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2,531,310

EXTENSIBLE GATE

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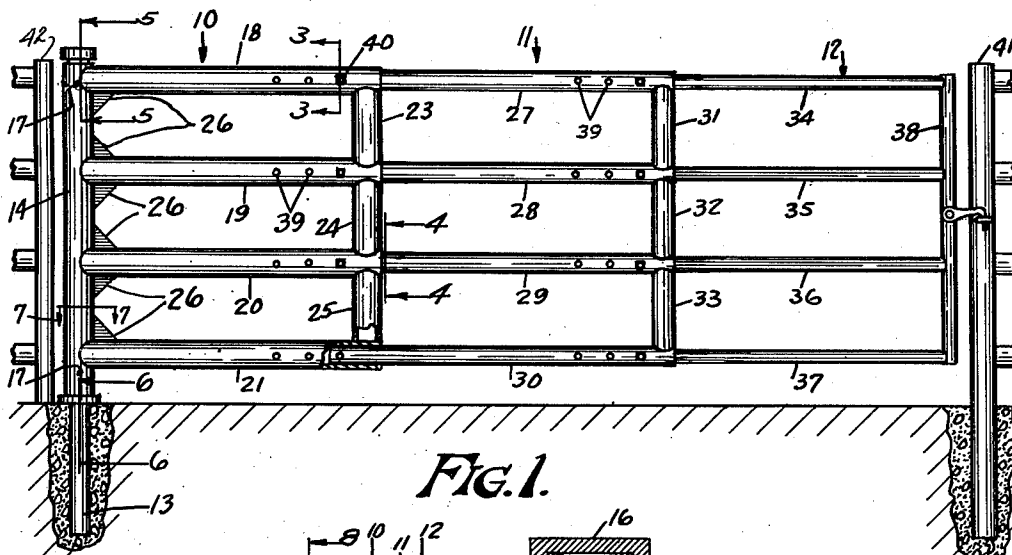


FIG. 1.

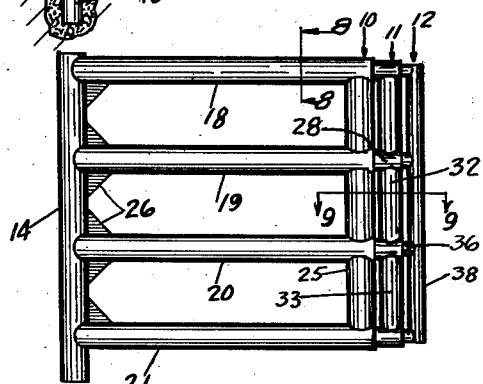


FIG. 2.

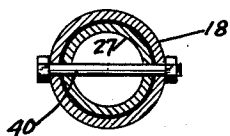


FIG. 3.

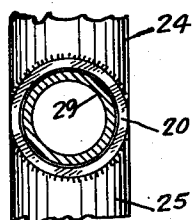


FIG. 4.

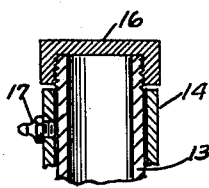


FIG. 5.

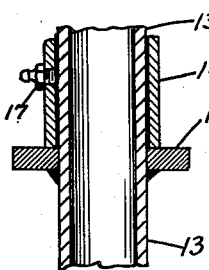


FIG. 6.

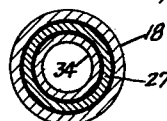


FIG. 8.

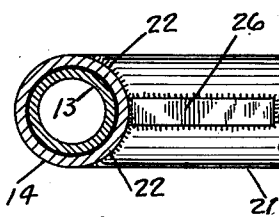


FIG. 7.

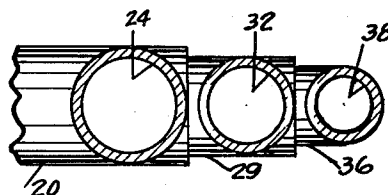


FIG. 9.

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## UNITED STATES PATENT OFFICE

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## EXTENSIBLE GATE

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8-Claims. (Cl. 160—223)

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This invention relates to improvements in gates for enclosures, such as farm gates, and more particularly to extensible gates which may be adjusted in length.

One of the objects of the invention is to provide a gate with telescopic extensible sections, the extensible sections all telescoping into the first, or hinged section, to minimize the gate size to facilitate shipping thereof.

Another object is to provide a gate of the foregoing type in which the length of the gate may be readily adjusted to fit between gate posts of an enclosure.

Another object is to provide a gate which is extremely strong in proportion to its weight.

Another object is to provide a gate of welded tube construction which has a minimum number of parts.

A further object is to provide a gate which may be economically manufactured.

Still further objects, advantages, and salient features will become more apparent from a consideration of the description to follow, the appended claims, and the accompanying drawing, in which:

Figure 1 is a side elevation of the gate shown in installed position between the ends of a fence;

Figure 2 is a side elevation of the gate in substantially contracted position as it would appear while being shipped or in storage;

Figure 3 is an enlarged section taken on line 3—3, Figure 1;

Figure 4 is an enlarged section taken on line 4—4, Figure 1;

Figure 5 is an enlarged section taken on line 5—5, Figure 1;

Figure 6 is an enlarged section taken on line 6—6, Figure 1;

Figure 7 is an enlarged section taken on line 7—7, Figure 1;

Figure 8 is an enlarged section taken on line 8—8, Figure 2; and

Figure 9 is an enlarged section taken on line 9—9, Figure 2.

Referring in detail to the drawing, and particularly Figure 1, the gate comprises in general, a plurality of sections 10, 11, and 12, section 10 being pivotally supported on a post 13, the lower end of which is embedded in concrete.

Section 10 comprises a vertical metal tube 14 which telescopes over post 13, as best shown in Figures 5 and 6, post 13 being provided with a collar 15, welded to the post, which provides a thrust bearing for tube 14. The upper end of post 13 is threaded and receives a pipe cap 16

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which closes the upper end of the post and also serves as an abutment for the upper end of tube 14. Fittings 17 are provided on the tube, these being of any well known type, for receiving the end of a grease gun so that grease may be forced between post 13 and tube 14. A plurality of horizontal tubes 18, 19, 20, and 21 are contoured at their left ends (Figure 1) to fit tube 14, as shown at 22 in Figure 7, and are welded thereto, with a weld which extends around the curved ends of the horizontal tubes, where they join with tube 14. Spacer tubes 23, 24, and 25 are similarly contoured at their upper and lower ends and are welded, respectively, to tubes 18 and 19, 19 and 20, and 20 and 21. Gusset plates 26 are welded to the various horizontal tubes and the vertical tube, in the arrangement shown in Figure 1. Alternatively, diagonal braces extending between opposite corners of the rectangles formed by the horizontal and vertical tubes may be employed.

Section 11 comprises horizontal tubes 27, 28, 29 and 30 which are of such size that they telescope, respectively, within tubes 18, 19, 20 and 21 of section 10. Spacer tubes 31, 32 and 33 are contoured at their upper and lower ends and welded to the horizontal tubes in the same manner as the vertical spacer tubes of section 10.

Section 12 comprises horizontal tubes 34, 35, 36 and 37 which are of such size that they telescope, respectively, within tubes 27, 28, 29 and 30. The right ends of these tubes are contoured and welded to a single vertical tube 38 in the same manner explained in connection with tubes 18 to 21 where they join tube 14.

A plurality of apertures 39 are provided in each of the horizontal tubes through which bolts 40 pass to thus secure the sections together in a desired position. In event the opening between fence posts is such that the gate does not fit as desired, with the apertures 39, as provided, cross holes such as 39 are merely drilled through the horizontal tubes for the reception of bolts 40.

The gate may be varied in size, as desired, and the number of sections increased or decreased. A gate which has been found very versatile is about five feet high and each section about six feet long, the tubing in the section 10 being about one and one half inches in diameter and about fourteen gage in thickness. The tubing in section 11 is, of course, slightly smaller in diameter, and the tubing in section 12 slightly smaller in diameter than that of section 11. This provides a gate which may be extended to about fifteen and one half feet. If greater length is desired

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more sections may be added, or alternatively, two gates may be provided, one hinged adjacent each fence post 41, 42. Thus, an opening of about thirty one feet between fence posts may be accommodated with two gates of the dimensions above given.

As shown in Figure 2, the gate may be telescoped to the length of section 10 plus the diameter of the vertical spacer bars on section 11 and spacer bar 38 on section 12, that is, the dimensions of the entire gate when contracted is only slightly longer than section 10. This facilitates shipping of the gate and also reduces shipping and storage costs since the bulkiness of goods is a factor of such costs. Also, a minimum number of parts are employed in the gate which reduces its weight and cost of manufacture.

While the various joints have been described as "welded," this term is to be construed in the claims in a generic sense and to include joining of the metal tubes by a dissimilar metal, for example, "brazing" when steel tubes are employed. Other modifications will occur to those skilled in the art and hence the specific structure illustrated is to be regarded as exemplary only and the scope of the invention is to be measured by the appended claims construed in the light of the spirit of the entire disclosure.

Having described the invention, what is claimed as new is:

1. An extensible gate comprising; a first section having a vertical tube at one end thereof, a plurality of spaced horizontal tubes, each having one end thereof abutting the vertical tube, a vertical spacer tube extending between the horizontal tubes adjacent their other ends, welds at the junctures of the various tubes, a second section having a plurality of tubes telescopically engaged within the horizontal tubes of the first section, a vertical spacer tube extending between the last named horizontal tubes, adjacent the ends thereof remote from the telescoped portions, welds at the junctures of the last named horizontal tubes and the vertical spacer tube, means for securing the horizontal tubes of the two sections together in a desired extended position, and means supporting the gate at one end thereof for pivotal movement about a vertical axis.

2. An extensible gate in accordance with claim 1 wherein said last named means comprises a post disposed within the first vertical tube of the first section.

3. An extensible gate in accordance with claim 1 comprising another section having a plurality of horizontal tubes telescopically engaged within the horizontal tubes of its adjacent section, and a single vertical tube extending between ends of the last named horizontal tubes, the ends of the latter being secured to the wall of the vertical tube by welds.

4. An extensible gate in accordance with claim 3 wherein each section is provided with at least three horizontal tubes.

5. An extensible gate comprising a rectangular section formed of horizontal tubes at its top and bottom edges and vertical tubes at its ends, the horizontal tubes being open at one end of the section, another section having tubes disposed within said horizontal tubes and projecting out-

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wardly beyond the open ends thereof, and vertical tube means extending between the outer ends of the horizontal tubes of the second section, all of the tubes having their axes disposed on the same plane, and means supporting the gate at one end thereof for pivotal movement about a vertical axis.

6. An extensible gate in accordance with claim 5 wherein the horizontal tubes of the two sections are secured together at a desired position by means extending through the walls of the horizontal tubes of the first section and which engage the walls of the tubes of the second section.

7. An extensible gate in accordance with claim 5 wherein the means supporting the gate at one end comprises a post disposed within a vertical tube at one end of the gate.

8. An extensible gate comprising a first section having a circular vertical tube at one end thereof, at least three horizontal circular tubes of the same diameter as the vertical tube having ends contoured to fit the wall of the vertical tube and abutting same, welds securing the tubes together in a position such that a tube is disposed at the top of the gate, one at the bottom, and another intermediate thereof, vertical spacer tubes having their ends contoured to fit the walls of the horizontal tubes and disposed therebetween abutting same adjacent the other end of the section, welds securing the spacer tubes to the horizontal tubes, a second section having horizontal circular tubes telescopically disposed within the horizontal tubes of the first section, their ends, outwardly thereof, being secured together by vertical spacer tubes like those of the first section, but of a diameter the same as the horizontal tubes of the second section, a third section having horizontal circular tubes telescopically disposed within the horizontal tubes of the second section, their ends, outwardly thereof, being contoured to fit the wall of a single vertical tube of the same diameter abutting same, welds securing the last named vertical tube to the ends of the last named horizontal tubes, means extending through the various horizontal tubes of the first and second sections, and the tubes of the second and third sections, securing the sections together in a desired position of adjustment, a tubular gate post disposed within the first named vertical tube of the first section upon which the gate may pivot, the post having a downwardly extending portion adapted to support it in vertical position, and a collar on the gate post abutting the lower end of the first named vertical tube forming a thrust bearing for the gate.

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