

Summary of Laboratory Work

*Plague Laboratory
Galveston*

Vol. II

7167

U. S.

TREASURY DEPARTMENT

United States Public Health Service
Plague Eradication Measures
Galveston, Texas

P. C. Surgeon J. Holmes Smith Jr.
M. O. in charge until Sept. 19.

P. C. Surgeon H. F. White
M. O. in charge Sept. 20, 1920 to

Plague Laboratory
Summary of Work of Laboratory
while under charge of
J. W. Kennerly, U. S. Pathologist
Hygienic Laboratory
Sept 1, 1920 to

54

Ret 28 270

9-7-20

1305-L.

M. murgicus. ♂ trapped

Condition fair

Marked sub Q infection

Carcin. lumps in axilla, inguinal & pelvic
glands enlarged and hemorrhagic

Liver finely granular & anemic

Spleen congested

Marked bloody pleural effusion

Diag. plague

Smears pos.

P. W. G. Inc. 9/7/20

55

Rat 27639

9-4-20

1305-24

M. norvegicus ♀ trapped
Condition good

✓

✓

✓

Carcass area on spleen

✓

Diag. Suspicious

Smears Suspicious.

Pos. by Am. Inv. 9/12/20

G. p. 244 inv. 9/4.

56

Rat 28399

9-8-20

Mallory Line pos 25

M. norvegicus ♂ trapped

Condition good

Marked subconjunctiva & edema

Carcass cervical lymph

Liver granular & congested

Spleen congested

Marked blood stained jejunal mucosa

Diag. Susp.

Smears neg.

Pos. by Am. Inv. 9/16/20

G. p. 256 inv. 9/8

57

87496

ad f

106-20 ft

M. norvegicus, trapped

Condition good

Marked Sub Q injection

Enlarged and hemorrhagic axillary gland

Liver neg.

Spleen congested

Marked pleural effusion

Diag. Susp.

Smears, Susp.

Pos. by Am. Inst. 10/15/20

Gr. p. #288

58

31365

9-22-20

-3702 Am H

M. norvegicus male trapped

Condition good

Moderate sub Q injection

Glands negative

Liver neg.

Spleen st. congested

Moderate, bloody pleural effusion

Diag. susp.

Smears susp.

Pos. by Am. Inst. 10/21/20

Gr. p. #275

59

44129

Oct 23, 1920

3308 Am G.

M. nevirgicus ♀ trapped

Beginning injection

Marked sub. Q congestion anteriorly

Caseous cervical glands

Liver neg.

Spleen congested (?)

Moderate clear pleural effusion

Hicg. neg.

Smears: susp.

Pro. by an. mic. 10/28/20.

Gr. p. 326

60

45-985

Oct 29, 1920

1111-16 R

M. nevirgicus ♂ found dead

Condition good

Marked injection of sub. Q tissues & muscles

Cervical glands enlarged & caseous

Liver granular

Spleen slightly enlarged

Moderate blood mixed pleural effusion

Hicg. Positive

Smears: Positive

Pro. W. G. 2. 10/29/20

61

40265

Oct. 13, 1920

Texas Star Ham mill, under landing platform

M. norvegicus ♀ trapped

Condition good

No subcutaneous injection

Hemorrhagic cervical lymph nodes

Liver finely granular

Spleen slightly congested

No pleural effusion

Diag.: Plague

Smears positive

Pos. W. A. I. Nov. 10, 1920

62

55449

Nov. 24, 1920

2001 Ave. D, Lind flew.

M. norvegicus, found dead

Condition good

Marked general subcutaneous

Hemorrhagic inguinal & axillary glands

Liver negative

Moderate congestion spleen

Moderate, clear pleural effusion

Diag.: Suspicious

Smears. Positive

Pos. W. A. I. 11/24/20

63

54887

Nov 24, 1920

2001-7 Am O

trapped

M. novaeboracensis ♂

Condition good

Marked general Sub. Q injection

Hemorrhagic infarct of spleen, small
central

Liver negative

Spleen congested

Moderate clear pleural effusion

Htg. Susp.

Smears - Susp.

Pcs. by Am. Soc. 11/29/20

Gr. p. # 381

64

54958

11-24-1920

2001-7 Am O

trapped

M. novaeboracensis ♂

Condition good

Marked general Sub. Q injection

No tumors

Liver negative

Spleen congested slightly

Moderate clear pleural effusion

Htg. Susp.

Smears Very Susp.

Pcs. by Am. Soc. 11/29/20

Gr. p. # 382

65

56032

Nov. 27, 1920

2001 Ave D.

Immigrated

M. noviparus ♀

Beginning putrefaction

Slight general injection

No keds

Liver negative

Spleen negative

Slight bloody pleural effusion

Wing. Susp.

Lungs neg.

Pos. by Animal Dec. 12/6/20

Gp. # 388

66

56036

Nov. 27, 1920

2001 Ave D.

Immigrated

M. noviparus ♂

Caudal fur

Marked general injection

Enlargement of rt cervical, left inguinal & pelvic glands

Liver negative

Spleen large & congested

Moderate, bloody pleural effusion

Wing. Susp.

Lungs Susp.

Pos. by An. Dec. 12/6/20

Gp. # 389

67

57240

12-2-20

2001-9 Acc. D. Trapped after fumigation

Condition good *D. nurepica*

Marked general sub & injection

Cervical lymph nodes markedly enlarged. ^{One} suppurative

Liver negative

Spleen congested

No pleural effusion

Diag. Resp.

Lungs Very disp.

Rec. by Acc. D. 12/9/20.

G. J. 8400

Date	Rats exam.	henway	Ralters	Alex	Sept.	1920	Total to date	Pco. W.G. 9.	Pco. by Ince.	Total†	% Pco.
					Signorini						
9-1	78	71	0	2	1		23 234			0	
2	180	70	82	12	5		23 414			0	
3	170	136	17	15	1		23 584			0	
4	83	64	7	10	1		23 667		55	1	1.2
5	155	110	10	8	19		23 822			0	
6	90	51	9	5	4		23 892			0	
7	113	65	10	6	11		24 005	54		1	.9
8	273	160	45	40	11		24 278		56	1	.3
9	187	94	54	17	18		24 465			0	
10	166	108	14	25	12		24 581			0	
11	133	85	14	26	6		24 714			0	
12	104	87	6	3	5		24 818			0	
13	107	76	3	8	6		24 925			0	
14	123	84	5	5	20		25 048			0	
15	145	114	11	1	9		25 193			0	
16	122	94	4	8	12		25 315			0	
17	170	114	16	3	9		25 485			0	
18	98	65	19	9	5		25 583			0	
19	53	45	1	1	3		25 636			0	
20	104	88	0	1	5		25 740			0	
21	87	73	4	2	2		25 827			0	
22	72	55	6	4	3		25 899		54	1	

Date	Rats exam.	hewway	Rattus	Alex.	Sigurdson	Total to date	Pco. W.G. 9.	Pco. by Ina.	Total +	% Pcs.
9-23	106	69	3	3	14	26005	Mice Perch		0	1-100
24	167	108	8	9	34	26172			0	21
Bamby in wood not 25d	205	114	1	3	82	26377				31
26	126	73	4	3	41	26403				5
27	197	86	3	2	97	26600				11
28	344	113	59	11	160	26948				16
29	204	82	3	3	114	27156				28
30	405	72	44	47	240	27561				38
Total Sept						4405				55
10-1	302	93	3	2	194	27863				62
2	295	84	2	9	195	28158				72
18 3	204	68	2	3	126	28461	99			8
4	312	87	13	8	185	28773	174			12
5	304	123	4	8	144	29077	170			20
6	363	107	4	7	233	29440	171			30
7	400	87	2	7	287	29840	157			40
8	471	126	9	11	301	30311	178	57	1	50
9	438	108	3	5	313	30749	249			60
19 10	260 ²⁷⁵²	82	0 ^{ET}	1	162 ¹⁷³¹	31009	90 ¹²⁸⁸			70
11		Darker	up	Repts	changed					
12	339	180	14	10	221	31348	107			80
13	402	137	13	16	226	31750	139	61		90

Date	Rab. exam.	new way	Rabbits	Alex	Singular	Total to date	hairs.	Pos. W. G. 9	Pos. by 2nd.	Total	%+
Oct-14	948	126	2	16	268	32198	92				
15	434	118	10	11	278	32632	110				
16	226	⁶¹⁸ 75	³³ 4	⁵⁴ 75	¹²⁴⁶ 131	32858	⁶¹² 74				
⁹⁰ 17	169	163	2	3	57	33027	194				
18	240	97	1	6	127	33267	74				
19	261	96	3	2	160	33528	61				
20	206	80	2	9	109	33734	73				
21	309	109	0	2	180	34043	99				
22	229	67	2	2	156	34292	110				
23	124	⁶¹⁰ 58	¹² 2	³¹ 7	⁸¹⁵ 54	34396	⁵⁷¹ 83		*59	1	
²¹ 24	205	79	1	1	122	34601	81				
25	87	34	1	2	39	34688	91				
26	228	50	10	4	151	34916	135				
27	252	82	39	6	109	35168	143				
28	265	95	3	4	149	35433	151				
29	324	93	4	2	221	35657	173	*60		1	
²² 30	311	⁵³⁴ 101	⁶⁰ 2	³⁶ 17	²³ 186 ⁹⁷⁷	35968	188 ⁵⁴				
31											
Total Oct						8407					
Nov-1	183	69	2	5	106	36151	102				
2	193	81	2	5	103	36344	164				
3	156	63	5	7	76	36500	131				

Date	Total Rats	Runway	Rabbits	Alex	Sigmund	Total to date	Wrice	Pos. W. G. 9.	Pos. by Sine	Total	%+
Nov. 4	233	63	3	10	154	36733	170				
5	213	78	7	9	110	36946	165				
6	245	102	6	3	127	37191	174				
7	234	⁵³⁶ 80	³¹ 6	⁴⁷ 8	⁸⁰⁵ 129	37425	¹⁰⁷⁷ 171				
²³ 8	108	51	1	6	46	37533	97				
9	197	84	6	4	148	37730	143				
10	214	70	6	7	131	37944	135				
11	278	83	2	9	162	38222	136				
12	192	42	0	1	147	38414	81				
13	231	71	1	7	148	38645	103				
²⁴ 14	250	⁴⁴⁸ 47	¹⁶ 0	⁴³ 9	⁹⁷⁶ 194	38895	⁸⁹⁶ 107				
15	70	23	1	1	44	38965	48				
16	121	43	5	7	66	39086	109				
17	172	48	6	10	108	39158	131				
18	138	51	1	4	80	39296	125				
19	196	50	3	5	157	39492	108				
20	304	74	5	92	133	39796	129				
21	250	⁴⁰¹ 112	²⁴ 3	²⁷ 8	⁷¹⁵ 127	40046	⁸⁴⁵ 120				
²⁵ 22	180	83	1	5	87	40226	70				
23	173	64	8	11	83	40399	132				
24	201	86	7	9	99	40600	119	*62, 13,	63, 64	3	
25	335	105	27	73	128	40935	96				

W. W. Carr

h. w. 110 B

Date	Total Rats	hurryway ³³⁸	Rattus ⁴⁷	Alex ⁹⁸	Sigmundson ³⁹⁷	Total to date	hurry ⁴²²	Pos. W. G. D.	Pos. by h. w.	Total +	% +
Nov. 26	164	72	1	7	83	41099	68				
27	174	77	8	10	77	41273	113		65-66	2	
28	156	⁵⁷⁹ 87	⁵⁴ 2	¹²² 7	⁶¹⁷ 60	41429	⁶⁸⁸ 85				
²⁶ 29	163	57	14	15	77	41592	63				
30	219	59	31	29	98	41811	102				
Total						5843					
Dec 1	252	42	4	5	100	42063	110		67	1	
2	165	53	4	3	105	42228	133				
3	172	58	2	9	103	42400	113				
4	197	63	7	6	120	42597	117				
5	208	⁴²⁰ 88	⁶² 0	⁵² 5	¹¹⁶ 113	42805	⁷²¹ 83				
²⁷ 6	99	46	0	7	46	42904	63				
7	126	46	1	8	73	43030	108				
8	168	76	3	4	84	43198	87				
9	140	59	0	5	73	43330	112				
10	133	49	1	3	79	43463	106				
11	199	64	3	9	121	43662	139				
12	138	⁵⁹⁶ 56	⁹ 1	⁵⁸ 2	⁴³⁵ 79	43800	⁷¹⁹ 104				
²⁸ 13	121	43	0	4	69	43921	39				
14	187	81	1	3	97	44108	96				
15	158	67	6	6	79	44266	98				
16	182	72	2	3	105	44548	111				

Date	Total Rats	honey	Rattus	Alex	Signatures	Total to date	Wice	Pos. W.A. D.	Pos. by hmr.	Total +	% +
Dec 17	185	60	6	10	109	44723	92				
18	247	67	27	9	142	44970	96				
19	184	⁴⁵⁹ 69	⁴⁸ 6	³⁹ 4	⁷⁰⁶ 105	45154	⁶²⁵ 93				
²⁹ 20	174	70	6	9	88	45328	69				
21	174	65	12	23	72	45502	149				
22	134	65	1	8	51	45636	135				
23	118	67	0	5	46	45754	106				
24	112	67	3	9	38	45873	102				
25	107	⁴¹¹ 77	²² 0	⁵⁷ 3	³²¹ 26	45880	²³ 86				
26		No examinations				made	⁶⁴⁷ 6				
³⁰ 27	160	65	2	1	90	46040	66				
28	187	109	4	7	61	46227	110				
29	98	54	3	2	37	46325	80				
30	127	46	1	17	55	46452	71				
31	171	80	0	7	77	46623	81				
Total Dec.						<u>5812</u>					
Jan 1-21	163	⁴²⁸ 74	10	6	64	46786	90				
³¹ 2											
3	164	69	3	6	79	46850	48				
4	123	57	4	6	54	46973	107				
5	163	88	2	8	57	47136	80				
6	128	60	6	11	46	47264	82				

[illegible]

Weekly Summaries

Aug. 27 - Sept 2

Quarantined rats

Residents found dead

" trapped

" rec'd at Lab

" exam.

" Susp. w/d. doubtful

Susp. found pos.

Pos. W. G. Inv.

Total pos. rats

Sept 3 - Sept 9

Quarantined rats

Residents found dead

" trapped

" rec'd at Lab

" exam.

Susp. w/d. doubtful

Susp. found pos.

Pos. W. G. Inv.

Total pos. rats

Unclassified

Pentad

Price

Signatures

Qty

Rat

Inventory

1

0

13

86

1

0

0

0

0

9

36

299

13

25

56

587

36

300

13

38

136

597

36

0

13

38

136

597

0

0

0

1

1

14

0

0

0

0

0

0

0

0

0

0

0

1

0

0

0

0

0

1

0

0

0

32

73

2

2

0

1

0

0

3

51

466

64

69

79

675

53

466

65

101

152

640

53

324

65

101

152

640

0

0

0

1

3

14

0

0

0

0

0

0

0

0

0

0

1

0

0

0

0

1

Sept. 10 - Sept 16	Unclassified	Weekly		Summary				
		Putrid		Wice.	Ligures	Alex	Rat	Wicray
Fumigant rats				0	0	33	16	0
Rodents found dead				0	0	0	0	0
" trapped		45		594	70	45	41	648
" rec'd in lab.		47		594	70	78	57	648
" exam.		47		594	70	78	57	648
Lusop. incl. dubit.		0		0	0	1	0	6
Lusop. found pos.		0		0	0	0	0	2
Pos. W. G. Ins.		0		0	0	0	0	0
Prishin rats		0		0	0	0	0	2
Sept. 17 - Sept 23								
Fumigant rats				0	0	7	15	0
Found dead				0	0	0	0	2
Rodents trapped	1	62		526	46	16	34	507
" rec'd at lab.	1	62		526	46	23	49	509
" exam.	1	62		526	46	23	49	509
Lusop. incl. dubit	0	0		0	0	0	0	8
Lusop. found pos.		0		0	0	0	0	0
Pos. W. G. Ins.		0		0	0	0	0	0
Prishin rats		0		0	0	0	0	0

	Weekly		Summaries				
Sept 24 - Sept 30	Unclassified	Putrid.	Wice	Ligandem	Alex	Rat	Humay
Terminated rodents			0	0	49	84	0
Found dead			0	1	0	0	2
Trapped	0	33	1048	775	29	38	656
Rec'd at Lib.		33	1048	776	78	122	652
Exam.		33	849	776	78	122	652
Lesq. ind. doubtful	0	0	0	0	0	0	1
Lesq. found juv.	0	0	0	0	0	0	0
Per. W. G. Imm.	0	0	0	0	0	0	0
Putrid rats		0	0	0	0	0	0

Flea Survey

Date	Species Rat	Sex	Address	L. cheupis	C.	Jas. v. albus	P. v. v. v.	C. n. n. n.	Unidentified	Total
Oct 22	hurway	F	5516-K	3%		0	0	0	0	32
" 29	"	F	603-16	0		0	0	0	0	0
Nov. 2	"	F	1005-F	14 ✓		0	0	0	0	14
"	Alex.	F	^{Pica 26} Box car	5%		1	0	0	0	6
Nov. 3	hurway	M.	1802-C	5 ✓		2	0	0	0	7
"	Rabbits	F	2027C	0	1	0	0	0	0	0
Nov. 9	hurway	F	Arduley club	0 ✓		4	0	0	0	4
" "	"	M	3711-K	2 ✓		5	0	0	0	7
Jan 1	Alex	M	2027-E	14		0	0	13	0	17

Sargent

Phoebe Newton, ♀ 13 keeps Scholfield
1121-L Almonds 1020 Boling.

Kent at 1122-K

Count her 6

Conducts her 60 present, Lueas reg.

Gr. P. reg. 11/19.

Back by 11/15

Case 13

Ila (Blanche?) Brown Negro F. aet 17
2715 Ave E.

Admit. 9/22/20

Dead 9/27/20

Chri. diag. of pneumonia. Plaque diag. P. M. 9/28
from smear of lung.

Suspected to be a case of pneumonia. P. M.
a lobular pneumonia, & hemorrhagic areas
over pleura. Smear pos. Dead in ambulance
on way to hospital.

Pneumonia plaque, primary.

Case 14

Ella Keipel White F. aet 17
1818 Ave O.

At home.

Went out of town

Admit 10/2/20

Chri. diag. of plague 10/4/20 confirmed by
Smear 10/4.

Recovered. Discharged from isolation 10/19

(Hansen)

Case 15

C. S. Remp, male, age 3, white
1704 - O (Sept 6-18) febr. 12 days
1522 - M (Sept 19-24) ?
2805 - R 2 days

Quart 9/26/20

Diag. 9/30/20,
Ven'pid 10/1.

Recovered without employment of serum

Son of Capt. Remp. of Reg. Henderson.
Quart while a serum refugee in
Hansen & carried to Hansen isolation
Hospital.

Case 16

David Williams negro m. age 35-
709-26
Truck driver, Galv. Coal Co., 3406 W. 4th.

Quart 10/4

Diag 10/9

Diag. 10/8

Ven'pid 10/8

Died 10/9

Buboes in both femoral regions.

Case 17

Geo. Debnar 3320-I

White male aet 58
night watchman
Works at Liberty press 41 st & Church.

Arrest 10/17

Diag. plague 10/20 Verified same date

Rt. femoral bulb = phlyctenule below knee.

Many dead rats found in residence
guaranteed a week before onset.

Case 18

Eddie Jones

2516 M

Wegro male aet 10, school boy
Attended school at 10th & Bakery.
Frequently visited wharf during day time.

Arrest 11/10/20

Diag. clinically 11/3 Verified 11/14/20

Deid 10/13/20

Femoral bulbous both sides, ulnar bulbous,
post malar bulbous.

Human case 13

OSTEOPATHS.

DR. E. E. LARKIN; 8:30 a. m., 2:30 p. m. 110 Trust Bldg. Phone 968. (tf)

DR. BEN E. HAYMAN, successor to Dr. J. W. Eisminger. Hours: 8 to 12; 2 to 6, and by appointment. 2112 1/2 Postoffice st. Phone 5471. (tf)

ORDINANCE

AN ORDINANCE amending an ordinance enacted by the board of commissioners of the city of Galveston on the 8th day of Sept., 1920, entitled, "An ordinance amending an ordinance enacted by the board of commissioners of the city of Galveston on the 8th day of July, 1920, entitled, "An ordinance to better protect the public health, and particularly to prevent the introduction and spread of bubonic plague by providing for the rat-proofing of all buildings, outhouses and other super-structures, stables, lots, open areas and other premises, sidewalks, streets and alleys in the city of Galveston, and providing a penalty for violation thereof."

BE IT ORDAINED BY THE BOARD OF COMMISSIONERS OF THE CITY OF GALVESTON, as follows:

Section 1.—That from and after the enactment of this ordinance, every building, outhouse or other super-structure, stable, lot, open area and other premises sidewalk, street and alley, now constructed or hereafter to be constructed in the city of Galveston, shall be rat-proofed in the manner herein-after provided.

Section 2.—That it shall be unlawful for any person, firm or corporation to have or maintain, or hereafter to construct, any building, outhouse or other super-structure, stable, lot, open area or other premises, sidewalk, street or alley within the city of Galveston unless the same shall be rat-proofed in the manner hereinafter provided.

Section 3.—That for the purpose of rat-proofing, all buildings, outhouses and other super-structures in the city of Galveston, except stables, shall be divided into two classes, to-wit: Class "A" and Class "B" and the same shall be rat-proofed in the manner following, to-wit:

Class "A"—All buildings, outhouses and other super-structures of Class A shall have floors made of concrete, which concrete shall not be less than three (3) inches thick and overlaid with a top dressing of cement, mosaic tiling, or other impermeable material laid in cement mortar and such floors shall rest without any intervening space between, upon the ground or upon filling of clean-earth, sand, cinders, broken stone or brick, gravel or similar material, which filling shall be free from animal or vegetable substances; when desired the top covering of cement, mosaic tiling, etc., may be eliminated provided the concrete flooring be made three and one-half (3 1/2) inches thick and the surface of same pooled so that it will be perfectly smooth; said floor shall extend and be hermetically sealed to the walls surrounding said floor, which walls shall be made of concrete, stone or brick laid in cement mortar and each wall shall not be less than six (6) inches thick and shall extend into and below the surface of the surrounding ground at least two (2) feet and shall extend not less than one (1) foot above the surface of said floor. When so desired, wooden removable gratings may be laid upon the surface of said concrete floors provided no intervening space exists between them, provided, that a wooden floor may be superimposed upon a floor of concrete, if no intervening space exists between them, and the sleepers shall be cross-rotated timber and completely embedded in the concrete floor without intervening space, except at those points where the wooden flooring will be fastened to them.

Class "B"—All buildings, outhouses and other super-structures of Class "B" shall be set upon pillars or underpinning of solid wood, or concrete, stone or brick laid in cement mortar, such pillars or underpinning to be not less than eighteen (18) inches high for a building thirty (30) feet or less in width, for buildings over thirty (30) feet in width, the minimum height shall be at least six (6) inches or greater for each additional ten (10) feet of width over thirty (30) feet; the height to be measured from the ground level to the top of said pillars or underpinning; and the intervening spaces between said building and ground level to be open on three sides and to be free from all rubbish and other rat-harboring material; or at the discretion of the owner, may be made rat-proof by constructing at the margin of the ground area of said building a wall of concrete, or brick or stone, laid in cement mortar, such wall to extend into and below the surface of the ground at least two feet and to meet the floor of the building above closely and without any intervening space. Such walls shall be at least six (6) inches thick and extend entirely around said building; provided, that said walls may be built with openings therein for ventilation only, and provided further that such openings for ventilation may be of such size as the owner may elect and shall be securely screened with metallic gratings, having openings between the bars of said gratings of not more than one-half (1/2) inch, or with wire mesh of not less than twelve (12) gauge, having openings between the wires of said mesh of not more than one-half (1/2) inch and the whole so constructed and closed as to prevent the entrance of rats beneath such buildings.

Section 4.—That every restaurant, kitchen, hotel kitchen, cabaret kitchen, dairy, dairy depot, dock, wharf, pier, elevator, store, manufactory and every other building, outhouse, or super-structure wherein or whereon food-stuffs are stored, kept, handled, sold, held or offered for sale, manufactured, prepared for market or for sale, except stables, shall be rat-proofed in the manner provided for hereinabove as of Class "A".

Provided, that frame structures used as retail grocery stores, meat markets and restaurants may be constructed and rat-proofed in the following manner:

(a) For structures having an elevation of less than eighteen (18) inches, a solid foundation wall of brick, stone or concrete shall be constructed not less than six (6) inches thick and extending continuously around the building, such wall extending into and below the ground at least two (2) feet and shall meet the sill closely and without intervening space, such openings as may be required shall be securely screened with metallic gratings not more than one-half (1/2) inch, or with wire mesh not less than twelve (12) gauge, and concrete, brick or stone shall be filled in between the studding of all walls to a height of twelve (12) inches above the floor level; the floors shall be laid on concrete not less than three and one-half (3 1/2) inches thick, including topping; providing, that wood floors may be laid upon stringers imbedded in concrete without any intervening space between the wood and concrete.

(b) For structures having an elevation of eighteen (18) inches or more, the space between the studding of all walls shall be filled with concrete, stone or brick laid in cement mortar, from top of sill to a height of twelve (12) inches above the floor level, and all intervening space between the ground sill, pillars or underpinning shall be firmly and securely screened with hard-wood cloth continuously around the building and shall be kept and maintained in that condition. All steps shall be open string and riser. The ground around and under such buildings shall be kept and maintained perfectly clean and free from rubbish, trash, foodstuffs or any material whatever.

(c) Should the structures be of two or more stories in height the base line of upper stories shall be flashed with metal around all walls.

Provided, further, that brick buildings which are used as retail grocery stores, meat markets and restaurants, shall be constructed and rat-proofed as follows:

(d) They shall have concrete floors resting upon the ground, to be not less than three and one-half (3 1/2) inches thick, including topping, which floors shall be hermetically sealed to foundation of building on all sides, which foundation shall extend not less than twenty-four (24) inches below the surface of the ground. Wood floors may be laid upon stringers imbedded in concrete if laid without any intervening space between the concrete and wood floors. The walls may be plastered directly upon brick or sealed throughout with dressed and matched ceiling, as the owner may elect, and subject to

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the approval of the building inspector; if dressed and matched ceiling is used the walls shall be flashed with not thinner than twenty-eight (28) gauge galvanized iron to a height of not less than twelve (12) inches above the floor; wood base board may be laid over a metal flashing.

(e) If the structures be of two or more stories in height all walls of such upper stories shall be treated as provided for first floor.

Section 5.—Such part of any structure hereinabove defined as Class "A" that shall be entirely over a body of water, may be rat-proofed as of Class "B" as hereinabove provided for.

Section 6.—The term "foodstuffs" as used in this ordinance is hereby defined to be oil and oil products, flour and flour products, animals and animal products, produce, groceries, cereals, grain and the products of cereals and grain, poultry and its products, game, birds, fish, vegetables, fruit, milk, cream, ice cream and the products from milk and cream, hides and tallow or any combination of any one or more of the foregoing.

Section 7.—All other buildings, outhouses and super-structures except stables, not hereinbefore specified as Class "A" and all buildings used exclusively for residential purposes, shall be rat-proofed in the manner provided for hereinabove as Class "B"; provided, that the owner of any building, residence, outhouse or other super-structure in Class "B" may, if he so elects, rat-proof same in the manner provided for in Class "A".

Section 8.—All buildings now or hereafter to be constructed, and used for stabling horses, mules, cows and other animals, shall be constructed as follows:

(a) The foundation walls shall be constructed of brick, stone or concrete, not less than six (6) inches thick and extending continuously around the building, such walls extending into and below the ground at least two (2) feet and shall meet the sill closely and without any intervening space. The super-structures shall be constructed of such material and in such a manner as may be approved by the building inspector. Double or ceiled walls shall not be permitted.

(b) The floor shall be laid of concrete not less than three and one-half (3 1/2) inches thick including topping; provided that portable or movable wood floors may be laid without intervening space upon the concrete floor. The floors of stalls may be of planking, fitting either tightly to the concrete floor or elevated not more than one-half (1/2) inch from the stall floor and so constructed as to be easily removable. Such removable planking shall be raised at least once a week and the said planking and the concrete floor beneath thoroughly cleansed.

(c) Semicircular or V-shaped gutter drains shall be constructed in such stables in such manner that the gutter shall be placed so as to receive all liquid matter from each stall. All openings from drains into sewers shall be protected by a metal grating having openings not more than one-half (1/2) inch between the gratings.

(d) Each manger shall be constructed so as to have a slope of two (2) inches toward the bottom, shall be covered with tin or zinc and shall be at least eighteen (18) inches deep to avoid spilling of food.

(e) All feed bins shall be constructed of cement, stone, metal or wood, and with close fitting doors. If constructed of wood the bins shall be lined or covered with metal and the whole so constructed so as to prevent the ingress or egress of rats. All grain, malt and other animal food, except hay, stored or kept in any stable, must be kept in such feed bins, said feed bin must be kept closed at all times, except when momentarily opened to take food therefrom, or when same are being filled. No feed shall be scattered about such stable or bin and all such food found on the floor or in the stalls of said stable shall be removed daily and so disposed of so as not to be accessible to rats. No foodstuffs intended for or susceptible of human consumption shall be kept or stored in any stable or any other place where animals are kept.

Section 9.—That the construction and materials used in rat-proofing shall conform to the building code of the city of Galveston, except and only in so far as the same may be modified herein.

Section 10.—That all accidental and unnecessary spaces and holds, ventilators and other openings other than doors and windows in every building, outhouse and other super-structure in the city of Galveston shall be closed with cement mortar or other material impervious to rats, or screened with wire having not more than one-half (1/2) inch mesh, as the case may require, and all wall spaces shall be closed with cement mortar or other material impervious to rats, which closure shall extend upward the full thickness of the walls and shall extend upward at least twelve (12) inches above the floor level and the whole closed in such manner as to prevent the ingress or egress of rats; provided, that, in all buildings, outhouses, and other super-structures of Class "A" and in all stables where there are any spaces in walls between the ceiling and floor or between the ceiling and the covering above it, said spaces shall be eliminated by the removal of said covering, or so closed with cement mortar, or other material impervious to rats, as to prevent the ingress and egress of rats; provided, that all such wall spaces shall be closed with cement mortar or other material impervious to rats, which closure shall extend the full thickness of the wall and shall extend upwards at least twelve (12) inches above the floor level.

Section 11.—That all premises, improved and unimproved and all open lots, areas, streets, sidewalks and alleys in the city of Galveston shall be kept clean and free from all rubbish and similar loose material that might serve as a harborage for rats and all lumber, boxes, barrels, loose iron and similar material that may be permitted to remain thereon, and that may be used as a harborage for rats shall be placed on supports and elevated not less than two (2) feet from the ground with a clear intervening space beneath to prevent the harboring of rats.

Section 12.—That all planking and plank walks on and in yards, alleys, alleyways, streets, sidewalks or other open areas shall be removed, and may be replaced with concrete, brick or stone, laid in cement mortar or cinders or the ground left bare.

Section 13.—That it shall be the duty of every owner, agent or occupant of each building, outhouse and other super-structure, stable, lot, open area and other premises, sidewalk, street and alley, in the city of Galveston to comply with all the provisions of this ordinance.

Section 14.—It is hereby made the duty of the commissioner of streets and public property and health officer, to enforce the provisions of this ordinance; provided, that no agent, owner, occupant or other person charged with the duty of complying with the provisions of this ordinance, as provided in Section 13, shall be liable for a violation thereof, as herein provided, until after the expiration of thirty days after written or printed notice shall be served upon such owner, agent or occupant, signed by the commissioner of streets and public property or health officer, which notice may be served personally, or by mail by depositing the same in a securely closed envelope or wrapper, postage prepaid, addressed to such owner, agent or occupant, at his last known place of residence, and proof of such service by mail shall be presumptive evidence of the service thereof, which notice shall designate the character of violation thereof and the location of the premises upon which violation of this ordinance is claimed to exist; provided, that where compliance with the terms of this ordinance is impossible for reasons beyond the control of such owner, agent and occupant, and for good cause shown, the commissioner of streets and public property and health officer may extend the time within which any such owner, agent or occupant may complete the work of complying with the provisions of this ordinance as specified in such notice.

Section 15.—That each day's violation of any provision of this ordinance shall constitute a separate and distinct offense.

Section 16.—That any person violating any of the provisions of this ordinance shall, upon conviction, be punished by a fine of not less than ten

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dollars nor more than twenty-five dollars for each offense.

Section 17.—All ordinances and parts of ordinances, in conflict herewith are hereby repealed.

Section 18.—This ordinance shall be in force and take effect upon and after due publication thereof.

I, John D. Kelley, secretary of the board of commissioners of the city of Galveston do hereby certify that the above and foregoing is a true and correct copy of an ordinance passed and adopted by the board of commissioners of the city of Galveston at a meeting held October 4, 1920, as the same appears on file in my office.

In testimony whereof I have hereunto subscribed my official signature and affixed the corporate seal of the city of Galveston this 5th day of October, A. D., 1920.

(SEAL.) JNO. D. KELLEY, Secretary Board of Commissioners of the City of Galveston. (rl)

LEGAL NOTICES.