion slightly to locate the key and finally drive home as far as the mark.

Now level up the machine on the battens previously mentioned, using a reliable spirit level and packing the frame side feet with card until all is correct. It is of the greatest importance that the machine should be firm and level.

Take off the large CAPS (197, 193) on the top of both frame sides, clean and oil, put in ROCK HORSE (182, 183, 184, 183a, 184a, 185, 186)—also cleaned and oiled—and replace caps and screws.

Put in the ECCENTRIC SHAFT (198 and 199)—first through No. 1 frame side, remove and then replace segment (200) This shaft should be quite easy. If tight, the segments may be binding the frame side. To free them, tap each end of shaft with wooden mallet.

Put on CURVED IMPRESSION SPRING (146). This will require some care or the LEVER SPINDLE will not work freely in the slots at each end of spring.

On the left hand end of eccentric shaft fix the IMPRESSION ADJUSTER (48-58) by means of the two screws provided.

Do not use a file, as all is correct if properly fixed.

When the lever spindle is in the forward slot the impression is ON, when pulled into the backward slot it is OFF.

Remove 69. The "ARAB" WHEEL SHAFT, with WHEEL attached (66, 67, 68) is now put into No. 1 frame side, the large collar replaced, then pushed home with the CAM RUNNER (186) resting in the part of the cam nearest the teeth.

Do not yet fasten the collar.

Now put in the FRONT PLATEN (157)—of course first removing the screws, shaft, etc., and note in which direction the slots of platen hooks face. See that the holes of platen are in line with those of the frame sides; then using tommy pin, pass the shaft through No. 1 frame side as far as centre of platen. Replace PLATEN HOOKS (160) and then push shaft end level with No. 2 frame side. Turn until the recesses in shaft are seen through the screw holes of platen, then fix pointed screws firmly and secure both platen and hooks. The platen should rest firmly on the rock horse dies. If one die should shake, perhaps one of the pointed screws is not quite in position, therefore ease back and screw up again first one and then the other until both dies are firm.

The machine will have a shaky die if not properly levelled. A card or two under the foot of machine nearest the operator's right foot may put this right.

Screw on DIE PLATE AND BUSHES (180, 179, 178, 181)—No. 1 bush at the top, flat side towards die.

These must be screwed up firmly.

To the top of platen fix BLANKET SHAFT (148 and 147) with BRACKETS (153 and 156) using screws 1, 2, 7, and 8 and to the bottom edge fit FRISKET SHAFT (170, 171, 172) with BRACKETS (154 and 155) and screws 3, 4, 5 and 6.

The FRISKET SPRINGS (173, 174) may now be fitted, their straight edges facing each other.

The pins at each end of shaft must not be removed. They prevent friskets being crushed between platens.

Put in STRAP GUIDE ROD (109) replacing pins as you find them.

Put on to No. 2 frame side the BRAKE MOTION (95 to 101) with all connections as you find them.

Then fit the BRAKE (106, 105, 104) and connect up to the lever on brake shaft by the hook (102). Remove nut of link (103) pass through brake casting and replace nut. This link allows for adjustment of brake.

Put on the PULLEYS (112, 138, 137). The lettered end of PULLEY KEY must be towards the machine, so also must be the lettered side of the fast pulley. Oil hole of loose pulley comes on the outside.

Now put on small Collar (111) and then fix the STRAP FORK and CASTING (107, 108) on the STRAP GUIDE ROD (109).

The TREADLE (122, 123) is now fitted in, together with its CONNECTING ROD (121, 120, 119) Replace the long taper pin this is important.

If the machine is to be treadled it is important to replace the long taper pin, as this prevents treadle from jumping when foot is removed whilst the machine is running.

Next insert flywheel key (marked with letter and one pop) in left end of crankshaft. Put on FLYWHEEL (195) letter inside, and secure it by means of its nut.

The machine, as it now stands, may be tested by turning the flywheel slowly to see if all is free.

The top of wheel must run away from the operator.

After removing the screws and shaft from the foot, take the BACK PLATEN LEGS (142 with 85, 94, 91, 86, 90) lay them down with word "Arab" towards the floor, with the feet between the frame sides, then carefully get the holes into line with those of frame sides before attempting to replace the shaft—which of course must enter from No. 1 side.

See that the recesses in the shaft are opposite the screw holes, then put screws in firmly.

Now put in the BACK PLATEN (133, 134, 130, 131, 132, 135, 136) and see that the numbered nuts are replaced on their own screws. Nip these nuts up tightly.

SPRING and PLUNGER under Chase Catch are not intended actually to secure the forme, but partly as a lock and partly to prevent forme falling forward until chase catch screw is secured.

Lift up the back leg, platen, etc., and place gently against the front platen, then with an assistant carefully balancing the legs, put on to the SHORT SWINGER, the CONNECTING ROD No. 4 end (163), the opposite end being at the same time put on to the eccentric shaft. Replace the nut and washer on swinger stud and the screw and washer (201) on the end of eccentric shaft.

All connecting rods must have their figured faces outside, and the large nuts must be WELL tightened.

Turn the flywheel round so that the front platen lies at its lowest point, then draw out the "Arab" wheel a few inches so as to allow the CONNECTING ROD No. 3 (165) to be placed in position—on swinger stud and eccentric shaft. When this is done tighten the screw down into the groove in shaft and nip up the nut on swinger stud.

Put "Arab wheel back, turn flywheel until the platen is at the top again, then fix the large collar on "Arab" wheel shaft by means of the grub screw locating in a recess in the shaft.

Connect the "Arab" wheel and LONG BOSS SWINGER by means of CONNECTING ROD numbered 1 and 2 (164).

On the BACK PLATEN SHAFT fix the PICK LEVER CAM (124) and afterwards the INK DISC PICK LEVER (125, 126, 127, 128, 129). See that the centre of runner is in line with centre of cam.

Next fix on the INK DISC BEARER (141) and fit into it the INK DISC (92). Don't screw up the leather washer too tightly—only sufficiently to act as a brake.

The SWINGER BARS (89) may now be attached to swingers over their corresponding numbers.

Put on ROLLER BRASSES (70-84). To do this will require some tact and strength, as the springs require to be compressed before the Studs (87) can be got into position.

Put INKING ROLLERS and RUNNERS (39, 38) into the saddles, beginning with the centre one. Don't forget to replace the saddle pins or the rollers may jump out and do considerable damage.

Remove the screws (76) on the top of the double saddles, put ROLLER BAR (77) on the pins and replace the screws.

NEVER run the machine without the roller bar.

If desired two rollers only may be used.

In this case remove the front roller and turn the empty saddles over on to the brasses.

The TYMPAN may now be attached to the front platen in the following manner. Pass BLANKET ROD (149) through hem of tympan which is also punched, and BLANKET WIRE (147) through top hem. With rod behind the pins, press tympan on to pins in bottom edge of platen. Place three two-sheet boards, or its equivalent, on the platen and then the horns of blanket wire into the holes of blanket shaft, the wire and tympan lying along the groove. With the aid of

tommy pin and holes in left hand end of shaft, wind up the tympan until taut and then secure by means of nut. Next attach the GUIDES (176, 177) the long one to the bottom and the short one to the top left hand brackets.

When these are in use only one down frisket may be used, the right hand one (173) to which the CROSS FRISKET (175) is attached.

Put on the BOARDS (37, 35, 36, 34, 33, 32).

Before proceeding to fix the INK DUCT and its connections, test the machine by turning the flywheel carefully by hand.

If all is correct, very little power will suffice for this, but if much force is necessary examine carefully for errors in erection and rectify.

All being correct, run for a few minutes by treadle, then proceed to attach the ink duct.

TO FIT THE NARROW DUCT AND DISTRIBUTOR MOTION

(See leaflet, "Arab" Parts Narrow Ink Duct.)

Fix the INK DUCK BRACKET (20) on the seating prepared for it at the top left hand side of back platen legs.

Take the INK DUCT LEVER (42) and pass its stud (41) through the vertical body part of the ink duct bracket.

In this and all similar cases, see that the notch pin enters the notch cut for it before tightening up the nut.

Remove the small screw at the bottom of lever, and also runner and washer (46, 45).

Put on to the swinger shaft the INK DUCT CAM (47) with the cam runner stud (44) resting inside it, replace runner on this stud, then washer and screw.

Fix the DISTRIBUTOR ROLLER LIFTER (140) on its seat, at the right hand side of back platen legs.

Firmly attach the INK DUCT (12-31) to top of ink duct bracket, and then insert the regulating screw and nut—passing through bracket and duct box.

To the upper end of ink duct lever fit the INK DUCT ARM (10) with stud (11) and to the free end fix the DISTRIBUTOR SPINDLE with its ROLLER (5, 4, 6, 7, 9.) For this purpose remove washers and nut, then replace.

TO FIT THE WIDE DUCT AND DISTRIBUTOR MOTION

(See Leaflet, "Arab" Parts, Full Width Ink Duct.)

Fix the INK DUCT complete on the seatings prepared for it, one at each side of back platen legs, using screws 1, 2, 3 and 4, nip firmly.

Fix the DISTRIBUTOR ARM (WD33), etc. to the centre of Back Plate (WD22) of Duct by screws 1, 2, 3 and 4.

Remove studs WD34 and WD39, pass 13, 35 and 38 through slot of 33, and replace stud 34.

Attach SWINGER SHAFT SEGMENT (WD 40) to swinger shaft by screws 7 and 8, and replace stud 39.

Attach end of 13 to lever 11 with stud 14.

Remove cotter pin and stud from DISTRIBUTOR SHAFT LEVER, place DISTRIBUTOR TOP CONNECTING ROD in position; replace stud and cotter pin.

Having the platens open and inker rollers at bottom of forme remove screw of roller bar from left hand distributor lever, the bottom portion of which is hinged. This may now be opened outwards, the DISTRIBUTOR ROLLER inserted in the slot of right hand distributor lever and left hand lever closed on to it and the screw again secured.

Having the REGULATING BLOCKS about $\frac{3}{8}$ " away from the ink duct roller, insert INK DUCT BLADE to rest on the blocks, with the blade back resting on two thumb screws and the underside of back on the two stops. The blade is then secured by tightening the two thumb screws, the flanges of which enter the recesses in the back of the blade.

The blade is very sensitive and the fine adjustment is made by the row of (CF.8 and F.F.6) thumb screws operating the regulating blocks.

The blade will last a considerable time, but when it has worn so much that the blocks touch the roller, the two stops against which the blade back rests can be adjusted to counteract the wear of the blade. This gives it an exceedingly long life.

The flow of ink can be adjusted to very fine limits and in addition to this, the INK DUCT CATCH LEVER is fitted with a control rod whereby the number of teeth picked at each stroke may be regulated to 3, 2, 1, 0.

If for any reason it is desired to remove the cylinder of the ink duct, please note that the catch wheel is screwed on to the shaft end with a LEFT HAND thread, and for its removal a face spanner is provided.

The "ARAB" is now complete, and like all other machines will have a longer life, give less trouble, and turn out better work if treated well.

It is advisable to oil every part twice or thrice each day for at least a week, afterwards once—at the beginning of each day.

Do not omit the smallest part or overlook the bearings partly hidden by the feed boards.

One drop of oil in the right spot is better than a pint in the wrong.

After oiling, always wipe away any excess as this only collects dirt.

By moving the IMPRESSION ADJUSTER forward or backward—as has been shown—the impression is thrown ON or OFF.

TO ADJUST THE IMPRESSION—slacken the winged nut and turn the worm by the milled head—CLOCKWISE for LESS impression and ANTI-CLOCKWISE for MORE.

The LEATHER BEARERS on back platen give a continuous motion to the rollers. Under some conditions as for instance when working very light formes or when the rollers have become swollen by dampness it is advisable to underlay them on the straight portion of the Back Platen with well pasted strips of card, but this must not be done to excess or the rollers will come into contact with the guides and Friskets on the front platen.

If at any time you should require parts for repairs or renewals kindly quote size and number of machine.

The number of this machine will be found on the upper face of the connecting rod, near the impression adjuster.