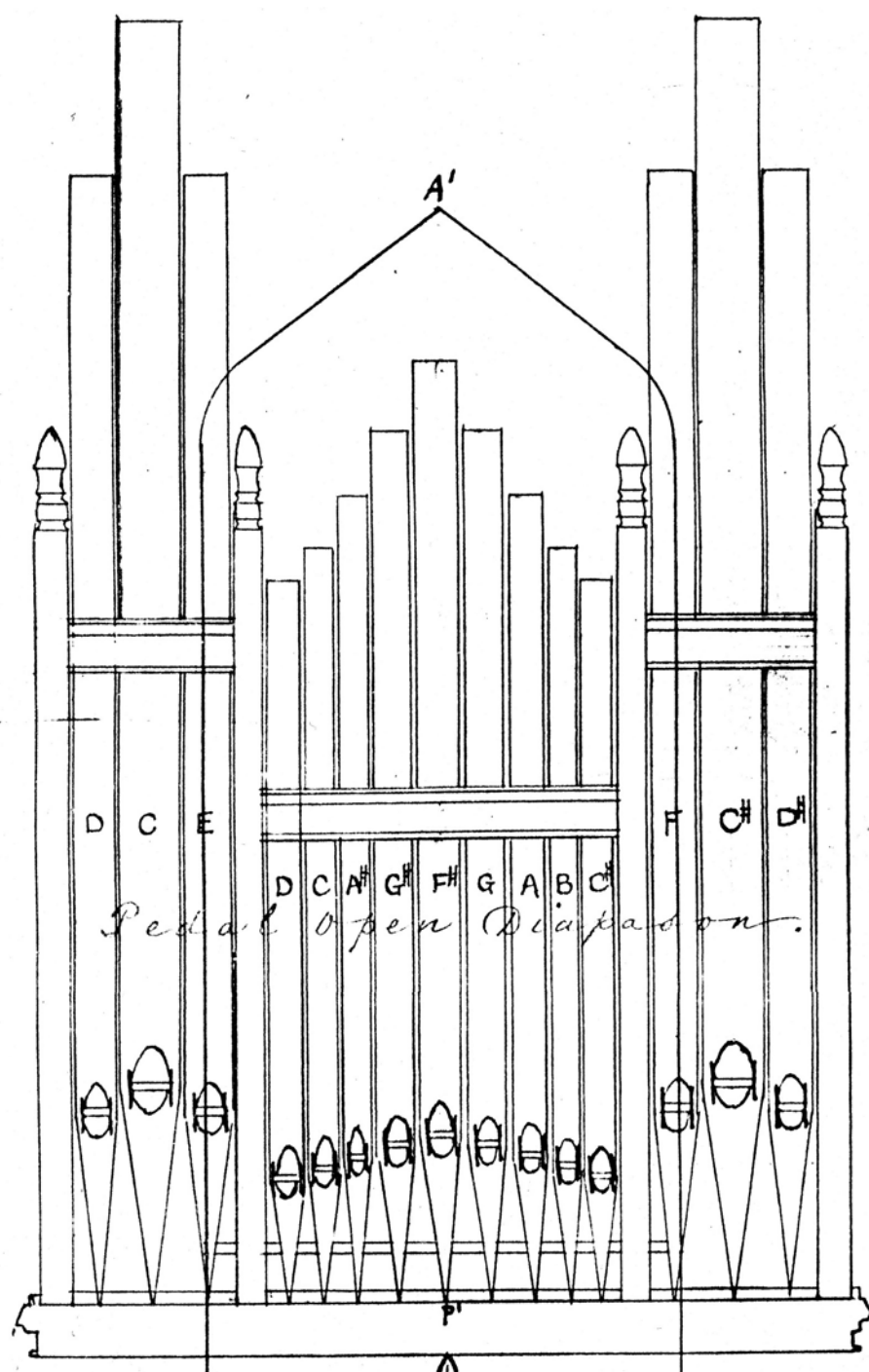


CHRIST CHURCH, SIMLA



ORGAN MANUAL
1899

This book is dedicated to the
present & future chaplains &
Church committees of
Christ Church Simla
in the hope that it may prove
useful at the erection of the
organ and afterwards for its
care & well being.

Brighton
July 4th 1899

Wm. H. Col
J. Staff

Received at Simla July 24th 1899
M. C. Sanders
(Chaplain.)

The organ was built at Simla and the tuning
completed on Saty., Sept. 23rd 1899, and the
Dedication & opening Recital took
place on Thursday Sept. 28th 1899
M. C. Sanders

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IV

Cases opened as follows: —

- Case 1 Sept. 5th Front casing upstairs. Rest downstairs
- Case 2 August 25 (Pd. frame only).
- Case 3 August 23 (Tower corner)
- Case 4 August 24 (At organ, — some to be ref^d)
- Case 5 August 21 (Gallery)
- Case 6 August 22 (Small gallery)
- Case 7 Sept. 5th Downstairs mostly. Decorated pipes in gallery.
- Case 8 Sept. 5. Downstairs mostly. Decorated pipes in gallery.
- Case 9 Sept. 2 Most of it erected, except metal pipes & pipes. — in small gallery
- Case 10 Sept. 11

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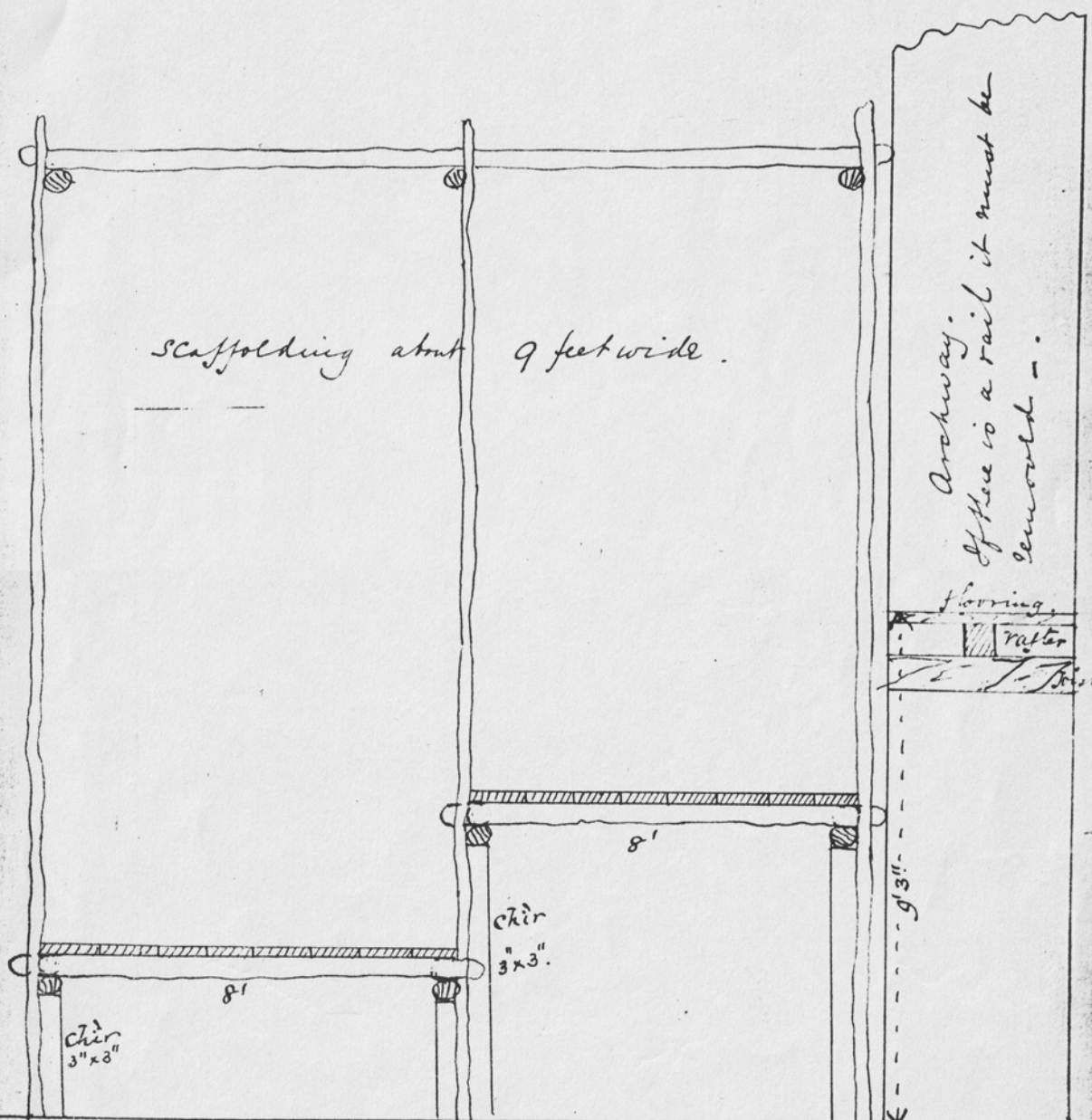
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Memorandum on the erection of the Organ
in Christ Church Simla.

3

The organ is packed in 10 Cases, all of which are numbered and a list of their contents is given in this book -.

As some portions of the organ are large and very heavy, it will be impossible to carry them up the gallery stairs and it is suggested that a scaffolding be erected in the nave in front of the western Archway so that all the parts of the organ can be hoisted up and taken through the archway - an idea of it is here given and it can be prepared in readiness for the arrival of the cases.



Scale $\frac{3}{8}$ th of an inch = 1 foot.

The ropes are imagined -.

General Remarks.

In these plans every thing cannot be shewn - to make them as clear as possible red ink has sometimes been used -

Every piece of wood has been numbered ^(sometimes written or in pencil) and so its place will easily be found.

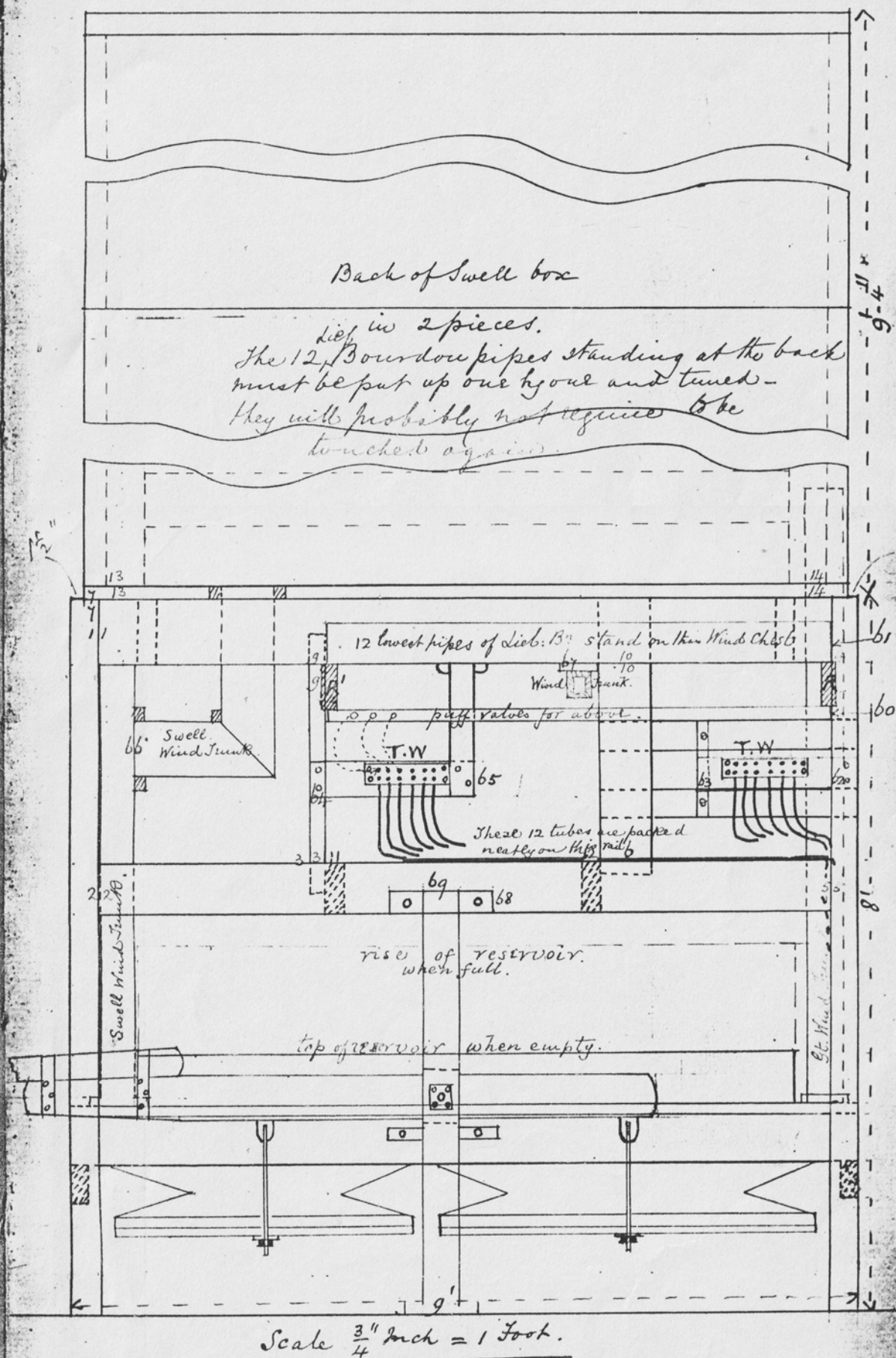
A list of the numbers & describing what each piece is intended for will be found at Page 61.

The very minute details throughout this book are, of course not intended for a professional but the writer has had in view some amateur with a mechanical bent to whom the care of this organ may be entrusted and to whom it may be a pleasure - The instructions may appear very prolix but the proper care of an organ requires great patience and a strict attention to the most minute details, neglect of any of which may render others of no avail -

Of course, tuning requires a good ear but since all open pipes are provided with slides (except a few) an amateur can "lay his bearings" over & over again till his ear is satisfied without any injury to the pipes (which cannot be said of the barbarous tuning cones) & after his bearings are correct, tuning the rest of the pipes in octaves & unisons is an easy matter. See Page 20.

Elevation of Back of Organ

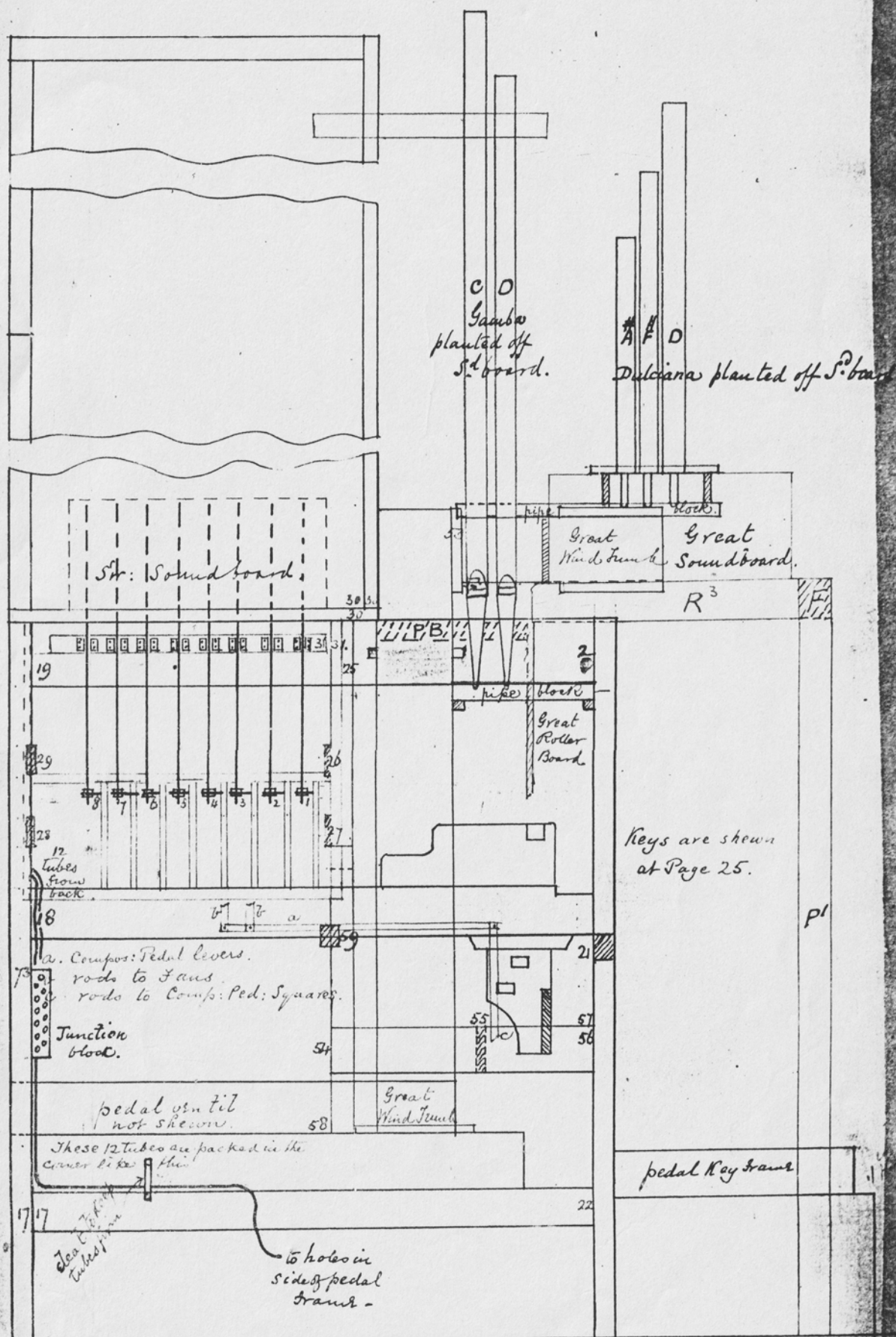
Plate I.



6

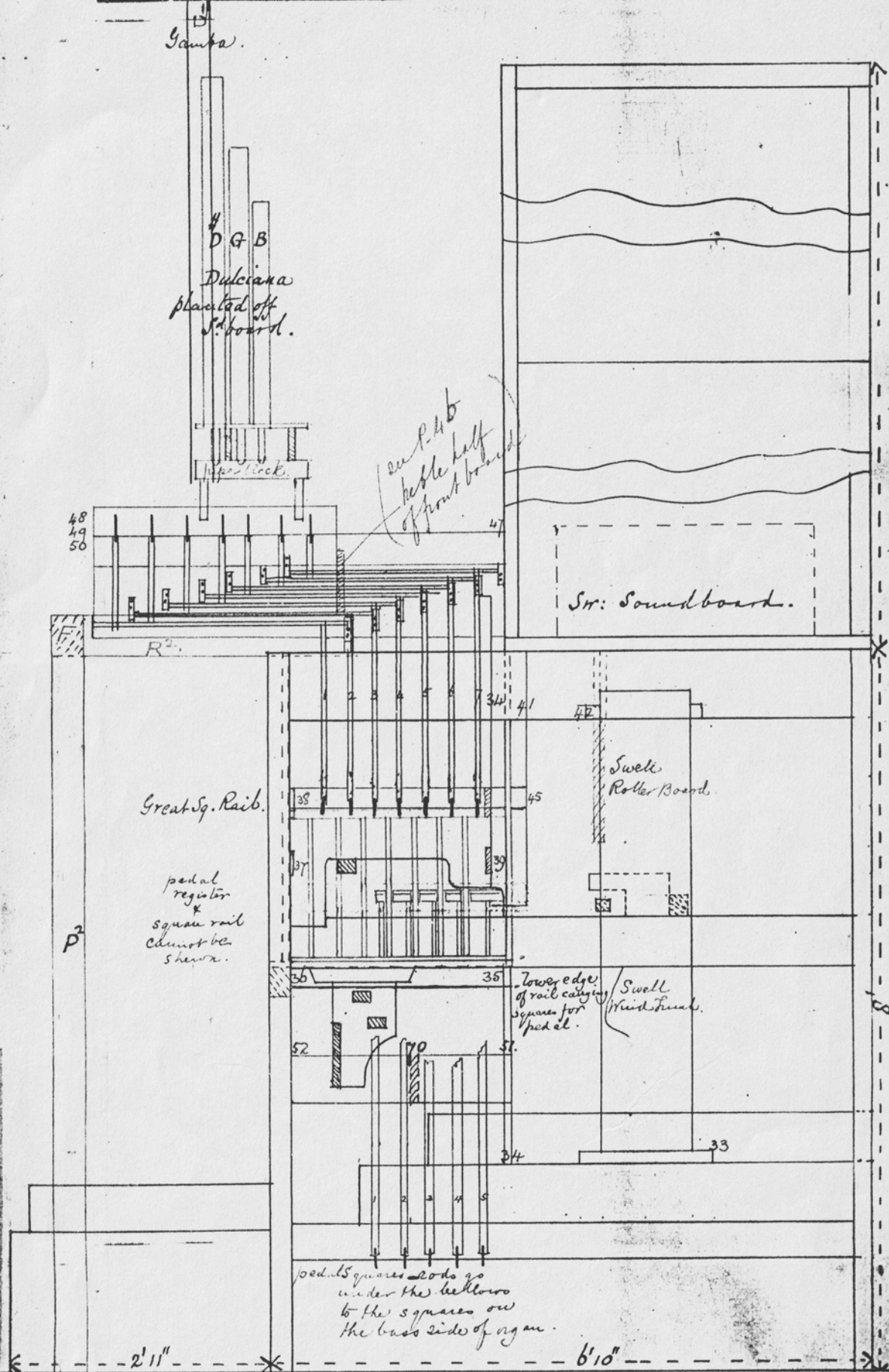
Elevation of Bass side of Organ.

Plate II.



Scale $\frac{3}{4}$ of an Inch = 1 Foot.

Elevation of Table side of Organ Plate III!



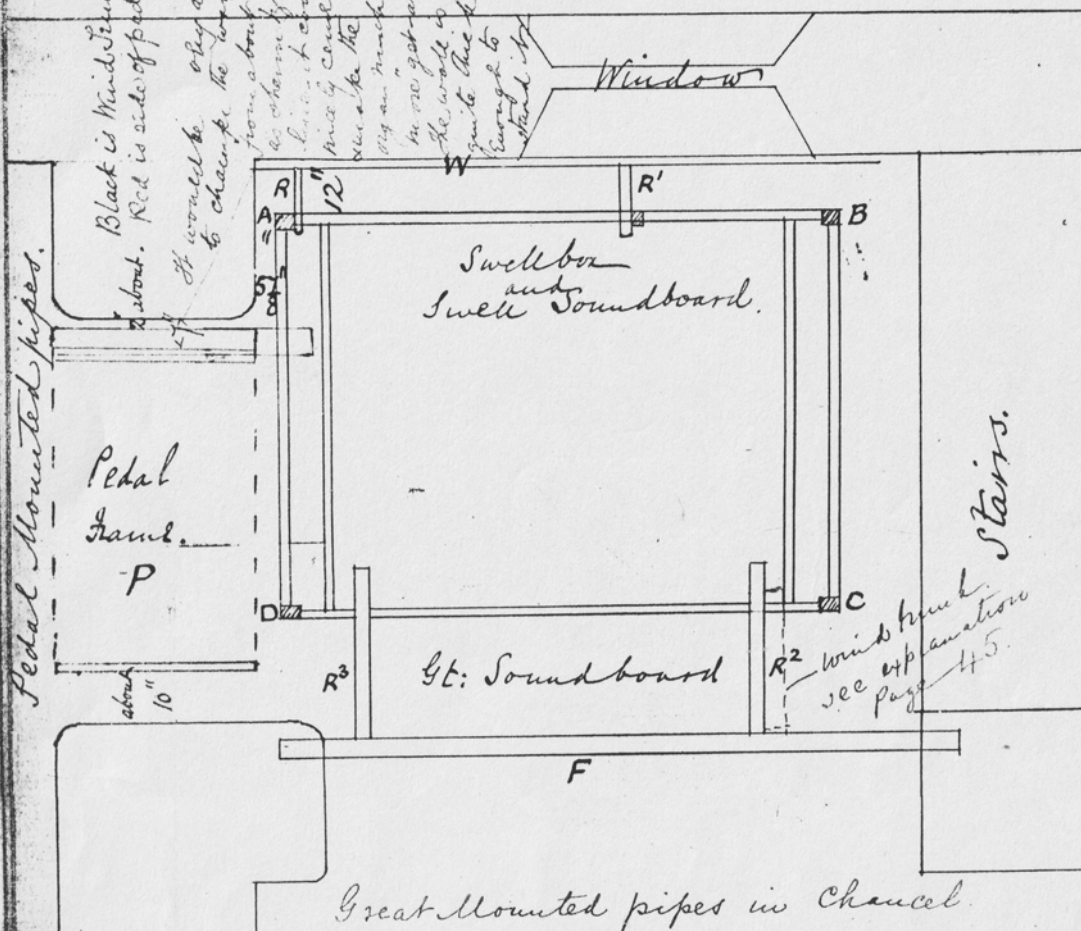
Scale $\frac{3}{4}$ of an inch = 1 Foot.

8

Plan of Building Frame & Gallery.

Scale $\frac{3}{8}$ ths of an inch = 1 Foot.

Plate IV



The Organ should be erected in this order.

- (1) The Building frame (Case 5) should be fitted together as shown in Plates I to IV. When put together by the bed screws the whole frame is to be placed as shown in Plate IV. with the post A, $5\frac{7}{8}$ " from the side wall and the 2 posts A, B, 12 " from the back wall. It will be found then that the post rail

F will have to be fitted in the wall about 8 inches

(The pedal frame P of which the position is governed by the building frame & bellows to which see No 10. it is rigidly connected, is arranged to be $7\frac{1}{2}$ " char from the ^{North} side of archway ^{& about 10" from S. side.} but it can be shifted an inch or two either to the North or South.

It has not been put in the middle of the Archway on purpose to suit the draw stop action.

The Wind trunk comes to within 2" of the N. archway →

The wall in front must be cut out to accommodate the rail F to which the 2 temporary posts $P'P^2$ Plates II, III can be fixed and then the holes must be cemented.

Eventually the 2 posts $P'P^2$ can be removed - or, if they are not considered to be in the way, they may be screwed to the rail F close against the sides of the archway - (The rail F has to be scarfed. see P. 58. Case 5)

The floor of the gallery is probably not quite true - The horizontal rails of building frame should be levelled with a spirit level and then slips of hard wood or better still thin iron plates can be put under any one of the 4 posts requiring it.

At the back of the organ there are short cross rails RR' (see plates I & II). These 2 rails support the separate windchest carrying the 12 lowest Leitlich Gedact pipes outside the swell box. a piece of wood (Sail or Oak) $5" \times 2"$ should be fixed to back wall as shown at W and when the building frame is in its position the rails RR' should be secured to it. They can be cut to the required length.

The idea is that these 4 cross rails $RR'R^2R^3$ will hold the building frame perfectly rigid between the front and back walls of the gallery -

N.B. This window should never be opened during the Monsoon -

(If it be preferred, the bellows can first be lifted into the gallery and raised up upon two boxes about 18" and then the building frame can be built together around it. When it is placed all right the bellows can be dropped on to the dowels -)

Continued Page 13.

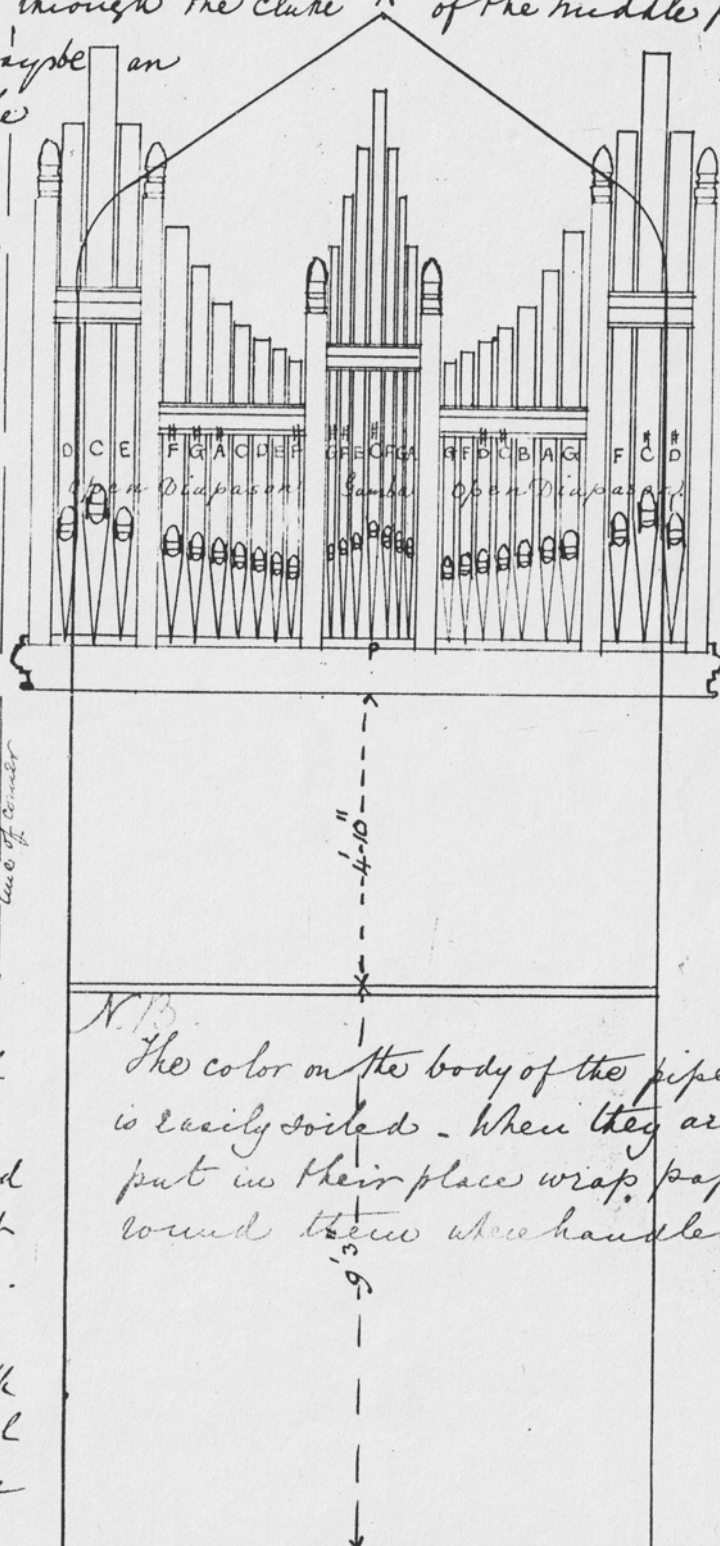
Elevation of Mounted pipes in Chancel. Plate I

A Plumb line should be dropped from the apex A & A' of the two arches and the pipe blocks should be fixed so that this line passes through the center A of the middle pipe hole P.P'

It will always be an error if the center of the middle pipe is not plumb under the apex of the arches.

This determines the position right and left of the 2 pipe blocks.

As to their height from the ground, if they are fixed as shown, the mounted pipes will look well and will allow the sound to come out of the archways. There will be space to walk under the pedal pipes and the



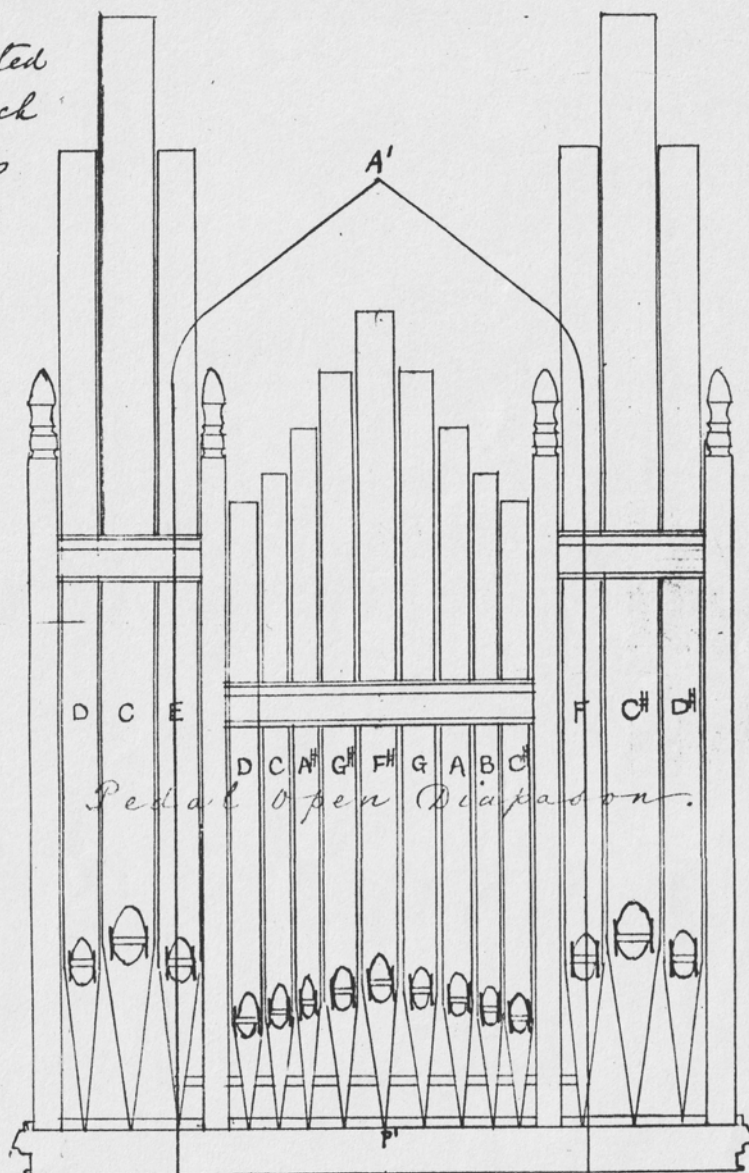
N.B. The color on the body of the pipes is easily soiled. When they are put in their place wrap paper round them when handled.

Scale $\frac{3}{8}$ ths of an inch = 1 foot.

Elevation of Mounted Pipes in Choir -

11
Plate VI.

player seated
on his bench
can see his
choir.

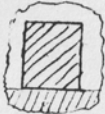


4 corbels
are used - they
are 6" x 14" - two, 4
feet long for the
block in nave &
two 3½ feet long
for the block in
the chancel.

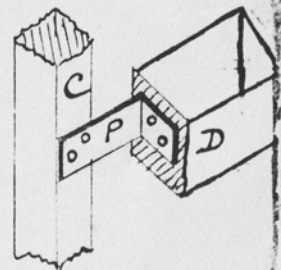
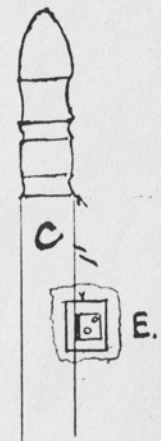
Scale $\frac{3}{8}$ th of an inch = 1 foot.

Continued
next page.

12. Continued from Page 9.

Holes must be dug in the wall and the corbels fixed in position with cement. The hole should be about 2" larger all round the corbel. Thus  The lower portion should be levelled ^{with cement} so as to give the corbel a firm bed to rest on and the 2" spaces either way will allow of the corbels being shifted into their true position. Then the rest of the hole can be filled up with fine concrete. As the weight of these blocks and pipes is considerable, these corbels must be fixed very strongly.

The 2 outer buttresses of each front will have to be fastened to the walls. This seems the best way: Make D blocks of hard wood about 6" x 6" x 12". After the position of sides of buttress C is determined fix the plug D into the wall about 1 foot below the final so that the outer side of the plug is about 1 1/2" outside the inner side of buttress. see E. Then make the corner pieces P of the required length of 3/16" iron plate and screw as shown.



- (2) Bottom frame of Swell box (Case 5) to be placed on building frame (see Plates I to III)

- (3) The Bellows (Case 6) can then be put in place.

These bellows are made in 2 parts - As they are very heavy it will be easier to unscrew the top portion and carry each piece up separately - see Plate XVIII Page 47 and instructions.

- (4) The passage board (Case 5) can now be put in place (P.B. Plate II)

- (5) The Swell Soundboard (Case 3) can then be put in place on the bottom frame of Swell box

The slides of both Soundboards have been purposely removed for safety in transit - They are packed in Case 6 between long battens. They are not to be put in place until required to connect the draw stop action. The slides are all numbered (see remarks Page 11)

- (6) The Great Soundboard ^(Case 3) is to be put in its place on the front rail F and cross rails $R^2 R^3$ Plate IV

Both Soundboards are to be protected with paper

N.B.

The roller at the top which moves the venetians has not got its two arms in the same plane. This is done purposely so that at first on depressing the Swell Pedal, the shutters only ^{open} a very little and thus a better crescendo is obtained —

Before putting the Pedal Frame in place, it should be carefully examined to see that none of the ends of the tubes have been jerked out in transit; they can easily be fixed again. See also that the wires are not bent (see Page 28)

and a cloth spread over them to prevent dirt getting in as the workmen will have to stand on them sometimes.

(7) The swell box (Case 5) is now to be put together (Plates I to III).

~~The swell shutter frame had better wait till after~~

(8) The frame (Case 4) containing Keys, coupling action &c is now to be put in place. (see no 18 Plate II)

(8a) The frame ^(Case 4) containing the pedal coupling action can now be screwed to the under sides of the above frame -

(9) The 2 roller boards for Great & Swell Sound-boards can now be fixed. (Case 4)

(10) The Pedal frame windchest &c P Plate IV (Case 2) can now be put in place - as stated in Page 8, its position is determined by the wind trunk (Case 9?) connecting it to the bellows and the draw stop action - and two blocks of wood screwing it to the building frame -

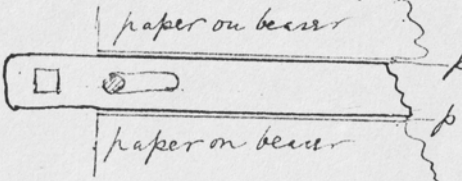
(11) The pedal Key board ^(Case 9) with wind chest ^{No 6} (Case 4)

N.B. The pedal wind chest (Pages 25 & 35) can also be screwed to the Pedal Keyboard frame -

About the Slides of Swell Soundboards.

The writer fears that it was forgotten to ease these slides on the sides when they were removed to be packed -

In England, slides are allowed to fit fairly tight between the bearers thus;



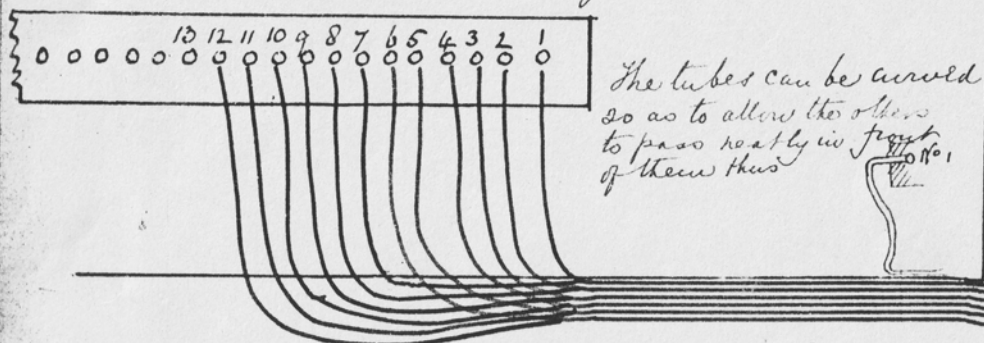
but for India these ought to be at least $\frac{3}{32}$ play at p p'

No harm will be done if the edges of the slide have a few shavings taken off with a finely set plane - Look at the Great slides & imitate them.

N.B. Be very careful in screwing down the upper boards to see that they bed properly on the "bearers" (the strips of wood covered with paper.) If they do not, the wind will run away and the speech of the pipes will be ruined entirely. The screws should be "hand tight" not screwed as tight as possible - Look at each one carefully before putting down the next.

- can now be put in place after the stand or platform (Case 9) on which it rests has been fixed. Also the frame (Case 4) containing the pedal coupling backfalls can be screwed under the frame carrying the Keys &c. ^{This has been already done &c.}
- (12) The portions of the case forming the front of the organ can now be fitted together (Case 9¹²).
- (13) The 2 frames (Case 9) containing the bundles for the Draw stop action can now be fixed. (See Plates II & III).
- (14) The Draw stops with their faces can now be connected (Case 3 & 8).
- (15) It is time now to put the slides into their places. They are packed in Case 6. Unscrow the upper boards of the Sound boards and see that they are quite free of any chips or dust before fixing the slides which are numbered. The slides have been fitted to work very freely by using much thicker paper than usual on the bearers so as to prevent all sticking during the rains (but see remark Page 16).
- (16) The wind trunks (Case 8, 9) can now be (Plates II & III)

Pedal Wind Chest under Keys -



Rough eye sketch showing ^{how} to pack away the 30 tubes from 1 to 30 so as to be out of the way -
The first 5 in red are fitted as shown, then No 7 is laid on No 1, No 8 on 2 and eventually the whole of the 30 are packed away in 5 sets one on top of another. leaving all the space under the bellows free to work in.

Great care should be taken in packing all the tubes symmetrically throughout the organ. As far as circumstances permit, make a cable of them instead of spreading them -

Bottom view of packings -

screwed in their places. and the bellows handle &c (Case 5) having been fixed, and the iron weights put on the bellows (Page 47) the wind can now be tested. if the ends of the 2 trunks leading to the mounted pipe blocks are temporarily stopped, or these trunks can be first fitted - (see 17 below)

(16a) Now the "planted off" pipe blocks with their "rack rails" belonging to Swell & Great S^d boards can ~~now~~ be fixed. See Pp. 44, 45. also conveyance tubes can be fitted and the 12 pneumatic tubes in swell.

(17) As the exact position of the 2 mounted pipe blocks, which will be fixed to the outer walls of the gallery cannot be known here, the 2 trunks conveying wind to them will have to be fitted in Simla (see explanation Page 45) -

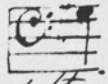
(18) The composition pedals with ^{the long plank} ~~their iron~~ containing the ~~square~~ ^{square} ~~case~~, also the iron rollers & iron levers connecting the 5 pedal stops with the slides in the windchest of the pedal frame can now be fixed. (Case 9)

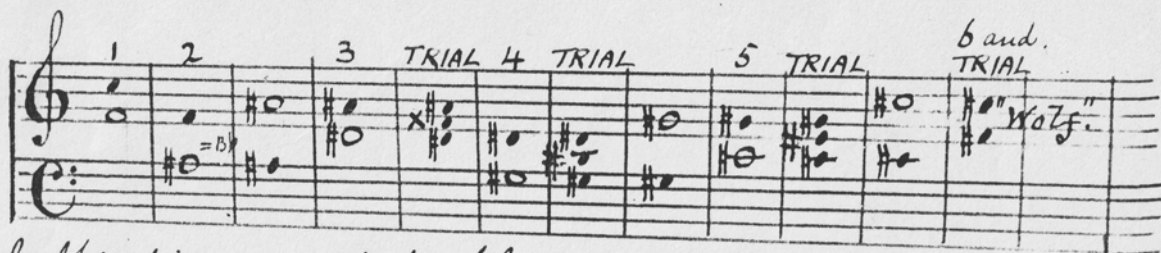
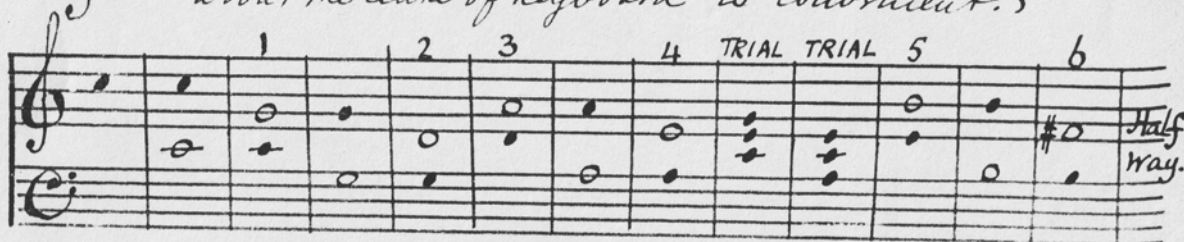
(19) The action between keys pedals and the Sound-boards can now be connected & regulated - (see Pages 24, 52 and on -)

(20) The pneumatic tubes throughout the organ can now be fitted - see Page 47. & rough eye sketch also Plate I & II

Directions for Tuning.

Organs like pianos are tuned by equal temperament in which all Keys are equally in tune; or, to be strict, equally out of tune.

For an amateur it is simpler to "lay the bearings" in the old fashioned way by fifths & octaves and for this purpose the notes chosen are from  to 19 in all - Any other set might be chosen but this being about the centre of Keyboard is convenient.



In this diagram all the black notes are supposed to be tuned and the open notes are the ones to be done - The rule to be adopted in laying the bearings is to tune all notes an octave apart exactly perfect but all notes a fifth apart two beats flat in a second of time. First tune the fifth perfect then flatten it the 2 beats by knocking the slide up - To obtain perfect accuracy in the octaves & perfect fifth will require some care as there is always a tendency to make one of the pipes sharper than the other.

It will be found that an ordinary American clock generally ticks about twice to the second. Each beat or as it sounds "wah, wah" should agree with the tick. This is a very practical test. (a metronome set to 120 would answer the same purpose) The stop chosen for "laying the bearings" is always the Principal on the Great organ but as the pipes in this organ have slides (except a few) the starting pitch

(Mid C on the Gemshorn
has had a ring of tin
soldered to it so as to fix the pitch.)

must be taken from Mid C on the Gemshorn which
having no slide may be taken as the correct pitch.

Then proceed with the octaves & fifths as shown
in the diagram.

Considering that a good professional tuner does ^{not} get his
bearings right the first time, it is probable that an
amateur, even with a very good ear, will have to do ~~them~~
several times before his ear is satisfied but they
must be laid with perfect accuracy before proceeding
to the other pipes.

The best way is to divide the bearings into 2 portions,
the 1st working in one direction from C, the 2nd working
backwards from the same note and meeting in the
middle fifth F# C#. The liability to error is halved
by this arrangement as any mistake made in any
one of the fifths or octaves is carried on - This
fifth is called the "wolf" from the howl it makes if the
bearings have been badly laid. If done properly
this fifth should be as sweet as the rest.

A table is made of the octaves & fifths -

Upper C down to lower C	octave	perfect.
Lower C up to upper G	(1) fifth	2 beats flat.
Upper G down to lower G	octave	perfect.
Lower G up to D	(2) fifth	2 beats flat.
D up to upper A	(3) fifth	2 beats flat.
upper A down to lower A	octave	perfect.
Lower A up to E	(4) fifth	2 beats flat.
Try Major Triad C E G, Minor Triad A C E.		
E up to upper B	(5) fifth	2 beats flat.
upper B down to lower B	octave	perfect.
Lower B up to F#	(6) fifth	2 beats flat.

The second set is as follows:

2 nd set:	Try	Upper C down to F	fifth	2 beats flat
		F down to A [#] = bB.	do	do do do
	Try	Lower A [#] up to upper A [#]	octave	perfect.
		Upper A [#] down to D [#]	fifth	2 beats flat.
	Try	Major triad D [#] F ^x A [#] & minor D [#] F A [#]		
		D [#] down to lower G [#]	fifth	do do do
	Try	Major triad G [#] B [#] D [#] & minor G [#] B D [#]		
		Lower G [#] up to upper G [#]	octave	perfect.
	Try	Upper G [#] down to lower C [#]	fifth	2 beats flat.
		Major triad C [#] E [#] G [#] & minor C [#] E G [#]		
	Try	Lower C [#] up to upper C [#]	octave	perfect.
		Major triad C [#] F [#]		

If the bearings are right, there should be no "wolf".
Having got the bearings perfectly satisfactory, finish the rest of the principal up & down - Test the whole of the stop by double octaves & various chords.

All major 3rds should now sound slightly sharp
All minor 3rds these first three follow of } " flat
All 4^{ths} themselves from being } " sharp
All 5^{ths} the fourths carefully } 2 beats flat.

All loud toned stops & the stop Diapason should be tuned from the Principal - All delicate toned stops from the Stop Diapason.

Also the Bourdons being 2 octaves below the principals should be tuned from the Stop Diapason.

And the Pedal open Diapason from the Great open Diapason.
Tune the pipes in order as they are placed on the S.P.B. so as to avoid reaching over pipes already tuned.

~~The Cornet and the smallest pipes have no slides - the tuning cone must be employed to touch these - Make sure whether the pipe is flat or sharp before tuning so as to avoid needless alteration. Hold the cone over the top of the pipe. If it gets more~~

~~out of tune, it shows that the pipe is already too flat~~
~~if it gets better that it is too sharp - In the first~~
~~case open out the pipe with the pointed end, in the~~
~~second case, close it more with the open end -~~
 Above all be as gentle as possible -

Don't handle the pipes more than necessary as it makes them warm & if tuned in that condition, when cold they go out of tune becoming flat -

In tuning the reeds, knock the beat wire quickly and not too much at a time - The slides may be knocked up & down with impunity but it does reeds no good to use the wire in that way.

These four pages contain all that is necessary for an amateur to know to tune an organ with satisfaction -

To determine if any pipe is flat or sharp. hold the chisel (a good thing for knocking the slides up & down) ~~it~~ over the top of the pipe. If the pipe becomes worse in tune it shows it is too flat already and the slide must be knocked down - If it becomes better in tune it shows it is too sharp already and the slide must be knocked up.

Plan of Manual & Pedal Tracker Action.

24.

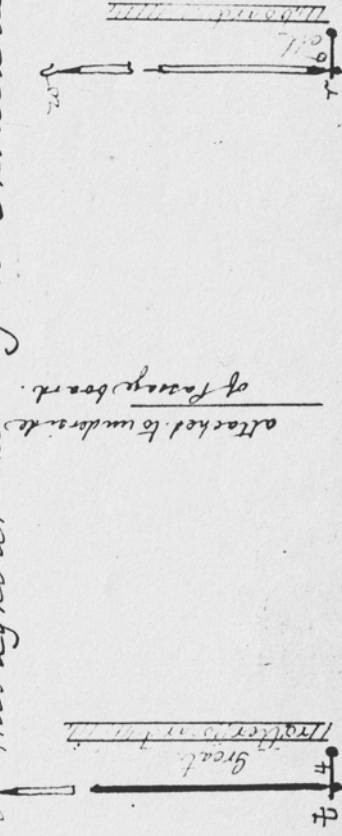
When the organ is first erected, it is advisable to obtain the services of an intelligent mistere, a resident of Simla who will soon learn all the minute details of the action. Then whenever the organ needs "regulating" he can be sent for to assist the organist who, after removing the book rests will sit at the Key board while the mistere gets inside the organ to manipulate the leather buttons. It is a great advantage to choose a slightly built man with neat fingers.

The action frame has been fixed, the pedal coupling frame has been secured on the under side and the roller boards ~~and the roller boards~~ are in place.

This is the order of setting to work but first put a plank over the pedal Key frame to stand on so as not to stand on the Keys themselves.

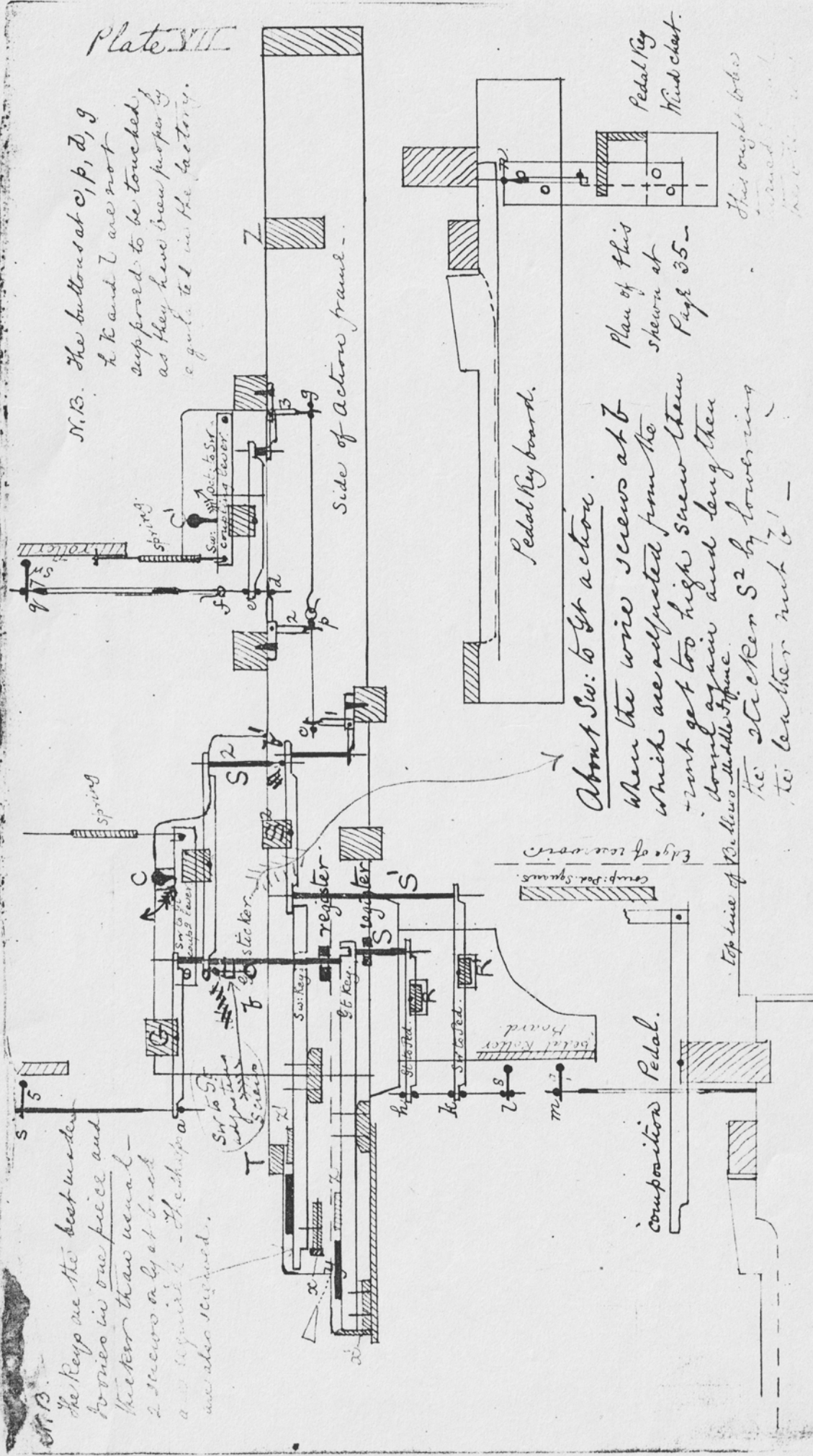
Trackers. Connect the "pull-downs" on under side of St boards at 25 x 18 with the arms of the rollers 4 & 6 at 4 x 7. A cloth washer should always be put before the leather button is screwed on. All sets of Trackers & stickers are in separate parcels ^{labelled} ~~labelled~~ ^{horizontal} ~~horizontal~~. Thus ~~the~~ ^{the} horizontal should be slightly above the horizontal. Thus ~~the~~ ^{the} horizontal and all of throughout the organ should be parallel to one another.

Continued at Page 25.

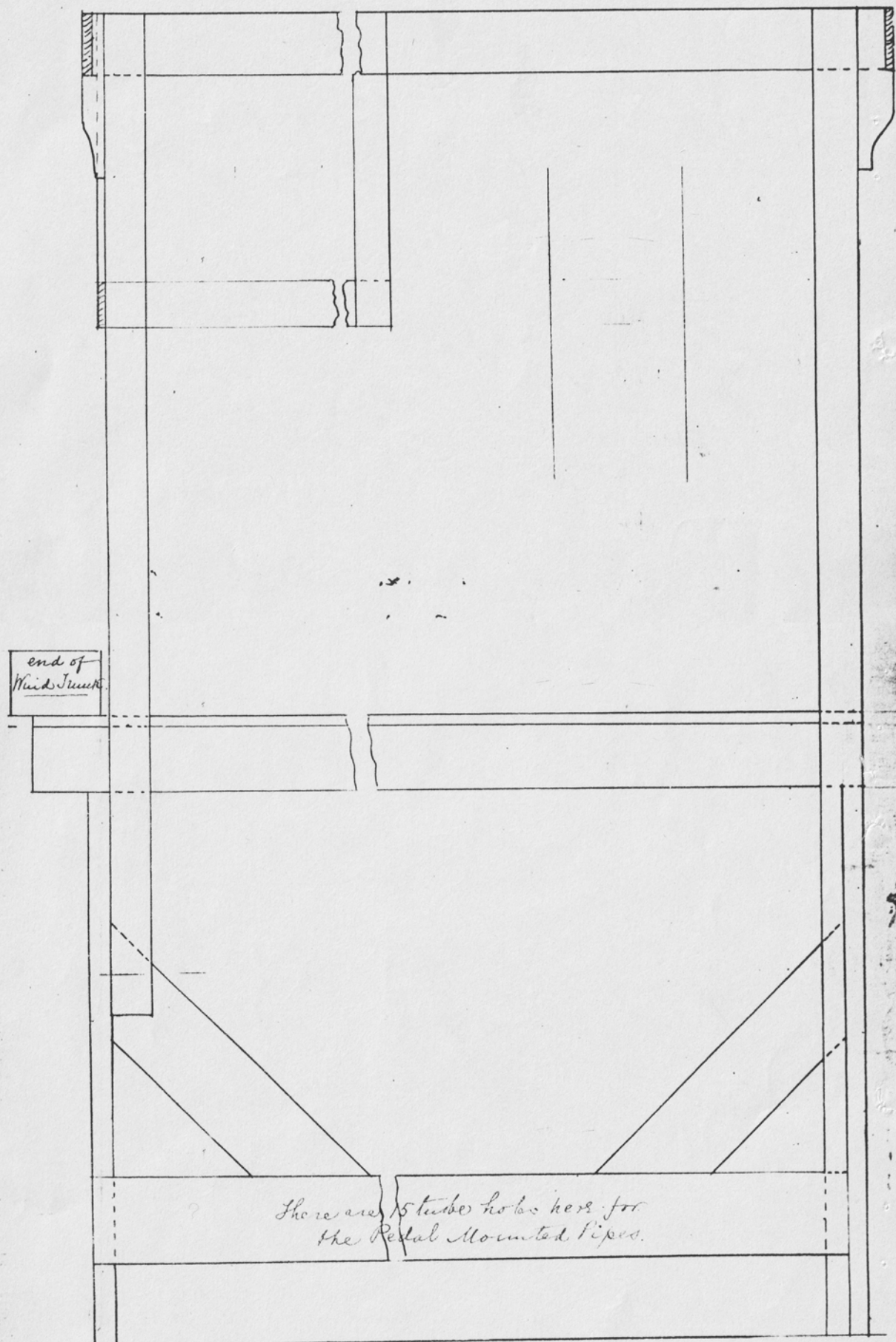


N.B. The Keys are the best made
brasses in one piece and
thicker than usual -
2 screws only at back
as required - The shape as
was also required.

N.B. The buttons at C, p, d, g
L K and T are not
supposed to be touched
as they have been properly
equipped in the factory.



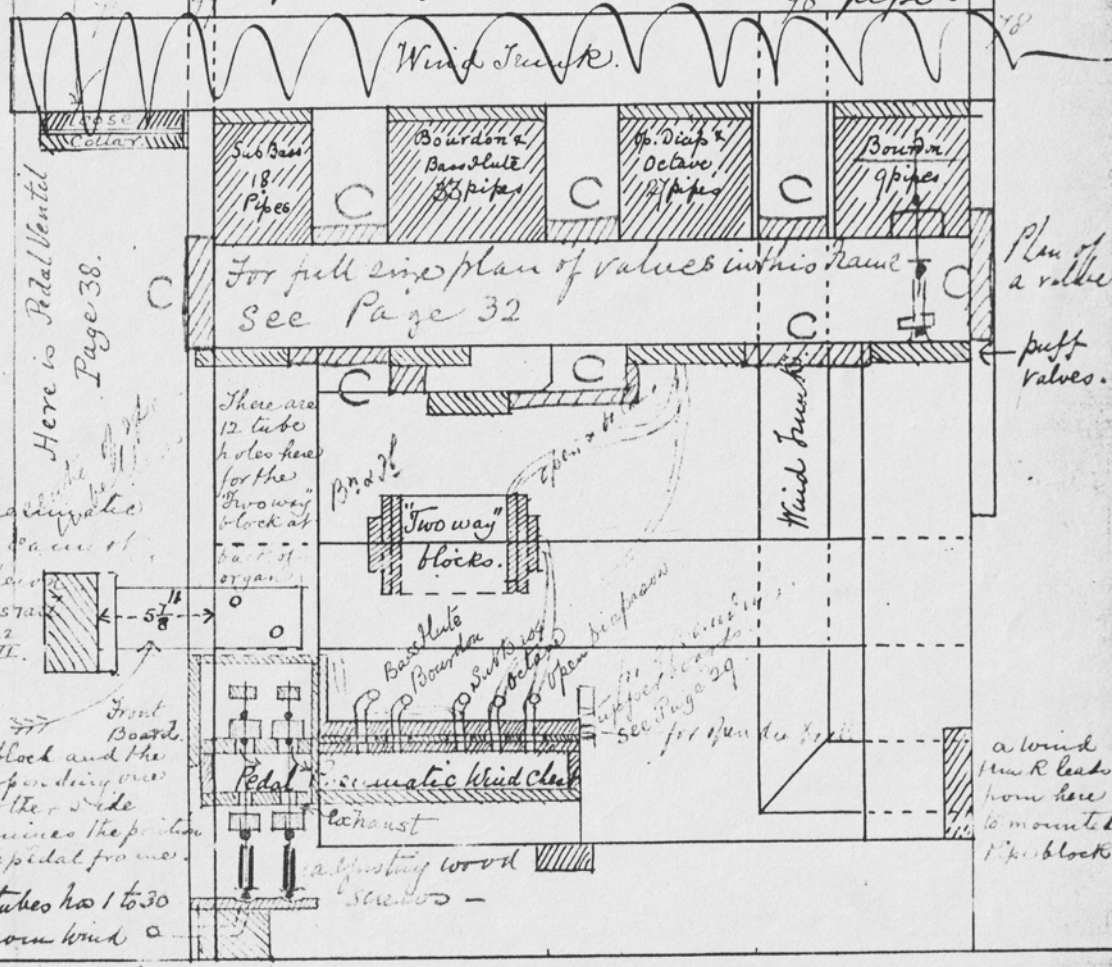
Scale 1 1/2 inches = 1 Foot.



The whole of the Pneumatic valves is protected from insects and damp as much as possible by cover plates C.C. all of which are removable for repairs of valves.

A loose Collar of 1/4" has been provided instead of a rigid connection to allow of any irregularity in the floor.

This has been changed into separate zinc wind trunks for each pipe block.



The Pneumatic Subes (a.u. of) be shown
CROSS SECTION
N. 17822
Plate IX.

Front Board.
This block and the corresponding ones the other side determines the position of the pedal frames.

These tubes has 1 to 30 orated from wind

rest under pedal Raps

Scale 1 1/2 inches = 1 Foot.

28 For description of Valve see Page 32 -
Pedal Frame.

In case any of the valves in the windchest requires adjustment which is very improbable, the front board must be unscrewed: the operator must crawl under the bellows and lie on his side - Much more room than usual has been allowed under the organ so as to work comfortably.

If at any time the leather of the puff valves P (page 30) requires renewal the simplest way will be to remove some of the middle pedal mounted pipes - The operator can then stand on the pipe block and work comfortably at any valve -

The tubes do seem very complicated but their work is very simple - the wind from one cannot possibly leak into another and climate cannot affect them. The slides being very narrow (only $1\frac{1}{4}$ ") will never warp and they have been made to work very freely so there is no reason whatever for any of the tubes requiring removal to get at the slides nor will it ever be necessary to remove the "puff valve" boards - Thus the tubes, after final adjustment at Simla, need never be touched.

The numbers on the upper boards (see plan P. 27) are hidden by the tubes a plan of them is given P. 29 - To read the corresponding numbers on the "puff valve" boards, a small mirror will be found useful when standing on the mounted pipe block.

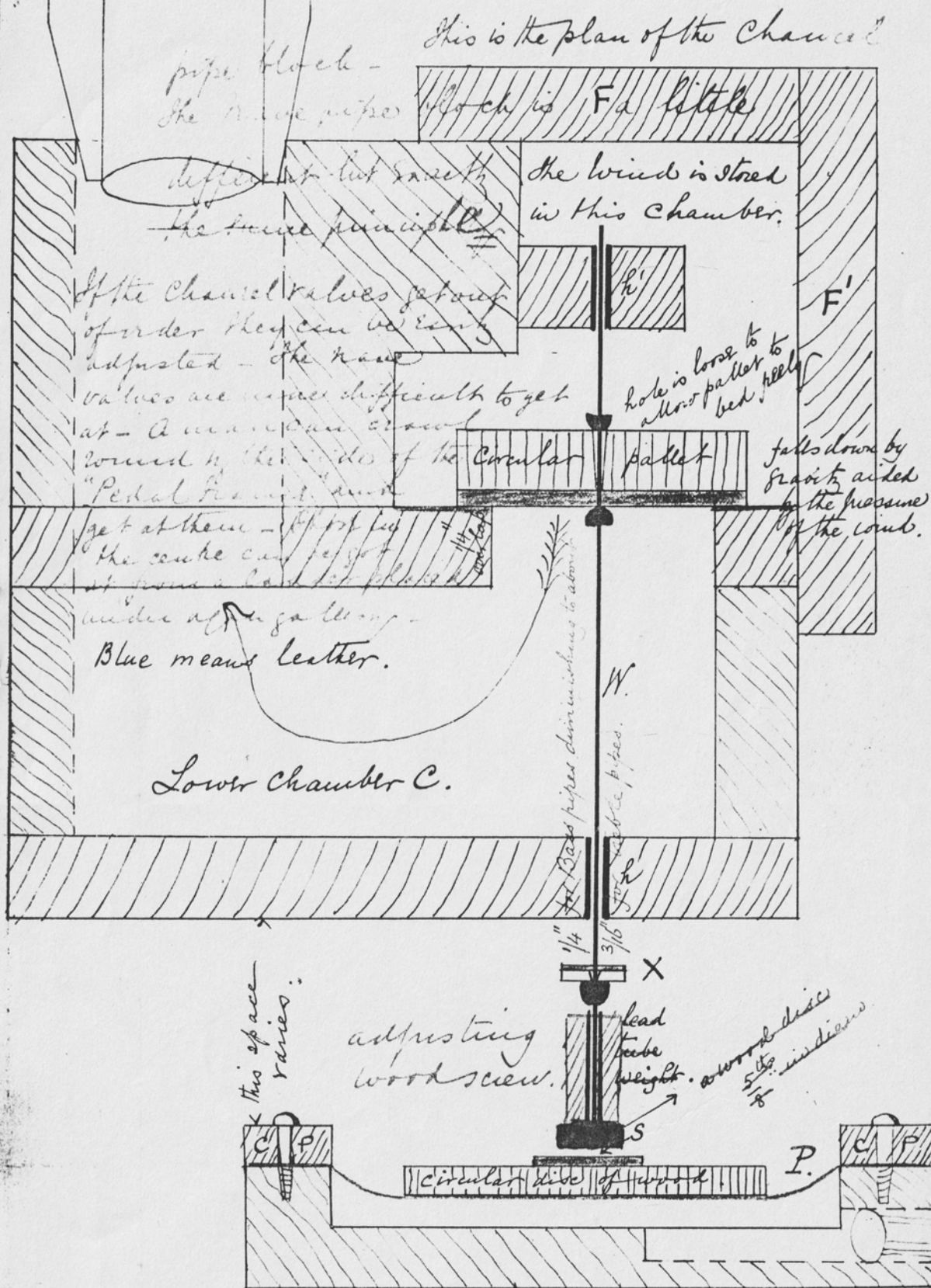
After the pedal frame is attached to the rest of the organ & ready to play it is recommended to test it before putting the pipes in place. Draw each stop in order and play each pedal Key in order - if the pneumatic tubes

are anywhere not sound a hissing escape of wind will be heard and the offending tube can be made sound. They should all be pressed well home - If, in any adjustment at all, they have been wrongly joined up, that can also be detected as the "puff valves" for a regular interval - Play each pedal key several times so as to see if the "puff valves" work freely -

N.B. The numbers above 180 will be found on the "Two way" blocks -

Plan of Tube holes in Upper Boards of Pedal chest with their numbers. (see P. 27)

60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	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Scale - about actual size -

Pneumatic Action. Pipe Wind Chest.

The pneumatic action throughout this organ is the simplest form known and it is impossible for it to get out of order. It is self adjusting and never requires to be touched. The space of $\frac{1}{8}^{\text{th}}$ at S has been left for free play. The holes also at h h have been made larger than usual to prevent the possibility of the wire W sticking.

When the Key, manual or pedal, is put down the wind is brought by the tube A under the puff valve P which rises until checked by the wax X. The circular pallet rises the same amount and the wind is thus admitted to the pipe. The puff valve P. being larger than the circular pallet overcomes the pressure of the wind on the pallet.

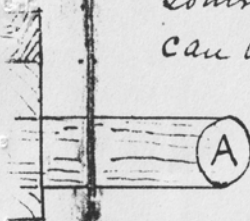
The lower Chamber C is divided into compartments one for each pipe.

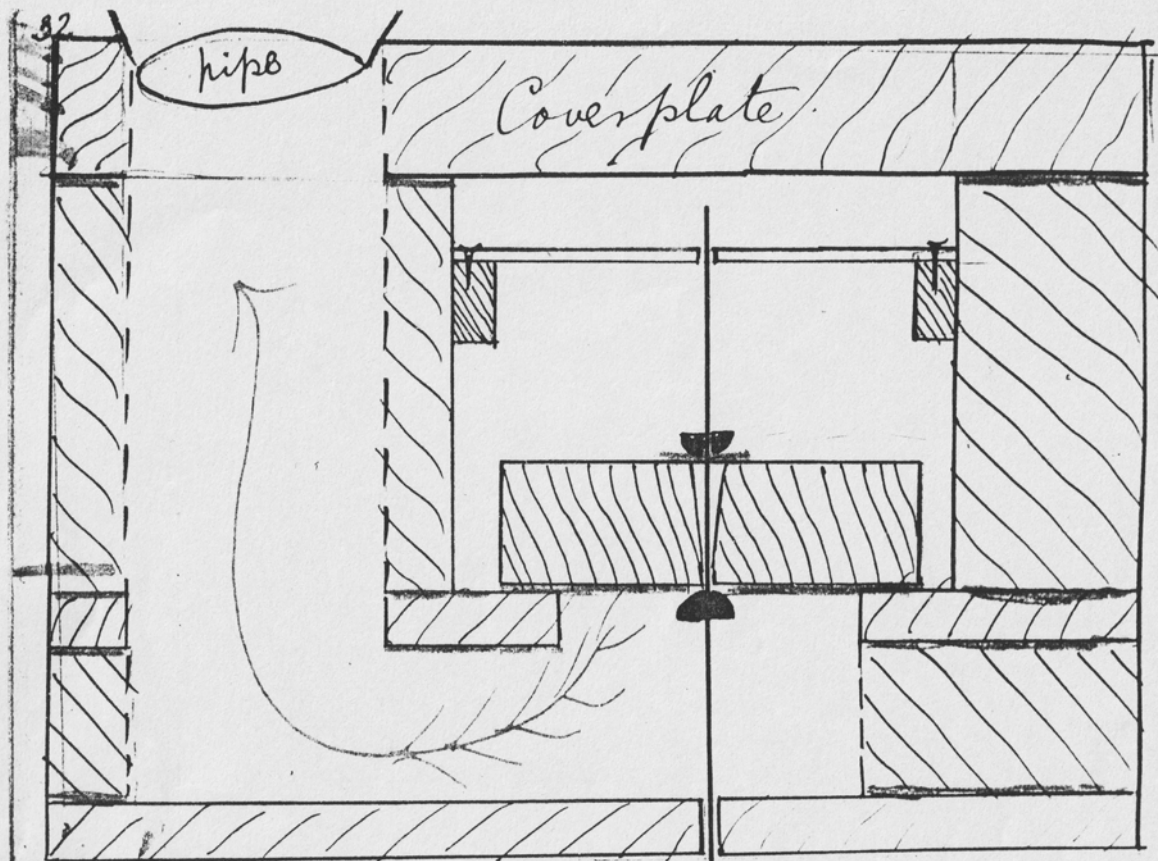
The leather used for the puff valve P is much thicker and stronger than the kind used in England but in process of time it will have to be renewed. The pneumatic leather in the Calcutta Cathedral organ which was very thin was renewed in 1895 after 15 years service in that climate.

CP is a cover plate screwed but not glued over the leather. This is to prevent the leather being loosened by the pressure of the wind in case the glue gets soft in the monsoon. It can easily be unscrewed to renew the leather.

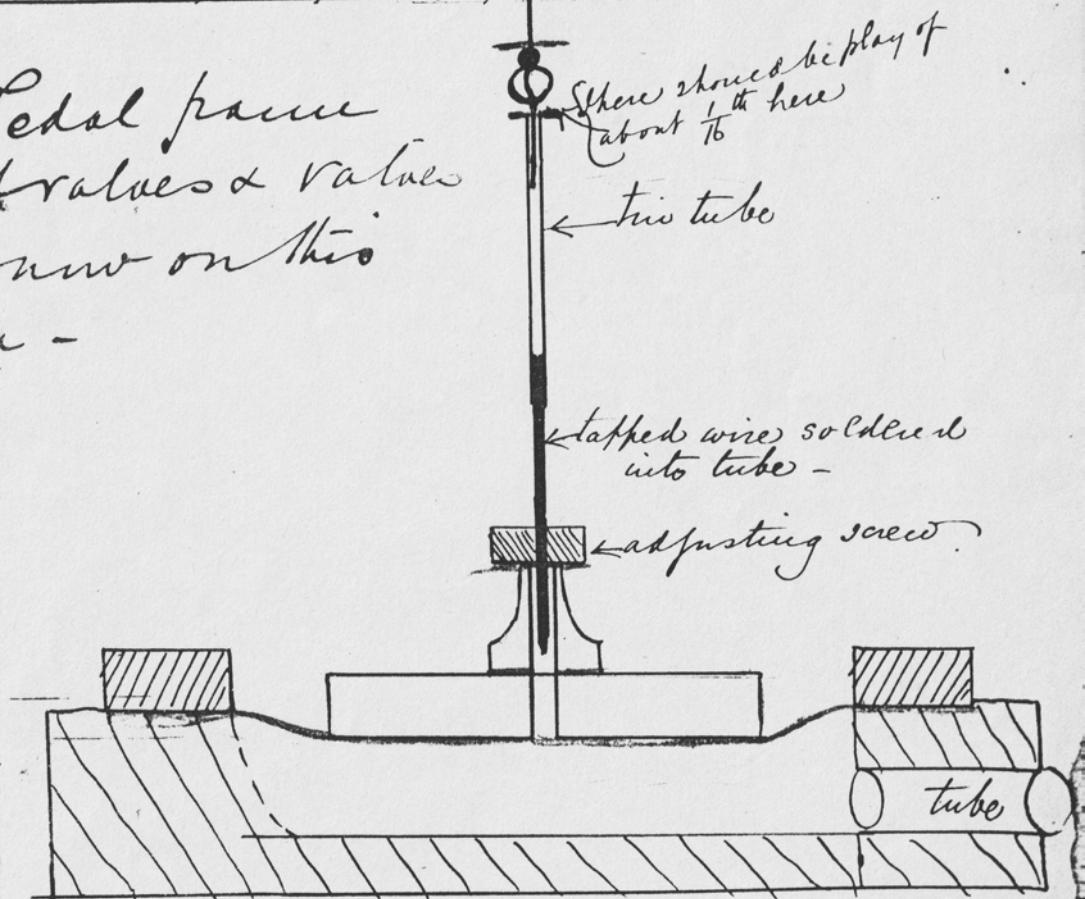
Sometimes the "Front Board" is in front as at F' and sometimes it is convenient to put it on top as at F. It can be unscrewed to get at the circular valves.

The wire W has a lead weight resting on a leather washer so as to assist in the prompt return of the pallet.





The Pedal pump
puff valves & valves
are now on this
plan -



Page 33 left blank

This Pedal chest is screwed under the pedal Keys as shown at Page 25.

A space, about $\frac{1}{8}$ " is left between the Key & washer at S. When the chest is screwed on to the pedal Key frame, the stickers are slipped on to the bent wires & are secured by the buttons. One end of the two springs is a bent point which rests in 2 holes, the other end is furnished with a ring through which the wire W passes - These rings serve to keep the springs in place -

The lower spring being stronger than the upper spring overcomes its resistance and keeps the pallet p' closed. The two circular pallets p, p' are kept apart as shown by a sticker which is loose on W. The pallet p is also loose on W.

The working is as follows ;
When the pedal Key is depressed, the pallet p' is depressed about $\frac{5}{8}$ " admitting wind to the tube as shown by the red arrow ; at the same time, the upper spring keeps p, the exhaust pallet down - When the pedal Key is released, the pallets assume the position as shown in the plan, and the pressure of the wind in the tube is relieved by the exhaust pallet.
In case any adjustment is necessary, which is unlikely, the upper portion is open to view and by unscrewing the lower portion of the wind chamber ; the lower pallet & spring &c can be inspected -

The pneumatic tubes Nos 1 to 30 are led to the same box in the puff valve board under the pedal frame wind chest. (see Page 18)

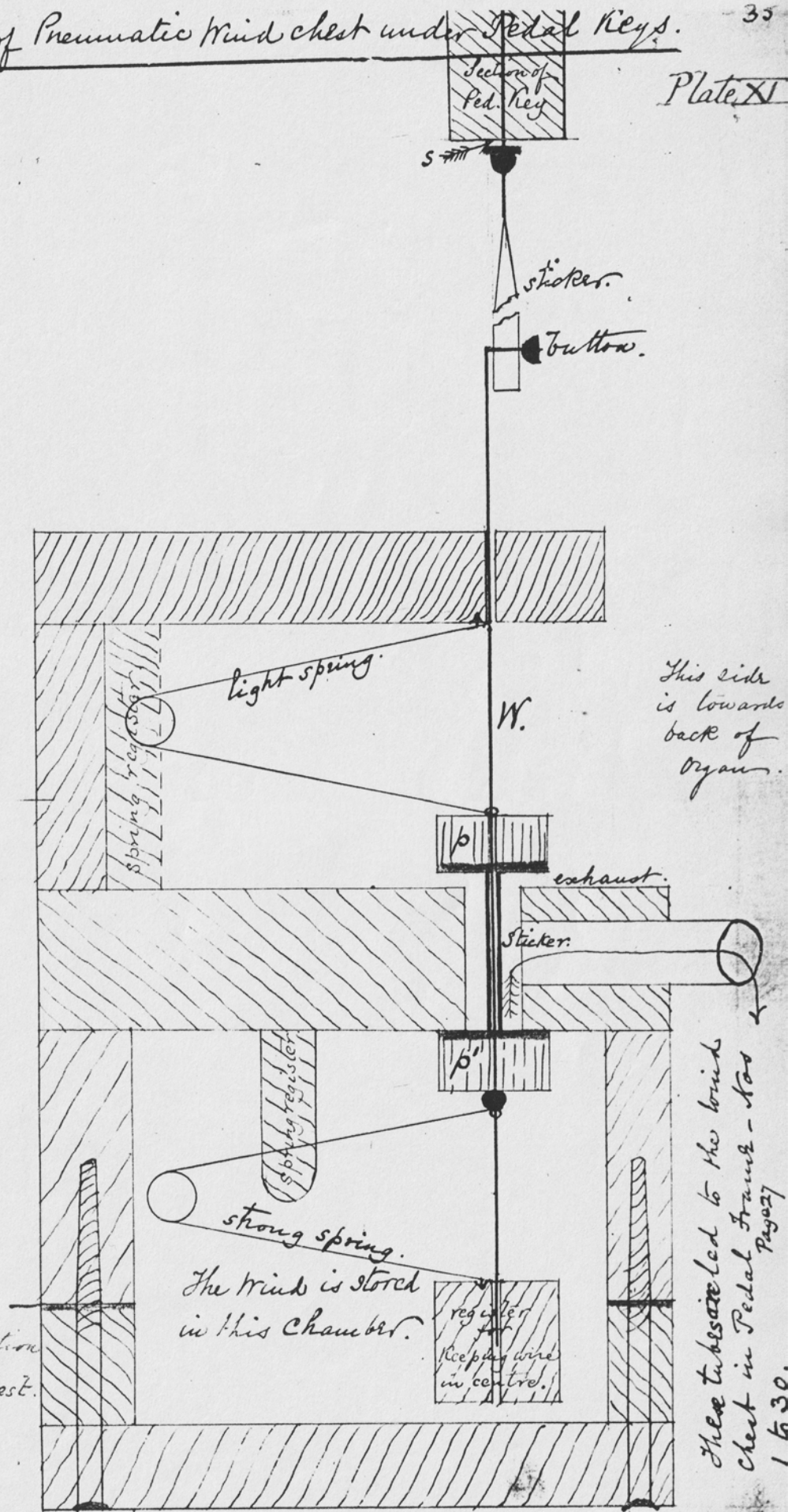
Plan of Pneumatic Wind chest under Pedal Keys.

35

Plate XI

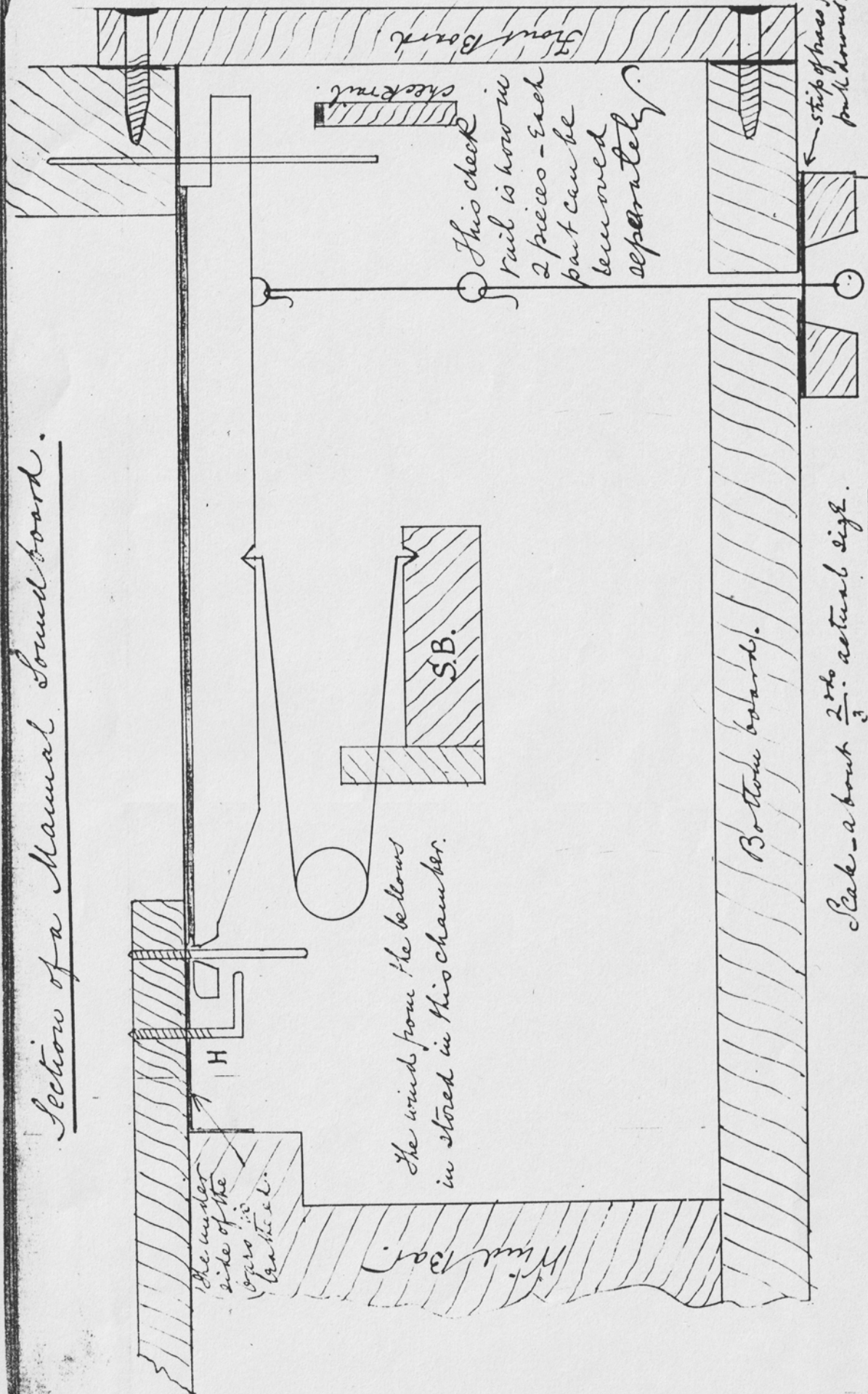
51

Lower portion
of
Wind chest.



These tubes are led to the wind chest in Pedal Frame - No. 27 1 to 30.

Section of a Manual Sound board.



Scale - about $\frac{2}{3}$ the actual size.

Manual Windchest or Sound boards.

37.

The pallets are hinged on a pin and are removable. The windchest is unusually deep to admit of the hand passing under the spring bar S.B. to give the hook H a half turn when after removing the spring, the pallet will come away - Sometimes a pallet warps and becomes untrue so that it will not bed properly. the result being a cypher. In such a case the leather must be stripped from the pallet which after being planed true, can be replaced -.

In process of time, the pallet leather will become hard and require renewing - in such a case, all the pallets can be removed without disturbing anything else. Usually the pallets are glued to the bars with a leather hinge. and then the whole sound-board has to be taken down, which, in this particular organ would mean taking the whole organ to pieces -

The hook H is necessary because, without it, when the key is coupled to the pedal and the player depresses a pedal unusually hard, the pallet might jump off its hinge pin - The writer has known this to happen -.

The Front Boards are now secured with fixed iron screws & brass butterfly nuts which will keep them absolutely wind tight.

The Pedal ventil originally supplied to the organ has been discarded and one controlling the wind to the 3 separate stops has been instead provided.

The ventil box has been provided with a glass front so that the working of the 3 ventil valves controlling the wind trunks leading to the 3 compartments of the Pedal organ can be seen.

It is impossible for these ventils to refuse to work properly if care is taken that the $\frac{1}{2}$ inch tubes are properly connected and that there is no leakage anywhere.

The 3 stops	{ Sub Bass { ventil. { Bourdon { ventil { Open Diap { ventil	placed on the
left hand		of the player
should be		always drawn.
If a cypher		occurs in
any department		of the pedal
organ, the		stop belonging
to it should be put in and the wind supply will be at once cut off.		

The Sub Bass ventil controls only the 18 pipes of that stop standing in the pedal frame -

The Bourdon ventil controls the Bourdon Bass Flute stops.

The Open Diap: Ventil controls the Open Diapason & Octave stops -

Page 39 left blank

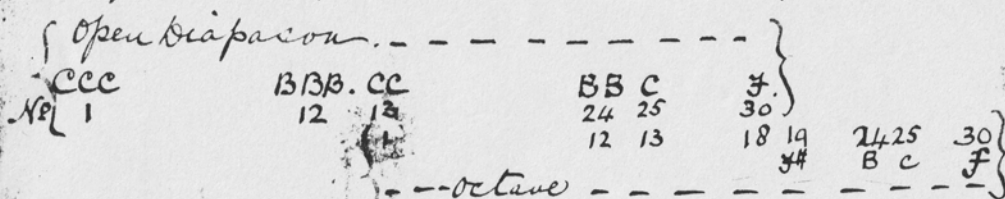
"Two way" blocks.

141.

It is necessary to employ these where pipes of one stop are borrowed to do duty on another manual or as a pedal stop.

Thus the lower octave of the Leiblich Bourdon in the swell standing outside the back of the Swell box does duty as the lower octave of the Pedal Sub Bass - see Plate I Page 5, TW, one on each side.

The pedal stops are borrowed one from another thus.



the middle 18 pipes being common to both stops.

Similarly the Bourdon furnishes 18 pipes to the Bass Flute

The working of the "Two way" block is shown on Page 40.

The piece A is hollowed out as shown by the dotted lines. one compartment for each pipe - leather is glued on to A and a tongue of leather is cut out of this, one for each compartment as shown. A is then screwed but not glued on to B.

The working is as follows:

When this octave of pipes is used for the Sub Bass, as shown at R the tongue of leather is blown over the hole H and closes it so that the wind goes along P.

When this octave is used for the Leiblich Bourdon stop as shown at R' the tongue of leather is blown over the hole H' and closes it so that the wind goes along P as before.

Pneumatic Action & Tubes.

From the first view of the Pedal Frame. Pages 26 & 27, and its ramifications of pneumatic tubes, it would appear most complicated but in reality it is very simple.

It is improbable that anything will have to be disturbed or that anything in it will give trouble.

All the pneumatic $\frac{1}{4}$ " tube holes are numbered throughout the organ 1, 1 - 2, 2 - and so on - these numbers have to be connected together with a tube - those in the pedal frame are sent or fixed.

Those connecting the pedal frame with the body of the organ have had the number scratched upon them and they can be replaced and they will fit.

The tubes connecting the mounted pipe blocks with the body of the organ will have to be refitted in similar and for this purpose about 250 linear feet of spare tubing have been sent with the organ.

In putting in the tubes care must be taken not to flatten them at the bends more than can be avoided - the object is to preserve the full diameter of the tube as much as possible throughout its length. If any tubes get squashed they can be "rounded out" with a pointed $\frac{3}{8}$ " iron rod -.

A composition of beeswax & oil is sent - If the ends of the tubes are smeared with a little it will render them quite air tight and they will go in to the holes more easily. The writer fears that this has been forgotten - it can be easily made like "dubbin".

1st set tubes nos 232 to 243 numbered on tubes at junction block on back part Plate II.

2nd set of these same numbers numbered on tubes at the 2 "Two way" blocks Plate I.

244 to 255 numbered on tubes on 2 Two way

Blocks Plate I

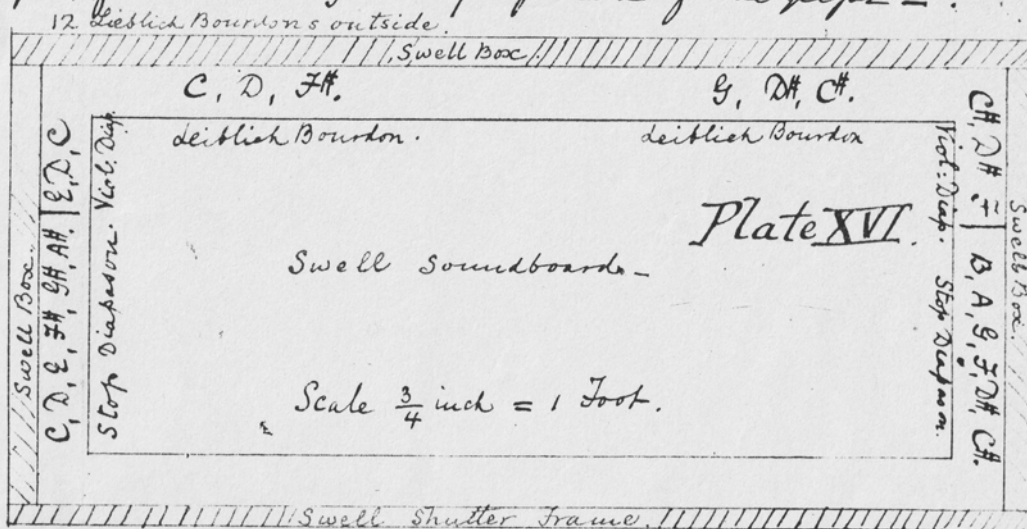
Tubes from under Swell 1st board to 2 "Hoolway" blocks are marked at the 1st board end with their notes.

30 Tubes nos 1 to 30 from Pedal wind chest under pedal keys to Pedal frame are marked at Pedal frame end -

Racking & Planting of Pipes.

4 2 6
open

The rack boards are not supported on the usual pillars but on cross pieces of wood (which are all numbered so as to be easily replaced on the lipper boards). The rack boards are in consequence quite rigid. The holes in the rack boards to receive the pipes have been purposely made looser than usual to allow of the contraction of the wood which makes the holes smaller and tends to lift the pipe out of the foot hole on lipper board causing an escape of wind & faulty speech of the pipe -



Some of the pipes are planted off the Soundboard as shown in the above plan and are racked against the side of the Swell box. Conveyance tubes bring the wind from the Soundboard to the separate pipe blocks ranged round the Soundboard.

These conveyance tubes are lettered with the name of the pipe they belong to so that they can be easily fitted.

It is recommended to place these "planted off" pipes in the Swell box first and then to test their sound from the Key board to make sure that the conveyance tubes have been properly fixed, before racking all the other pipes on the Soundboard -

12. Pneumatic tubes connect the 2 "Two way" blocks at back of organ with the Swell Soundboard for the lowest octave of the Sublim Boudon.

G A B C D F G A G F C E F G A F E D C A G F E C U V 45.
 8 10 12 14 16 18 20 00 2 00 19 17 15 13 11 9 7 5 1 3
 Diapason. 108 Gamba 17 Open. Diapason

inner edge of pipe block.
 Diagram of Mounted pipes in Chancel.

Plate XVII

Scale $\frac{3}{4}'' = 1 \text{ Foot}$.

Great Sound board.

Scale $\frac{3}{4} \text{ inch} = 1 \text{ foot}$.

see also Plates II & III.

⊙ Gamba.
 ⊙ planted off
 on a lower
 pipe block -

Only 6 Dulciana pipes and 3 Gamba pipes are planted off the Great Soundboard. except those pipes mounted on the pipe block in the Chancel. Conveyance tubes are fitted to those planted off. and pneumatic tubes are led to the puff valve board of the mounted pipe block. These latter will have to be refitted in situ.

Explanation about the non-fitting of Gt. Wind trunk to Chancel Mounted pipe block -

When the organ was erected in the factory, the wind to the 2 mounted pipe blocks was conveyed from a temporary small bellows fixed in a corner by temporary wind trunks: as it was impossible to fix the pipe blocks in the position they would be placed at situ. The wind trunk from the reble side of the Great Soundboard was made to go as far as the front rail Plate IV & was fixed there but it was forgotten to screw it to

the side of the wind chest of the Soundboard or even to cut the hole for it -

It can easily be done at Simla. Thus;

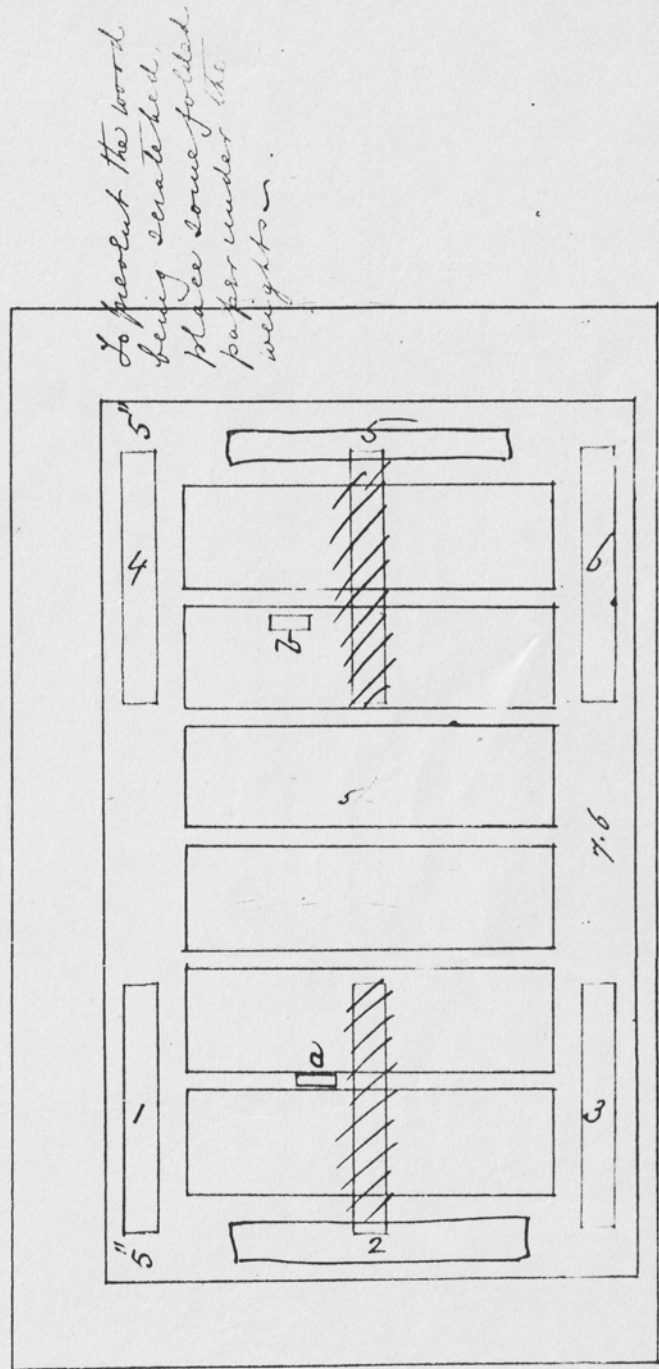
Fix the wind trunk to the front rail F and then screw the 4 screws to the end of wind chest - scratch round the collar - take off trunk & measure where the hole should come - Take off the half of front board - bore 2 holes $\frac{1}{2}$ " at opposite corners very cautiously so as to ^{not} injure the pallets or springs &c. and then use a fine table saw very carefully to saw out the piece - or use very gently a $\frac{1}{2}$ inch chisel - Clear out all the chips & replace wind trunk & front board -

Plan of Top of Bellows.

47
Plate XVIII

The pressure of wind is $3\frac{1}{4}$. There are 6 iron weights $2-1\frac{1}{2} \times 3\frac{1}{2} \times 2$. They are to be placed as shown in red. It is important to have them evenly placed or the reservoir will rock, causing a great strain. If any weight is removed the wiring of the pipes will be ruined - the writer has known a case where the blow removed some of the weights so as to make it easier for him to blow - If the bellows are taken up into the gallery in 2 parts (Page 13) the little blowers a, b are to be unscrewed and the tapes released - they are to be replaced with the tapes when the bellows are fixed in the frame - these tapes are

important as they bring in to action the "waste pallets" when the reservoir gets too full.



Scale $\frac{3}{4}$ " = 1 foot.

Wooden Pipes.

There are 120 wood pipes and all are stopped. They are all made of Kauri pine and the joints are bedded on leather as well as glued and nailed every 3 or 4 inches.

The writer would have preferred screwing them but the cost would have been greater.

They have had a coat of paint inside and a coat of polish and of varnish outside.

In case the stoppers get too loose from the shrinking of the wood to make the pipe sound properly, a piece of paper can be put round the edge of the stopper under the leather which is purposely not glued there -.

If the stopper sticks in the pipe so as to make tuning difficult, the inside can be smeared with a composition of mutton fat ^(a little paraffin) and oil mixed together - (like cold cream)

When the wooden pipes standing on the pedal frame have been once tuned, the smaller pipes will ever require retuning but to get at these, some of the pipes will have to be temporarily removed (about 6 of the lowest Sub Bass and the metal pipes of the Bass Flute) - The tuner can then stand comfortably on the rack boards (putting his feet over the cross pieces) and can reach all the other pipes on the pedal frame -

Most of the stoppers have been removed for packing. In replacing them, put the rick on the handle towards front of pipe -

Metal Pipes.

49

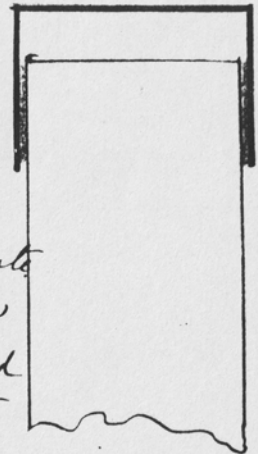
All the metal pipes are provided with tuning slides ~~except the G-cornets which being~~ ^{as well as others} ~~conical pipes cannot be so fitted.~~ ^{much better}

Tuning slides are much better than the old barbarous system of tuning with the brass cones which ruins the appearance of the pipes and in the hands of an indifferent tuner play of tin destroys them.

For an amateur tuner, the slides are perfect as he can shift them up and down, until he gets the pipe in tune, as often as he pleases without doing the pipe any injury whatever. The slides can be knocked up & down with a red knife, one of which is sent.

The stoppers of the metal pipes are on a new system designed for this organ by Mr Morgan. As they are of metal no climate can affect them. If the leather sticks, it should be smeared with the compound mentioned on Page 48.

The usual system of stopping metal pipes is a cork which is the worst material possible in a tropical climate. The writer has known cases where the pipes have not only been bulged but burst open at the seam by the swelling of the corks during the monsoon.



After the mounted pipes in the chancel & have been properly tuned at the erection of the organ they will, in all probability, never require to be tuned again except in the case of the smaller pipes.

The Voix celeste is supposed to be tuned a little sharper than the Salina B - the amount depends on the wish of the player.

Reed pipes.

The "Corno di Bassetto" is a peculiar stop in that it is furnished with slides which are not for tuning which is done in the usual way by raising or lowering the wire with the reed knife. These slides are for regulating the tone - a little mark has been made on the side of the tube and the slide should be set to this mark and then should not be touched in tuning -.

In tuning both sets of reeds, use the "Reed Knife" gently - only tap the beat wire gently -

Page 51 left blank

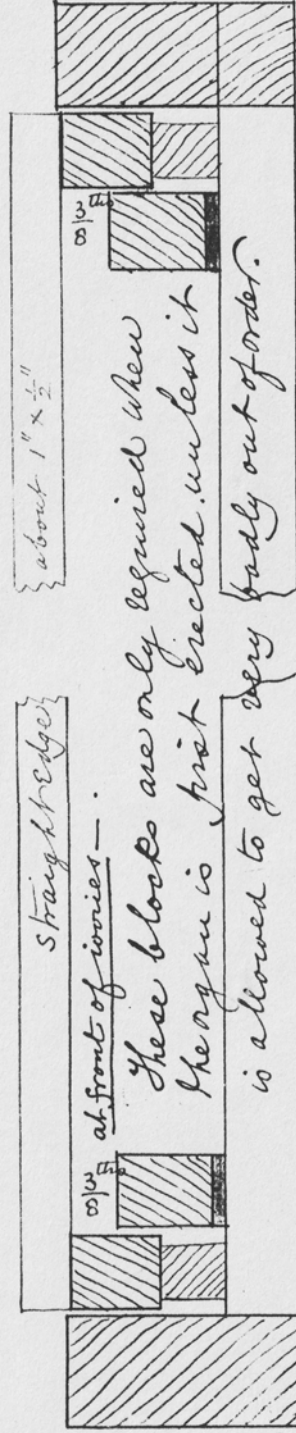
Continued from Page 24.

Trackers
(continued)

Keyboards

Connect the other arms of rollers 5 & 7 at 5 & 9 to Bar 2 at a and sing at f.

Unscrow the Thumper and remove the "thumper" L, a unscrewed piece of wood over the Keys - Raise the Swell Key paper a little by inserting two wedges at y and remove the Thumper L over the great Keys - Be very careful to put these thumpers on a level surface or they will get warped - Remove the two Keyslips x & y and insert little blocks of wood under the tops and lowest Keys so that the other white Keys when resting on the baize are $\frac{3}{8}$ " below - The drawing is "N. explain.



Great Keys.

The player can regulate these by the buttons at a & s, so as to make the trackers with the wires project evenly from the buttons while standing on the plank. He first brings all the white wires up to the straight edges, then he shifts it behind the black Keys and brings them up to it. Now remove the 2 little blocks ^{swell} put the thumpers back in its place and remove the wedges under the Key panel - Put the wire "in", draw a quick speaking stop (Kingsport) in any pipe sounds release the

Sw: to Sw octave } Put in Sw: to Great - Draw Sw: octave to Swell - This is a peculiar coupler
Coupler. } ^{it only gives.} as the Octave ^{key} above the key pressed. It won't do not go down a half.

The octave coupler is provided to the top note G as there are 12 extra pipes
to each stop - This coupler should be adjusted by the 2 buttons at G. the
operator can sit out the G's and help in the wind while the wind is "in" -
the weight of the hammer is his finger and it is to give the
button $\frac{1}{2}$ a turn to allow for the play. When the coupler is regulated
put the wind in, Draw Gensham: the player should be able to
depress each key nearly the thickness of the ivory before the octave pipe
sounds. The octave of the European should speak properly -

N.B. Wherever 2 buttons are shown they are not meant to be screwed
tight against the back fall or square but about $\frac{1}{16}$ th. should be left for
free play. As one button is tightened, the other is loosened -

At all this work has been done properly - all the arms of the rollers 4 to 9
should be parallel - the 3 sets of squares 1, 2, 3. should be slightly off the
perpendicular towards the back of organ and in a line and all the
backfalls should be fairly level - This is of course a counsel of perfection
but it is to be aimed at. The other buttons throughout the action need

General Result

is to prevent any button
from being too tight
and the wind is in
the wind is in the
operator can sit out the
G's and help in the wind
while the wind is "in" -
the weight of the hammer
is his finger and it is to
give the button $\frac{1}{2}$ a turn
to allow for the play.

except pedals, as in little.

not be touched. The more ship-shapes an action is, the sweeter the touch and the less likelihood of a cycle.

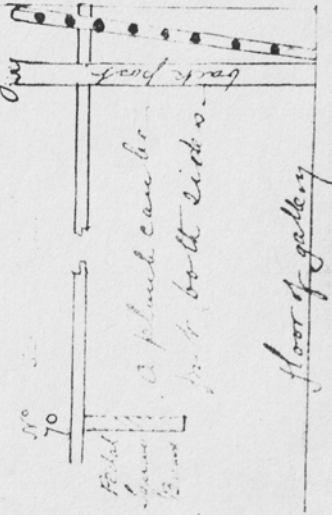
Pedal Couplers.

The buttons at h , k & l are already regulated and only the track pens at m have to be connected. Put the wind in - draw both Pedal couplers,

Principal on Great and Grains horn & Sub B - Put down each Pedal Key in succession and try to get the button at m . with the Gt & Sw : to as near as possible fully depressed - as in the manual couplers there should be some free play allowed - It may be that h or k may have to be adjusted a little.

"Set Screws" for Sw : and Gt Keyboards

It will be found that, during the changes of the season, the "touch" of the Keys will sometimes sink to $\frac{1}{4}$ " or even less or will rise to $\frac{1}{2}$ " or even more - To remedy this and to avoid tightening or releasing each individual button, "set screws" are provided at the 2 ends of the Backfall Rails G , S^2 . The mistiri with a fine screw driver can tighten or loosen the screws from direction given by the player so as to restore the orthodox $\frac{3}{8}$ " touch. Perhaps a few buttons may have to be touched up to bring all the Keys perfectly level.



N.B. As it is always better to have the wind "in" when regulating the action, a way of doing so if Great case is too low, is here given. Put a string ^{12"} ~~across~~ ^{across} as shown resting one end on Ped: $Sq: R$. the other on the rim of a short ladder resting against back wall of gallery. The mistiri can stand on this comfortably and it is high enough to allow fingers to wind to be put in. (OVER)

The action has been changed so that any Key can be removed in case of its sticking & requiring to be ~~be~~ eased - A little black lead embedded in the pin slot is often enough or a very fine file may be used - It should never be cut with a pen Knife.

N.B. Pieces of an organ are easily unstaid in the hay or straw - be careful to examine each case carefully.

Contents of Cases.

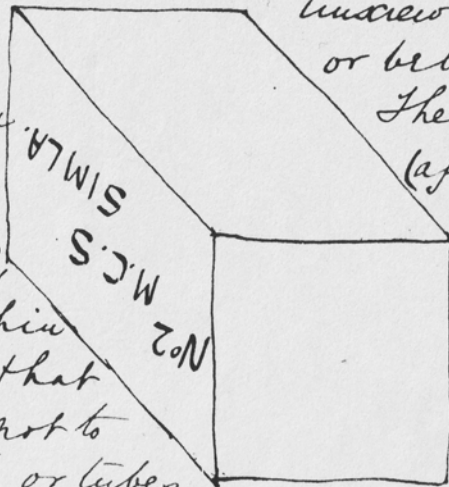
57

Case No 1. } Nave & Chancel Pipe blocks. 2 Buttresses Chancel.
 12'-11" x 3'-4" x 2'-2" } Pipe stays of different parts - One Iron Square Bar
 (Opened Sep. 5) } Case work around Keys - 3 Parrels hammers.
 Some wooden pipes -.

Case No 2. } Pedal Frame only
 6'8" x 4'1" x 3'10" } To get this out easily lay the case on
 its side with the lid leading upside down

(Opened
 Aug. 25th)

thus; after
 cut the zinc
 it with a hot iron
 the panel out.
 all the cleats)
 will slide easily
 zinc as too thin
 are nailed on that
 Be very careful not to
 touch the wires or tubes
 in handling the Pedal frame -



unscrewing the lid
 or better unscrew
 Then pull
 (after removal
 and it
 on the
 bottom
 side

Case No 3 The 2 Manual Soundboards.
 7' 11" x A lot of wood pipes - Pipe stoppers.
 3' 6" x Various trappings - rack board cross
 3' 5" pieces - Bundles of hammers - some
 (Opened Aug. 23) Draw rods - Conveyance tubes -
 Draw Stop Knobs - Front Name plate -

Case No 4. Take out in this order -
 8' 5" x (1) Swell Roller board
 4' 6" x (2) Coupler & roller board frame for pedals.
 2' 3" x (3) Small pipe block screwed to bottom -
 (4) Tenuclant Do Do
 (5) Great Roller board Do to sides.
 (6) Wind chest under pedal keys screwed to lid & bot.
 (7) The Manual action frame screwed to bottom.
 N.B. Don't lift it by the Keys but by the painted
 (8) Puff Valve board & pipe block screwed to side
 (9) Lieblich B. pipe block screwed to bottom

(Opened
 Aug. 24)

Case No. 5. Building frame & Swell box
9'6" x 5'6" x 2'2" Bellows handles.

(Opened
Aug. 21)

The front rail (F Plate IV) was overlooked in making this case to fit the rest of the building frame and the other longer one had been sent away so it was scarfed and cut in 2 pieces - it can be glued & screwed together in situ and an iron plate be fixed on underneath -

Swell pipe blocks - Part of Swell front & composition rods.

Case no 6 Bellows - Lot of wood pipes
9'7" x 6'3" x 3'2" Swell & Great S. board slides tied between battens - Fans, rack boards -

(Opened
Aug. 22)

Numbered pneumatic tubes - Some screws in bundles - Swell Composition iron levers on beams - Great to Pedal Composⁿ roller - Great Square Beam Great Roller board.

Case no 7
19'7" x 2'11" x 2'1" 6 Largest Pedal pipes -
Some wooden stoppers & pipe hooks
Some fixings for both front pipe blocks
4 Chancel buttresses -

Case no 8,
15'9" x 3' x 2'10" A lot of Pneumatic tubing -
4 Buttresses have pipe block -
4 Cubels for two pipe blocks
screwed to side of case -

(Opened
Sept. 5)

Remainder of decorated pipes.

A lot of other metal pipes -

Pedal bentil chest

Some ornamental bands for pipe blocks - Swell rod -

Some wind trunks - Draw stop rods -

Fans - Square beams -

Case no 9
 9'8" x 4'1" + 3'4"

(6/Jan 2 Sept 1891)

Pedal Key platform screwed to bottom of case forming a place for all the reeds & smaller pipes -

2 sides of Swell shutter frame

Pedal Keys

Organ Bench.

Wood trunks

Swell organ trunkle frame

Great Do Do Do

Compos. pedal beam.

Do Do Square board

Swell lever beam

7 Swell shutters.

All the polished paint (except book rest)

Great Organ roller frame -

Metal Pipes & polished book rest.

Case no 10
 7'8" x 4' + 2'7"

List of Numbers.

1	Plate I	Heble side Top rail & post
2	" "	do do Middle rail & post
3	" "	do do Post carrying Sw: Lieble B: Cross rail
4	" "	Base side Top rail & post
5	" "	do do Middle rail & post:
6	" "	Swell roller frame.
7	" "	Heble side Swell Box bottom frame.
8	" "	Base side do do
9	" "	Heble side Sw: Lieble B: Cross rail.
10	" "	Base do do do
11	" "	Heble side action & key frame.
12	" "	Base do do do
13	" "	Heble side Bottom of back of Sw: Box
14	" "	Base do do do do
15	" "	Junction & pieces back of Swell box
16	" "	not a stem top of swell in then in place
17	" II	Base side Back Bottom rail.
18	" "	do do Side back of action & key frame
19	" "	do do Back of Top cross rail.
20	" "	Base side front top of cross rail.
21	" "	do do Middle cross rail across front
22	" "	do do front lower cross rail -
23	" "	do do Cross rail at front
24	" "	do do do back
25	" "	Post fixed to cross rail holding Compo: pedal
26	" "	Front Top Swell Compo: pedal Fan rail
27	" "	do bottom do do -
28	" "	Back do do do -
29	" "	do Top do do -
30	" "	Junction of Bottom frame Swell box or cross rail
31	" "	Rail carrying Swell draw levers.

65.

32 Plate

33 " III

34 " "

35 " "

36 " "

37 " "

38 " "

39 " "

40 not shown

41 " III

42 " "

43 not shown

44 do do

45 do do

46 do do

47 " III

48 " "

49 " "

50 " "

51 " "

52 " "

53 " II

54 " "

55 " "

56 " "

57 " "

Great Wind Trunk on bellows.

Bottom of Sw: Wind Trunk on bellows.

Do of Post carrying Pedal rail with
squares &c.

Back of Pedal Square rail fixed on No 34

Front of Do Do Do tenoned into front post

Front Lower Great Compos: Fan rail } on front
Do Top Do Do Do } post

Back Lower Do Do Do on post 34

Post fixed on Top Creble Cross rail.

Top of Sw: Wind Trunk on Cross rail.

Post carrying Great Roller frame on Cross rail

Register carrying 5 rods for working
pedal stops with Great stops in the compos:
pedals.Rail carrying lower squares for Great
Draw Stop action.

Top of short post No 43 on Great roller frame

Top of Great roller frame abutting on
Swell shutter frame -{ on top of short post fixing Great roller
frame to extreme front cross rail.on short piece connecting short post
(48.49) to front of Great Soundboard.Back of cross rail holding Compos: Pedal
Square Board on to 34.

Front Do Do on to front Post.

Junction of 2 Great Wind Trunks.

Cross rail carrying Compos: Pedal Square
Board fixed on No 58.

Compos: Ped: Square Board fixed on 54

{ Do Do Do and block
fixed on front Post.

58	Plate II	Post carrying 54.	62
59	" "	Cross rail carrying row levers from Pedal Square Board to Swell Fans.	
60	" I	Bass end of Lie: B ⁿ Windchest	} on cross rails 4 & 9.
61	" "	do do of Puff valve B. ^p for do	
62	" "	{ The 2 ends of Bass side Lie: B ⁿ "2 way" block	
63	" "	{	
64	" "	{ do do - Heble do do do.	
65	" "	{	
66	" "	{ Junction of 2 Swell Wind Trunks.	
67	" "	{ End of Lie: B ⁿ Wind Trunk.	
68	" "	{ Block of Post carrying Bellows Main lower	
69	" "	{ Post do do do.	
70	" III	{ Heble end of Coups: Pedal Square Board	
71	" II not shown	{ Block connecting Pedal Frame North side to lower rail of Building Frame.	
72	" " do do	{ The same block fixed to Pedal Frame Post	
73	" " do do	{ Pedal Ventil Chest attached to top of Bellows Middle board.	
x73	" "	{ Junction Block of Tubes to 12 Lie: B ⁿ pipes to back of organ. Plate II.	
74	" "	{ Cleat of wood keeping tubes together on Bellows Cross Rail nos 17 & 22 Plate II.	
75	" IX	{ Top of wind trunk leading to Pedal Slide wind chest fixed on to Main Pedal Wind Trunk	
76	" "	{ Top of wind trunk fixed to Main Pedal wind trunk leading to Mounted Pipe block	
77	" "	{ Supports of Rack rails for Pedal Pipes.	
78	" "	{	
79	" not shown	{ do do the other side.	
80	" "	{	
81	" all in pencil	{ different portions of the stays & rails attached to Nos 77 to 80.	
93	" "	{	

Page 63 left blank

- 94 } Blocks for Swell Pedal roller on Bellows.
 95 } Do Do Do
 96 { Pipe block for Great Dulciana Pipes
 Heble side.
 97 } Heumulant fixed to Swell 1st board
 98 } Bottom board.
 99 Draw stop action fixed to heumulant
 100 } Blocks carrying Swell roller fixed
 101 } to Swell shutter panel -
 102 Junction Block for Gamba Pipes
 pneumatic Inbes on Bass side front
 of 1st board.
 103. Junction piece between Great
 1st board and Great horizontal.
 Wind trunk -
 104 Plate I Two pieces forming guide for
 pedal handle on Heble back post
 105 }
 to } Stays in Swell box.
 110 }
 111 }
 to } Pipe blocks in Swell box.
 114 }
 115 Square beam under bellows
 fixed to bellows & front cross ribs.
 116 Stay for Lieb: 13" back of Swell box
 117 Piece across inside joint of the
 2 back pieces of Swell box.
 118 } in
 119 } pencil.
 Block to carry Swell pipe block
 fixed to back of Swell box -
 All pieces of Swell box are marked
 also in pencil.
 120 Filling in piece behind Swell
 1st board

121

Block fixing end of Pedal Roller board
to floor of gallery under platform.
N.B. it may require to be packed a
little if floor is untrue.

122

123

Heble Cross rail for Great S^d board in front
do do do at back

124

125

126

Pieces forming passage board
marked at base end -

127

String from front rail to top of heble
post on heble side.

128

to

136

in pencil { Steps & posts for the Cornopescu &
Cornio di basnetto stops -

137

Piece of front platform on buss side.

