

May 12, 1970

R. B. KENNEDY

3,511,252

DEVICE FOR WASHING PANS OR TRAYS

Filed March 26, 1968

2 Sheets-Sheet 1

FIG. 2

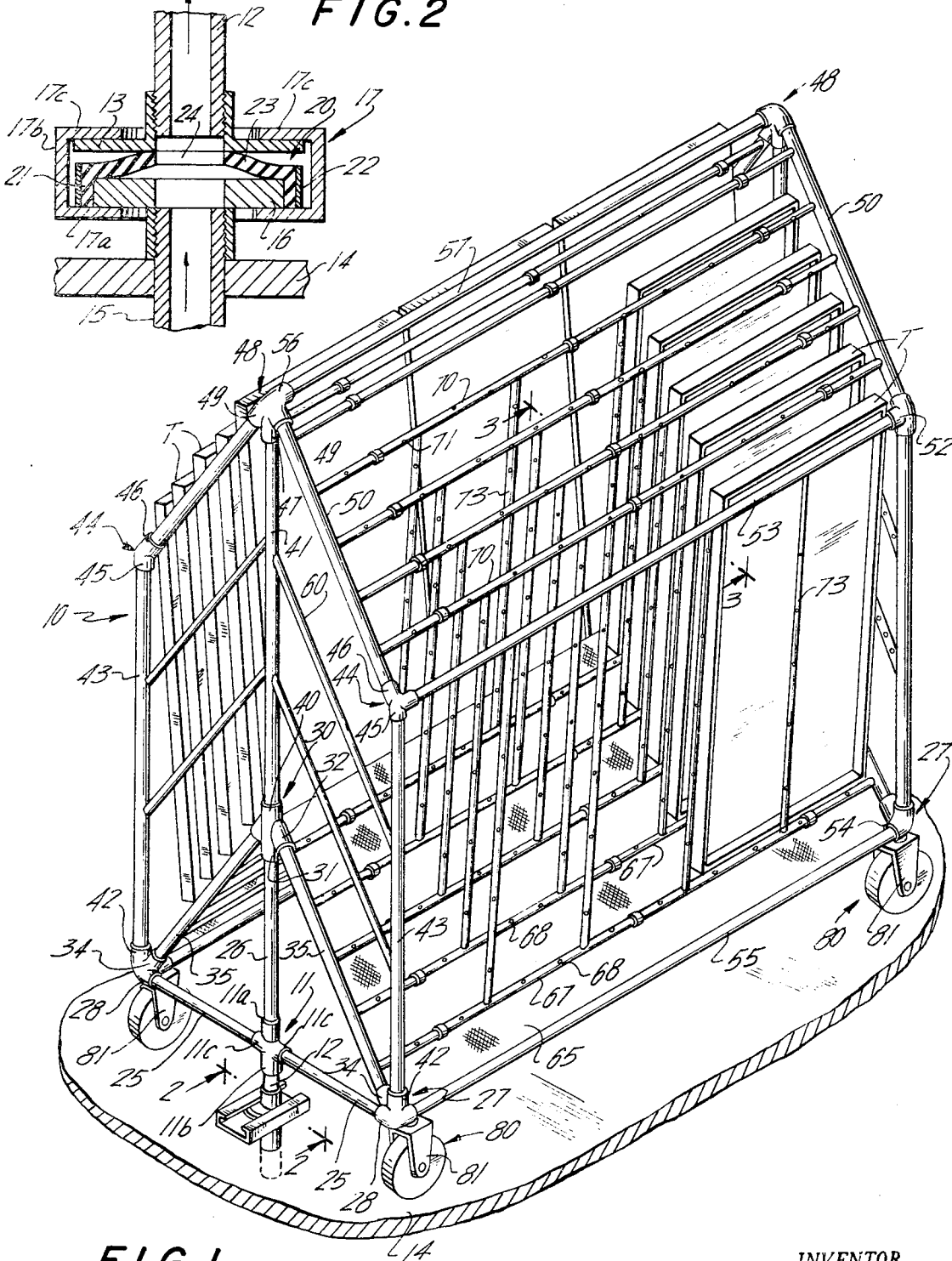


FIG. 1

INVENTOR.

RICHARD B. KENNEDY

BY

J. B. Felsher

ATTORNEY

May 12, 1970

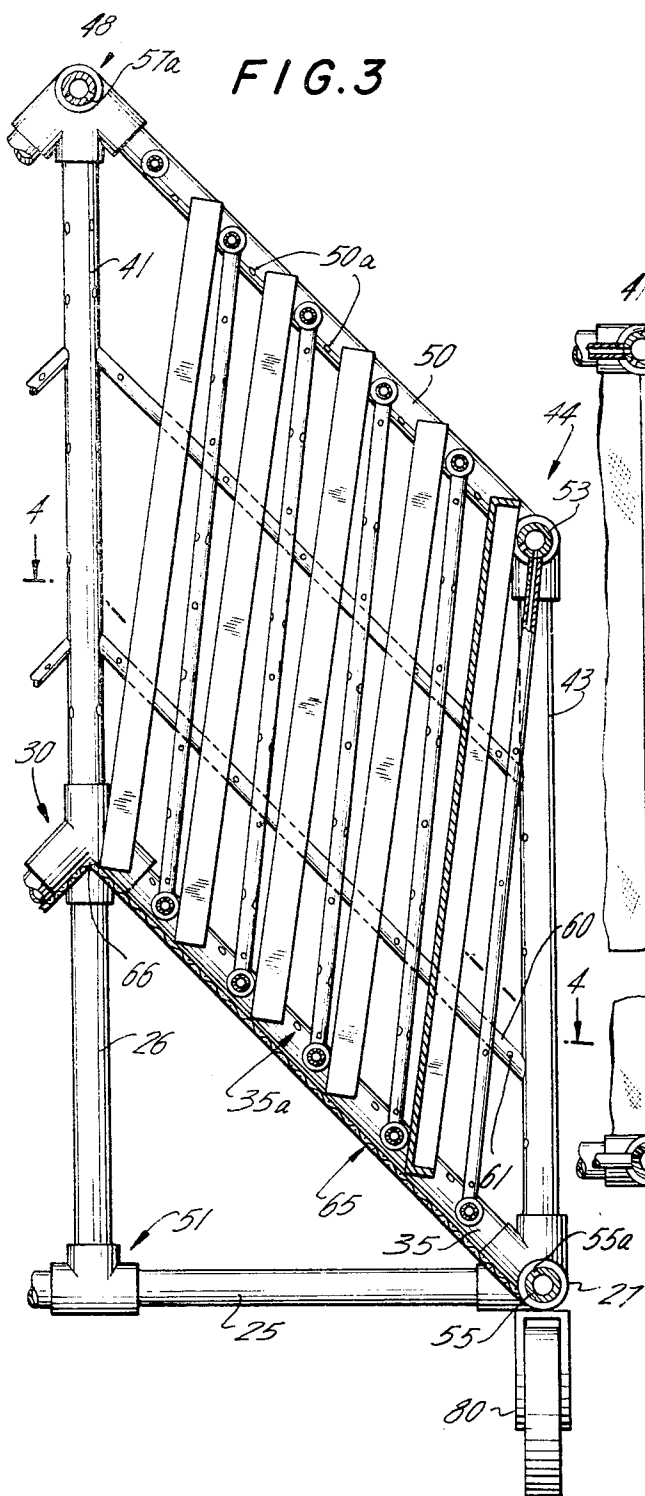
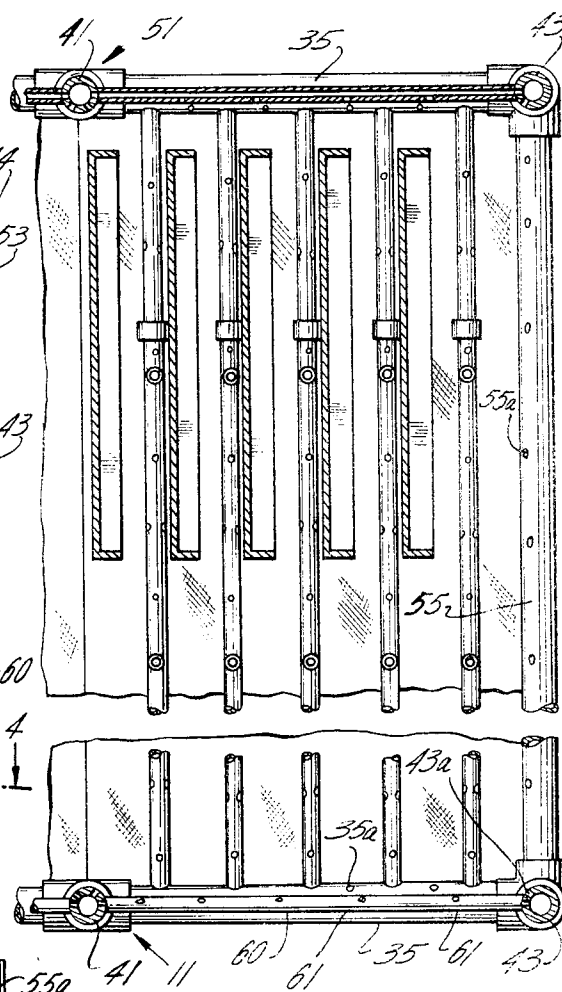
R. B. KENNEDY

3,511,252

DEVICE FOR WASHING PANS OR TRAYS

Filed March 26, 1968

2 Sheets-Sheet 2



INVENTOR

RICHARD B. KENNEDY

BY

J. B. Felsch

ATTORNEY

1

3,511,252

DEVICE FOR WASHING PANS OR TRAYS

Richard B. Kennedy, Ridgefield, Conn., assignor to Better Built Machinery Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 26, 1968, Ser. No. 716,144

Int. Cl. B08b 3/02, 9/00

U.S. Cl. 134—145

11 Claims

ABSTRACT OF THE DISCLOSURE

In this rack the pans or trays are supported in a sloping position. Between the pans, tubing containing spray openings are arranged to emit wash solutions to clean the pan surfaces. The spray tubing forms the frame as well as transmitting the washing fluid. The rack is transported on casters, for connection of the hollow tube washing system to a source of washing fluids. The supporting tubes transmit the washing fluid to areas of the adjacent trays for improved washing. A quick lock coupling is automatically connected from a water supply to the wash rack as it is pushed into the wash chamber. Some of the tubing in the rack is provided with spaced collars to space some surfaces of the pans from the tubes.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to washing racks which permit pyramiding of excreta trays, enabling the inner ones to receive streams of pressurized water.

Description of the prior art

In the prior art there are found wash racks which permit pyramiding of excreta trays. However, these racks are placed in washing chambers and receive water from spray means mounted on walls of the washing chamber. These racks do not receive water or washing solution through structural parts thereof. The washing solution in the prior art is external to the rack.

SUMMARY OF THE INVENTION

An object of this invention is to provide a rack of the character described in which the structural frame comprises tubes to receive washing solution and said tubes being provided with spray openings through which the washing solution is ejected.

Another object of this invention is to provide a rack of the character described in which the means for supporting the trays or pans comprises tubes to receive washing solution and said tubes being provided with spray openings through which the washing solution is emitted for washing the pans.

A further object of this invention is to provide a rack of the character described in which the structural parts of the rack comprise tubes to circulate the water to all parts of the rack and to the tubes, which are formed with spray openings.

A still further object of this invention is to provide a rack of the character described having a quick lock coupling to couple a supply of water or other washing solution to the rack automatically upon moving the rack to a predetermined position in a washing chamber and to automatically disconnect the water supply or uncouple the coupling when the rack is removed from washing position.

Yet a further object of this invention is to provide a strong, rugged and durable device of the character described which shall be relatively inexpensive to manu-

2

facture, easy to manipulate, and which shall yet be practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of invention will be indicated in the following claims.

BRIEF DESCRIPTION OF THE DRAWING

In the accompanying drawing, in which is shown an illustrative embodiment of this invention,

FIG. 1 is a perspective view of a washing rack or cart embodying the invention shown on a floor of a washing chamber;

FIG. 2 is an enlarged cross-sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is a cross-sectional view taken on line 3—3 of FIG. 1; and

FIG. 4 is a cross-sectional view taken on line 4—4 of FIG. 3.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now in detail to the drawing, 10 designates a cart or rack embodying the invention. The same comprises a cross-shaped pipe fitting 11 having an upwardly extending branch 11a, a downwardly extending branch 11b and oppositely extending horizontal branches 11c. Attached to the downwardly extending branch 11b is a pipe 12 (see FIGS. 1 and 2). Attached to the lower end of pipe 12 is an annular flange 13. Fixed to the bottom wall 14 of the washing chamber is an upwardly extending water or washing solution supply pipe 15 and attached thereto is an annular flange 16. The pipes 12 and 15 are coaxial and the flanges 13 and 16 are spaced apart one above the other.

Attached in any suitable manner to the underside of the flange 16 are a pair of similar, symmetrically disposed parallel channel shaped members 17, disposed in a direction in which the cart is moved into the washing chamber. The channel shaped members 17 comprise lower flanges 17a welded or otherwise fixed to the annular flange 16. Extending upwardly from the flanges 17a are webs 17b from which flanges 17c extend inwardly. The level of the flange 13 is such that as the cart is moved into the washing chamber the flange 13 will slip in between the channel 17 and beneath the flanges 17c. Mounted on the flange 16 is an annular gasket 20 of rubber or rubberlike material. The gasket 20 has an annular portion 21 surrounding the outer edge of the flange 16 and clamped thereto by an annular clamp 22, such as a hose clamp. Extending inwardly from the annular portion 21 of the gasket 20 is a gasket portion 23 loosely overlying the flange 16. The gasket portion 23 has a central opening 24 registering with the through openings in the pipes 12, 15. When water or washing solution under pressure is fed upwardly through the water supply pipe 15 the gasket portion 23 is pressed tightly against the underside of the flange 13 to seal the connection. When the rack is pulled out of place the seal is automatically broken and the rack is disconnected from the water supply.

Attached to the extension 11c of the cross-fitting 11 are horizontal pipes 25. Attached to the upwardly extending portion 11a of the fitting 11 is a vertical pipe 26. Attached to the outer ends of the pipes 25 are pipe fittings 27. The pipe fittings 27 have inwardly extending horizontal branches 28 connected to the outer ends of the pipes 25. At the upper end of pipe 26 is a pipe fitting 30 having a downwardly extending branch 31 and downwardly and outwardly inclined branches 32. The downwardly extending branch 31 is connected to the upper

end of the pipe 26. Pipe fittings 27 have upwardly and inwardly inclined branches 34 connected by upwardly and inwardly inclined pipes 35 to the branches 32 of the fitting 30.

Pipe fitting 32 is formed with an upwardly extending branch 40 to which is attached the lower end of an upwardly extending pipe 41. Pipe fittings 27 have vertical, upwardly extending branches 42 to which are attached a pair of similar, vertical pipes 43. Attached to the upper ends of the pipes 43 are pipe fittings 44. Each pipe fitting 44 has a downwardly extending branch 45 connected to the upper end of the pipe 43. The pipe fittings 44 have upwardly and inwardly extending branches 46. Connected to the upper end of the pipe 41 is a downwardly extending branch 47 of a pipe fitting 48. Pipe fitting 48 has downwardly and outwardly inclined branches 49. Branches 46 of pipe fittings 44 are connected to the branches 49 of the pipe fitting 48 by upwardly and inwardly inclined pipes 50 parallel to the pipes 35.

At the opposite end of the cart there is a frame structure similar to the frame structure described above except that instead of pipe fitting 11 there is provided a pipe fitting 51 which only has outwardly extending branches and an upwardly extending branch. The outwardly extending branches are connected to pipes 25 and the upwardly extending branch is connected to a vertical pipe 26. The pipes 25 are attached to pipe fittings 27 (FIG. 3) which are connected to upwardly extending pipes 43 and upwardly and inwardly extending pipes 35. The pipes 26 and 35 are connected to a pipe fitting 30 which in turn is connected by a pipe 41 to a pipe fitting 48. The upper ends of the pipes 43 are connected to pipe fittings 44 which in turn are connected by the pipes 50 to downwardly and outwardly extending branches of the pipe fitting 48. The pipe fittings 44 at the front and rear of the cart are formed with inwardly extending, horizontal branches 52 interconnected by horizontal pipes 53. The pipe fitting 27 at the front and rear of the cart have inwardly extending branches 54 interconnected by longitudinal horizontal pipes 55. The pipe fittings 48 at the front and rear of the cart have inwardly extending branches 56 interconnected by a longitudinal horizontal pipe 57. It will now be understood that water entering the supply pipe 12 will pass upwardly through the various pipes described above.

The pipes 35, 43, 50, 53, 55 and 57 are formed with spray openings 35a, 43a, 50a, 53a, 55a and 57a, respectively, to spray water inwardly toward the inside of the cart for washing trays mounted in the cart in the manner hereinafter appearing.

The pipes 41 are connected to the pipes 43 at both sides of the cart by upwardly and inwardly inclined smaller pipes 60 formed with spray holes 61 at their inner sides to spray water inwardly into the cart. The pipes 60 are parallel to the pipes 50 and 35 and they communicate with the interiors of the pipes 43 and 41. Attached to the pipes 35 and 55 of the cart is a metal mesh sheet 65 welded or otherwise attached thereto and forming a bottom wall to the cart. The mesh sheet 65 is of V-shaped cross-section with the apex 66 thereof at the level of the pipe fittings 30. The pipes 35 at the two ends of the cart are interconnected by horizontal pipes 67 formed with openings 68 so located as to spray water upwardly and to the sides. Any suitable number of spray openings may be provided and they may be arranged at different angles and longitudinally spaced apart. The upper pipes 50 at the ends of the cart are interconnected by similar horizontal pipes 70 formed with spray openings 71 to spray water downwardly and to the sides. The pipes 67 are located directly beneath the pipes 70 and they may be equally spaced apart. The pipes 70 communicate with the pipes 50 and the pipes 67 communicate with the pipes 35. The pipes 67 adjacent the pipes 55 are connected to the pipes 53 by upwardly and outwardly inclined pipes 73. The remainder of the pipes 67 are connected to pipes 70 by upwardly and outwardly inclined

pipes 73 parallel to the aforementioned pipes 73. Thus the pipes 73 which are connected at their lower ends to the second pipes 67 are connected at their upper ends to the first pipes 70 (closest to the pipes 53). The pipes 73 are equally spaced apart also. Thus the trays T which are set in between one row of pipes 73 and the next are supported in upwardly and outwardly inclined position. All the pipes 67, 70 and 73 have spray openings to spray the trays T which are inserted into the cart to be supported on the mesh bottom wall 65. Thus when water or other wash fluid enters the pipe 12 it will circulate through the pipes 25, 26, 41, 43, 53, 55 and 57 and from there into the pipes 60, 67, 70 and 73 to spray all over the trays, thereby providing an adequate wash.

It will now be understood that the trays T are supported in sloping position to allow for cleaning a load of pans or trays on the cart. The tubing between and around the pans contains spray openings to emit wash solutions to clean the pan surfaces. The spray tubing forms the frame of the rack as well as spray devices for the pans or trays.

The rack may be supported on casters 80 in the four corners of the rack. The casters may comprise brackets 81 welded or otherwise supported at the underside of the cart and carrying wheels.

The rack or cart may be transported on said casters or on conveyors or on any other suitable transporting means to a position in a washing chamber for connection to the supply tube 15. The supporting frame and the supporting tubes transmit the washing fluid to areas between adjacent trays for improved washing. In former constructions water was sprayed onto the rack at an overall load, so that water ran down between the trays or pans to flush them off. The present system using actual sprays on the cart results in a better wash and economy, since the pipes comprise both the structural part of the cart and the water spray system. While a quick lock coupling has been shown to supply water to the rack, any other suitable connection may be employed.

While the drawings show trays being washed in the present rack it will be understood that other difficult-to-wash items may similarly be washed with this improved rack.

It will thus be seen that there is provided an apparatus and article in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings, is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. A portable movable rack comprising a structural frame, said frame comprising piping having spaced spray openings, distributed to spray water on articles supported on said piping, said piping comprising means to support articles to be washed, said piping comprising longitudinal top and bottom horizontal pipes at each side of the rack formed with spray openings, interconnected by top and bottom transverse end pipes formed with spray openings, and by corner upright end pipes formed with spray openings, said transverse top pipes being interconnected by a series of spaced longitudinal coplanar horizontal pipes formed with spray openings, and said transverse bottom pipes being interconnected by a series of spaced longitudinal coplanar horizontal pipes formed with spray openings, all said series of pipes intercommunicating with said transverse top and bottom pipes.

2. The combination of claim 1, and series of upright pipes connecting pipes in the bottom series of pipes with pipes of the top series of pipes.

3. The combination of claim 2, each of said series of upright pipes being inclined upwardly and outwardly.

5

4. The combination of claim 3, said transverse top and bottom end pipes being inclined upwardly and inwardly.

5. The combination of claim 4, and said means including a perforated bottom wall below said bottom series of longitudinal horizontal pipes.

6. The combination of claim 1, the upright end pipes at each end being interconnected by transverse intermediate end pipes located between the top and bottom transverse end pipes.

7. The combination of claim 2, each series of upright pipes intercommunicating with said series of top longitudinal pipes and with said series of bottom longitudinal pipes, and said series of top longitudinal pipes, said series of bottom longitudinal pipes and each series of upright pipes being formed, with spaced spray holes.

8. The combination of claim 1, and a perforated bottom wall on said frame.

9. The combination of claim 1, said piping including a plurality of upwardly and outwardly inclined rows of pipes, said means including a perforated bottom wall disposed below said upwardly and outwardly inclined rows of pipes.

10. The combination of claim 9, said upwardly and outwardly inclined rows of pipes being formed with spaced spray openings.

11. A portable movable rack comprising a structural frame, said frame comprising piping having spaced spray openings, distributed to spray water on articles supported on said piping, said piping comprising means to support

6

articles to be washed, said piping including a plurality of upwardly and outwardly inclined rows of pipes, said means including a perforated bottom wall disposed below said upwardly and outwardly inclined rows of pipes, a row of pipes connected to the lower ends of said rows of upwardly and outwardly inclined pipes, and a row of pipes connected to said upper ends of said upwardly and outwardly inclined rows of pipes.

References Cited

UNITED STATES PATENTS

735,840	8/1903	Strelitzer	134—199
1,114,066	10/1914	Templeton	134—170
1,209,263	12/1916	Clauss.	
1,580,765	4/1926	Sander	211—127
2,407,533	9/1946	Brock	134—199
3,420,446	1/1969	Taudiere	239—450
2,786,480	3/1957	Hofer.	

FOREIGN PATENTS

28,027	8/1884	Germany.
419,402	10/1925	Germany.

DANIEL BLUM, Primary Examiner

U.S. Cl. X.R.

134—170, 199; 285—110, 325