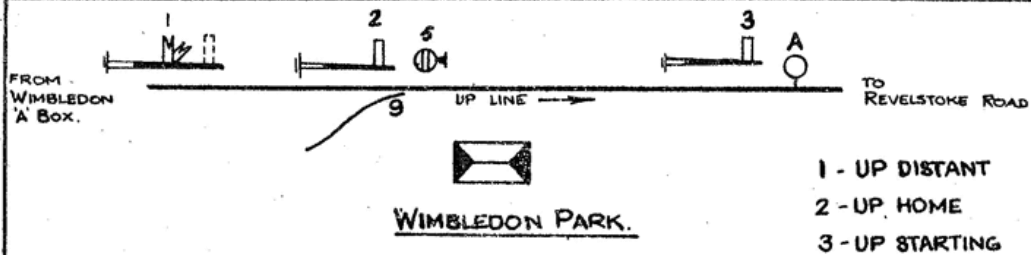


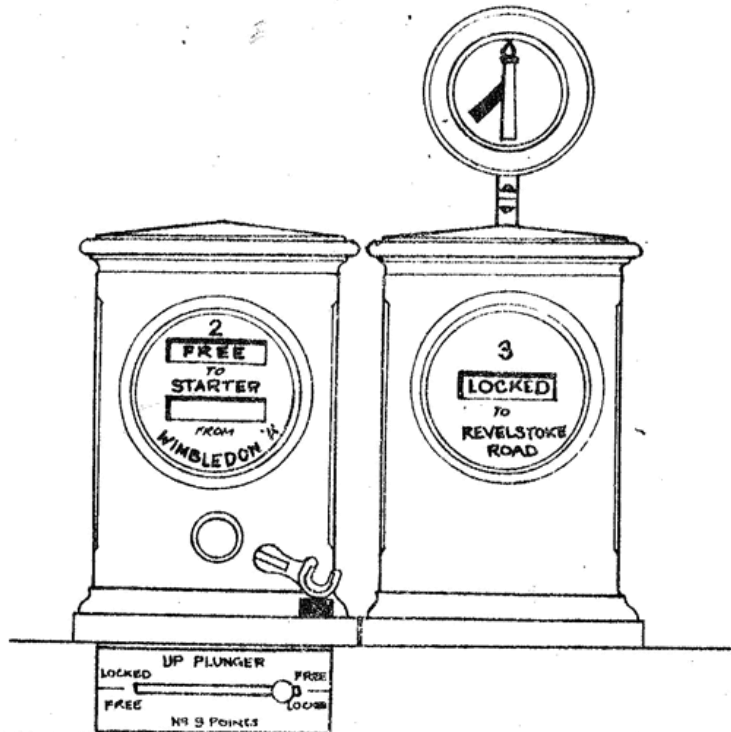
SYX LOCK & BLOCK.

SYX—01

AS AN ILLUSTRATION OF THE OPERATION OF SYX LOCK & BLOCK, THESE NOTES DESCRIBE THE METHOD OF WORKING ON THE UP LINE AT WIMBLEDON PARK. THE RELEVANT PORTIONS OF THE LAYOUT, BLOCK SHELF AND CONTROL TABLE ARE SHOWN BELOW.



- 1 - UP DISTANT
- 2 - UP HOME
- 3 - UP STARTING



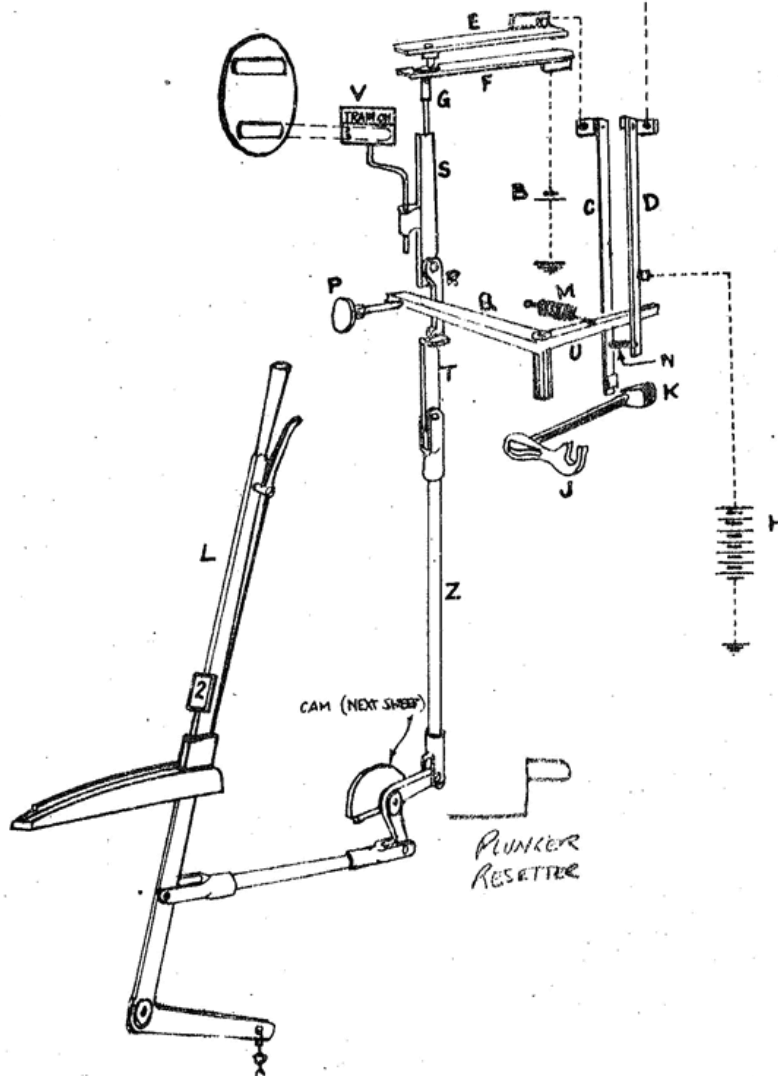
WORK	NORMAL LOCK		AFTER USE RELEASED BY	BACK-LOCK RELEASED BY TREADLE	LOCKS
	RELEASED BY PLUNGER FROM	ARM 'ON'			
2			3 P & R.		UP PLUNGER TILL 3 P & R.
3	REVELSTOKE RD.			A	
9					UP PLUNGER
UP PLUNGER		(1 & Slot)	2 & 3 P & R.		9 TILL 2 P & R.

NOTE THAT:-

- CERTAIN SPECIAL OPTIONAL & KEY RELEASES ARE FOR THE MOMENT NOT SHOWN.
- UP TRAINS FROM WIMBLEDON 'A' BOX ARE ACCEPTED BY PRESSING IN THE PLUNGER, WHICH IS THEN LOCKED UNTIL 2 & 3 HAVE BEEN PULLED & REPLACED ("P & R").
- THE OVERLAP ON UP HOME No 2 EXTENDS TO TREADLE A.
- No. 2 IS NORMALLY FREE TO BE PULLED, AND IS NOT BACK-LOCKED. AFTER BEING PULLED, HOWEVER, IT IS LOCKED NORMAL UNTIL 3 IS PULLED & REPLACED.
- No. 3 STANDS LOCKED UNTIL IT IS RELEASED BY OPERATION OF THE PLUNGER AT REVELSTOKE ROAD. WHEN PULLED IT IS BACK-LOCKED UNTIL TREADLE A IS OPERATED BY THE TRAIN.

20-MS-02

BLOCK LINE to
WIMBLEDON 'A' Box



THE PLUNGING MECHANISM CONSISTS OF THE PLUNGER P WHICH, WHEN OPERATED, PASSES AGAINST THE ANGLE BAR Q, THE LIMB U OF WHICH PASSES SPRING D TO THE RIGHT, BREAKING CONTACT N, DISCONNECTING BATTERY B (-ve) FROM LINE, AND CONNECTING BATTERY H (+ve). AS DESCRIBED ON A LATER SHEET, THIS WILL RAISE THE MINIATURE SEMAPHORE INDICATOR ON THE INSTRUMENT AT WIMBLEDON 'A' BOX, AND WILL ALSO RELEASE THE UP ADVANCED STARTING SIGNAL LEVER THERE.

WHEN THE PLUNGER P IS PUSHED THE BAR Q PUSHES THE CATCH R CLEAR OF THE TOP OF BLADE T, ALLOWING BLADE S TO FALL ON TOP OF Q. WHEN THE SIGNALMAN REMOVES HIS HAND FROM PLUNGER P THE PLUNGER, BAR Q AND LIMB U ARE ALL RETURNED TO THEIR NORMAL POSITION BY SPRING M. BLADE S THEN DROPS FURTHER, IN FRONT OF, AND LOCKING, BAR Q, AND SO THE PLUNGER. TABLET V EXHIBITS "TRAIN ON!"

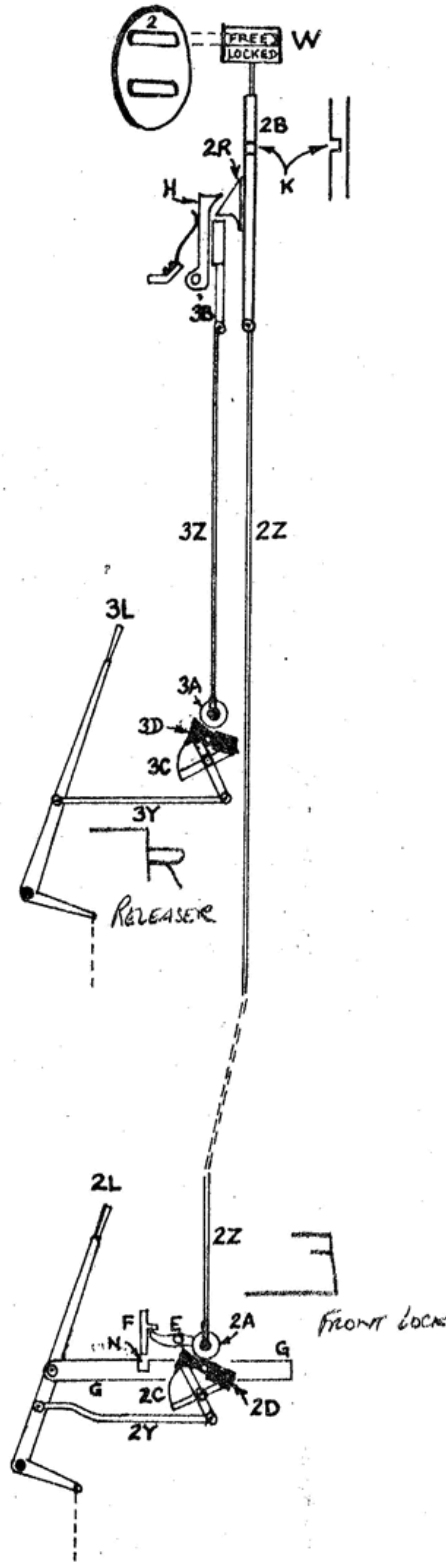
WHEN HOME SIGNAL LEVER L IS PULLED, ROD Z IS LOWERED, PULLING BLADE T DOWN BELOW CATCH R. WHEN THE LEVER L IS REPLACED TO NORMAL, ROD Z, BLADE T, CATCH R, AND BLADE S ARE ALL RAISED, RETURNING TABLET V TO THE NORMAL (BLANK) INDICATION.

THE MINIATURE SEMAPHORE AT THE BOX IN REAR (WIMBLEDON 'A') IS LOWERED ONLY WHILE BATTERY B IS CONNECTED TO LINE. THIS CONNECTION IS BROKEN (AT N) WHEN THE WIMBLEDON PARK PLUNGER IS PRESSED, AND REMAINS BROKEN THROUGHOUT THE TIME THAT BLADE S IS LOWERED (WHILE KNOB G DOES NOT PRESS TOGETHER SPRINGS E AND F). IN ADDITION, THIS CONNECTION IS BROKEN WHEN SWITCH HOOK J IS TURNED OVER THE PLUNGER UPON RECEIPT OF THE "TRAIN ENTERING SECTION" BELL SIGNAL. (K TURNED PRESSED BACK SPRING C, DISCONNECTING AT N). SWITCH HOOK J IS NOT REMOVED FROM THE PLUNGER UNTIL AFTER GIVING THE "TRAIN OUT OF SECTION" BELL SIGNAL, AFTER REPLACING L TO NORMAL.

SYX LOCK & BLOCK - HOME SIGNAL LOCKING

67X-03

- 2 - HOME SIGNAL.
- 3 - STARTING SIGNAL.



LEVER 2 STANDS NORMALLY FREE, & TABLET W DISPLAYS 'FREE' IN GREEN.

WHEN 2L IS PULLED, ROD 2Y MOVES CAM 2C, BUT DOG 2D, WHICH IS PIVOTED ON THE CAM, DIPS PAST ROLLER 2A AND DOES NOT MOVE IT.

WHEN 2L IS PUT BACK TO NORMAL, DOG 2D, BECAUSE OF ITS SHAPE, DOES NOT DIP UNDER ROLLER 2A, BUT IN PASSING FORCES IT UPWARDS, LIFTING ROD 2Z AND BLADE 2B FAR ENOUGH FOR BRACKET 2R TO RISE ABOVE, AND REST ON, CATCH H. ROCKER E IS MOVED BY ROLLER 2A, AND LOCK F DROPS INTO NOTCH N, LOCKING LEVER 2L NORMAL. TABLET W DISPLAYS 'LOCKED'. (RED).

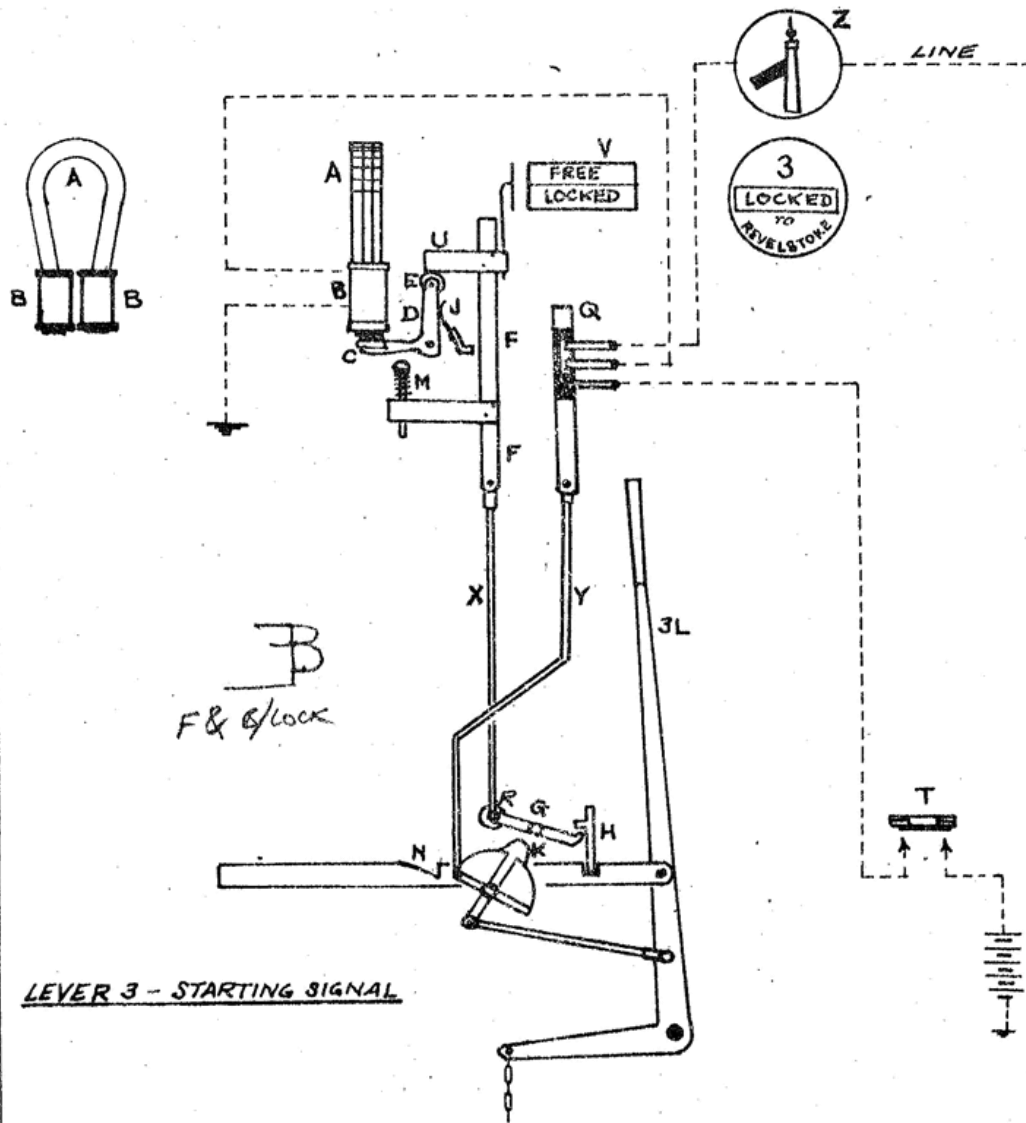
WHEN LEVER 3L IS PULLED, NO MOTION IS TRANSMITTED TO ROLLER 3A.

WHEN LEVER 3L IS PUT BACK TO NORMAL, ROLLER 3A AND ROD 3Z ARE LIFTED, THRUSTING BLADE 3B UP UNDER BRACKET 2R, FORCING BACK CATCH H. BLADES 3B AND 2B THEN FALL TOGETHER, ROD 2Z MOVING ROCKER E AND LIFTING F CLEAR OF NOTCH N. TABLET W SHOWS 'FREE'.

REFERRING TO THE PREVIOUS SHEET, WHEN 'PLUNGER P IS PRESSED, BAR G, AS WELL AS PRESSING CATCH R AS DESCRIBED, ENTERS NOTCH K IN BLADE 2B (THIS SHEET). THUS, THE PLUNGER MAY BE OPERATED ONLY WHEN 2 IS FREE'.

SYX LOCK & BLOCK: STARTING SIGNAL

SYX-04



LEVER 3 - STARTING SIGNAL

A IS A COMPOUND HORSE-SHOE PERMANENT MAGNET WITH SOFT IRON EXTENSION PIECES AROUND WHICH ARE WOUND COILS B.B. THE ARMATURE C IS ATTACHED TO ANGLE-PIECE D, WHICH CARRIES ROLLER E. THIS SUPPORTS NOSE-PIECE U ATTACHED TO BLADE F, AND HOLDS IT IN THE LOCKED POSITION. BLADE F IS CONNECTED BY ROD X TO CROSS-HEAD G, AND, IN THE POSITION SHOWN, ALLOWS THE LOCK H TO REST IN THE TAPPET, LOCKING LEVER 3L NORMAL.

WHEN THE BOX IN ADVANCE PLUNGES, COILS B NEUTRALISE THE EFFECT OF THE MAGNET A, AND SPRING U PUSHES ARM D AND ROLLER E OUT FROM BENEATH NOSE-PIECE U, BLADE F AND ROD X FALL, AND THE LOCK H IS LIFTED OUT OF THE NOTCH IN THE TAPPET. TABLET V SHOWS 'FREE'.

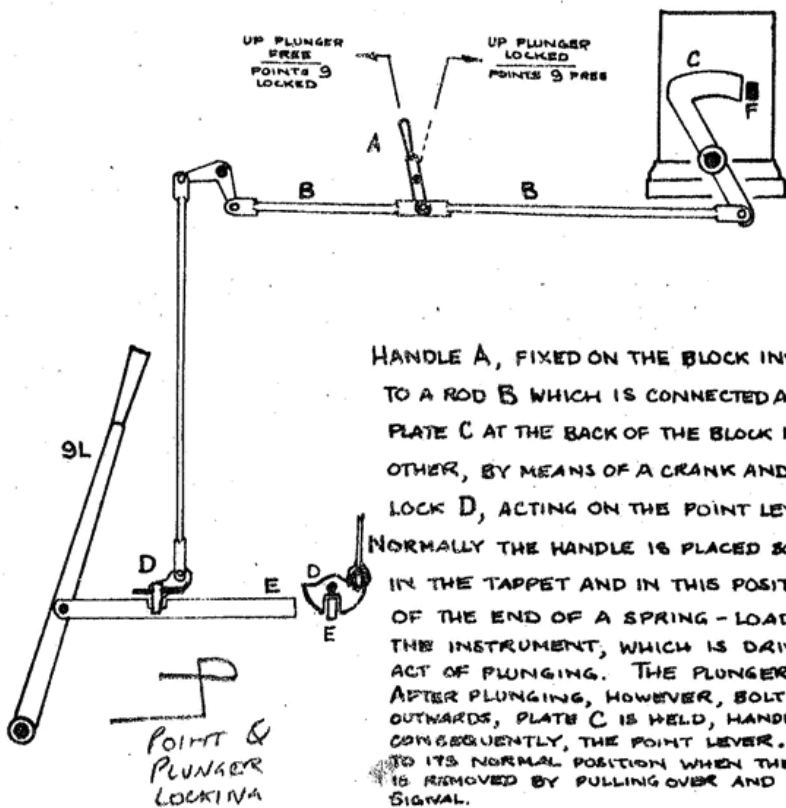
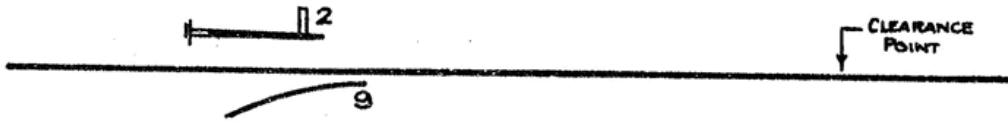
OPERATION OF LEVER 3L CAUSES CAM K TO LIFT ROLLER R, AND RAISES ROD X AND BLADE F. THE SPRING BOLT M PUSHES THE ARMATURE C BACK AGAINST MAGNET A, AND, BY ALLOWING H TO DROP, THE LEVER IS BACK-LOCKED. THE POSITION OF NOTCH N, HOWEVER, ENABLES THE SIGNALMAN TO MOVE THE LEVER FAR ENOUGH TO PUT THE SIGNAL TO DANGER, BUT CANNOT DO SO COMPLETELY UNTIL THE INSTRUMENT IS UNLOCKED AGAIN BY THE TRAIN PASSING OVER THE TREADLE T.

THE OPERATION OF MINIATURE SEMAPHORE Z IS GOVERNED BY THE POLARITY OF THE BATTERY CONNECTION TO THE LINE AT THE BOX IN ADVANCE. THE SEMAPHORE IS LOWERED ONLY WHILE THE LINE IS CONNECTED TO BATTERY -VE, THAT IS, WHILE THE INSTRUMENT AHEAD IS FREE, BUT NOT PLUNGED, IN OTHER WORDS, WHILE IT IS IN ORDER TO OFFER A TRAIN.

SYX LOCK & BLOCK: POINT LOCKING

SYX-05

WHERE TRAILING POINTS EXIST WITHIN THE HOME SIGNAL OVERLAP, THAT IS, BETWEEN THE HOME SIGNAL AND THE CLEARANCE POINT, INTERLOCKING IS PROVIDED BETWEEN THE POINTS AND THE PLUNGER.



HANDLE A, FIXED ON THE BLOCK INSTRUMENT, IS ATTACHED TO A ROD B WHICH IS CONNECTED AT ONE END TO THE LOCKING PLATE C AT THE BACK OF THE BLOCK INSTRUMENT, AND AT THE OTHER, BY MEANS OF A CRANK AND VERTICAL ROD, TO THE LOCK D, ACTING ON THE POINT LEVER TAPPET E.

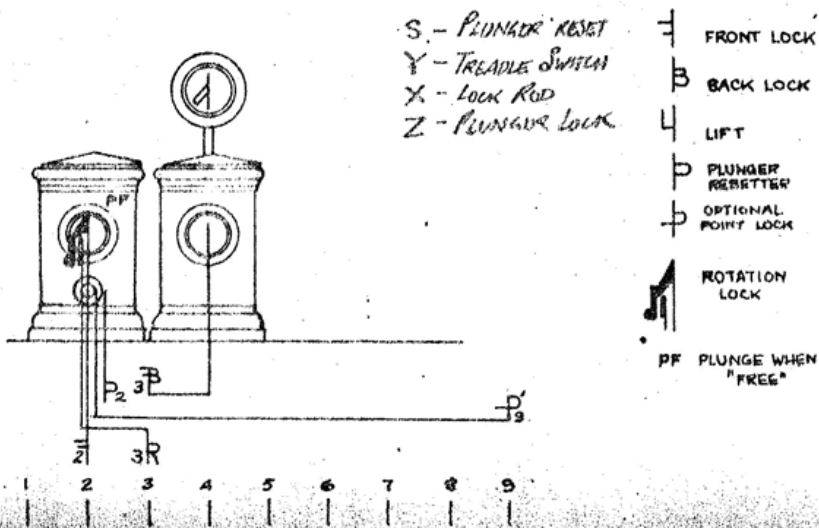
NORMALLY THE HANDLE IS PLACED SO AS TO HOLD THE LOCK IN THE TAPPET AND IN THIS POSITION PLATE C IS CLEAR OF THE END OF A SPRING-LOADED BOLT F, INSIDE THE INSTRUMENT, WHICH IS DRIVEN OUTWARD BY THE ACT OF PLUNGING. THE PLUNGER THEREFORE IS FREE. AFTER PLUNGING, HOWEVER, BOLT F HAVING MOVED OUTWARDS, PLATE C IS HELD, HANDLE A IS LOCKED AND, CONSEQUENTLY, THE POINT LEVER. THE BOLT IS RETURNED TO ITS NORMAL POSITION WHEN THE "TRAIN ON" INDICATION IS REMOVED BY PULLING OVER AND PUTTING BACK THE HOME SIGNAL.

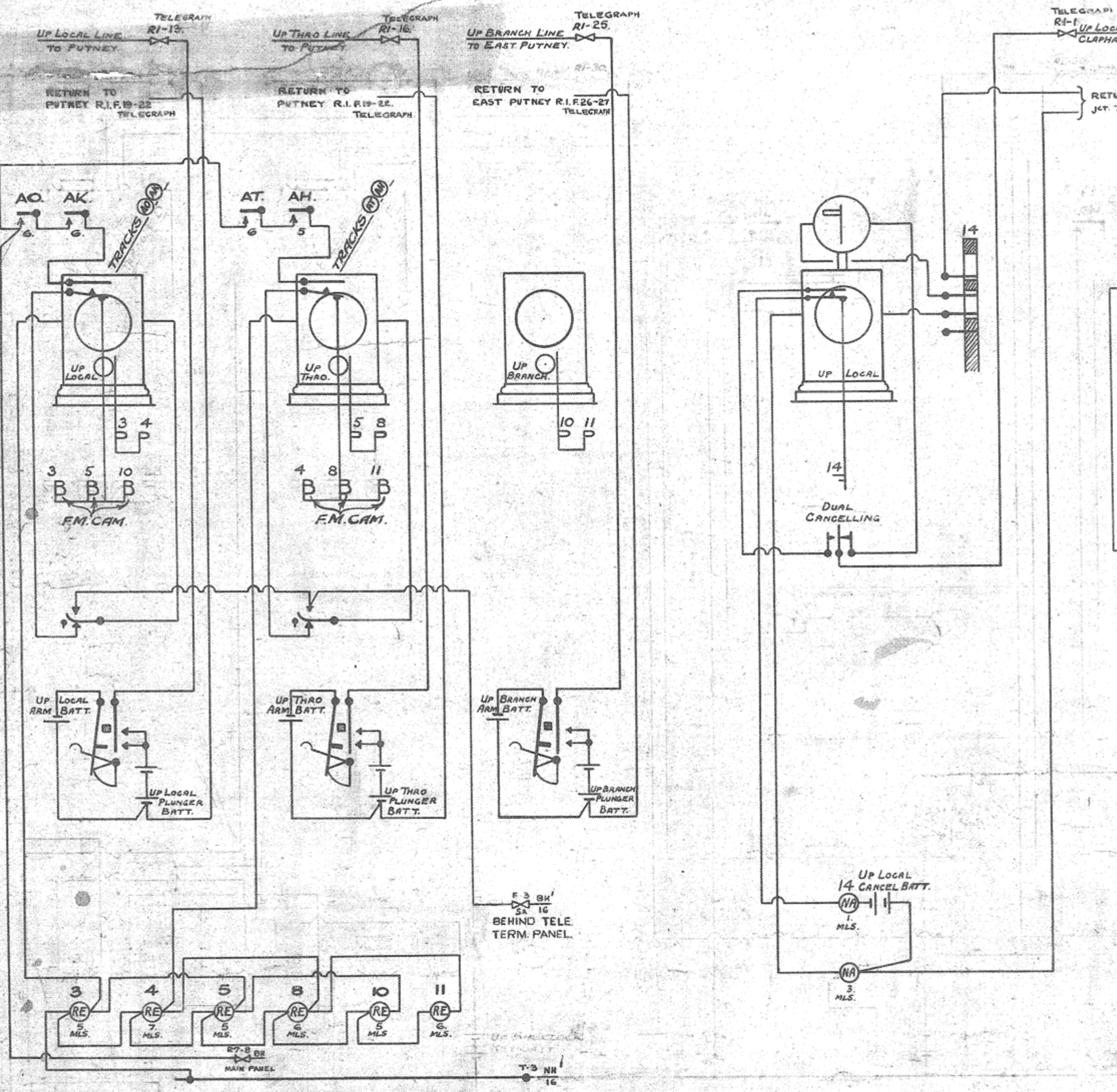
TO PULL THE POINT LEVER (NO 9) THE HANDLE IS SHIFTED TO LIFT OUT LOCK D, MOVING PLATE C IN FRONT OF BOLT F AND LOCKING THE PLUNGER. THIS ENSURES THAT:-

1. "LINE CLEAR" CANNOT BE GIVEN IF THE POINTS ARE IN THE WRONG POSITION.
2. AFTER "LINE CLEAR" IS GIVEN THE POINTS ARE LOCKED IN THE CORRECT POSITION UNTIL THE TRAIN HAS PASSED.

W. R. SYKES' SYMBOLS.

AN EXAMPLE OF A SYKES "BLADE DRAWING" IS GIVEN BELOW, AND AN EXPLANATION OF THE SYMBOLS THAT WERE USED.





12-2-50. 14. 2-55. 18-2-57
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