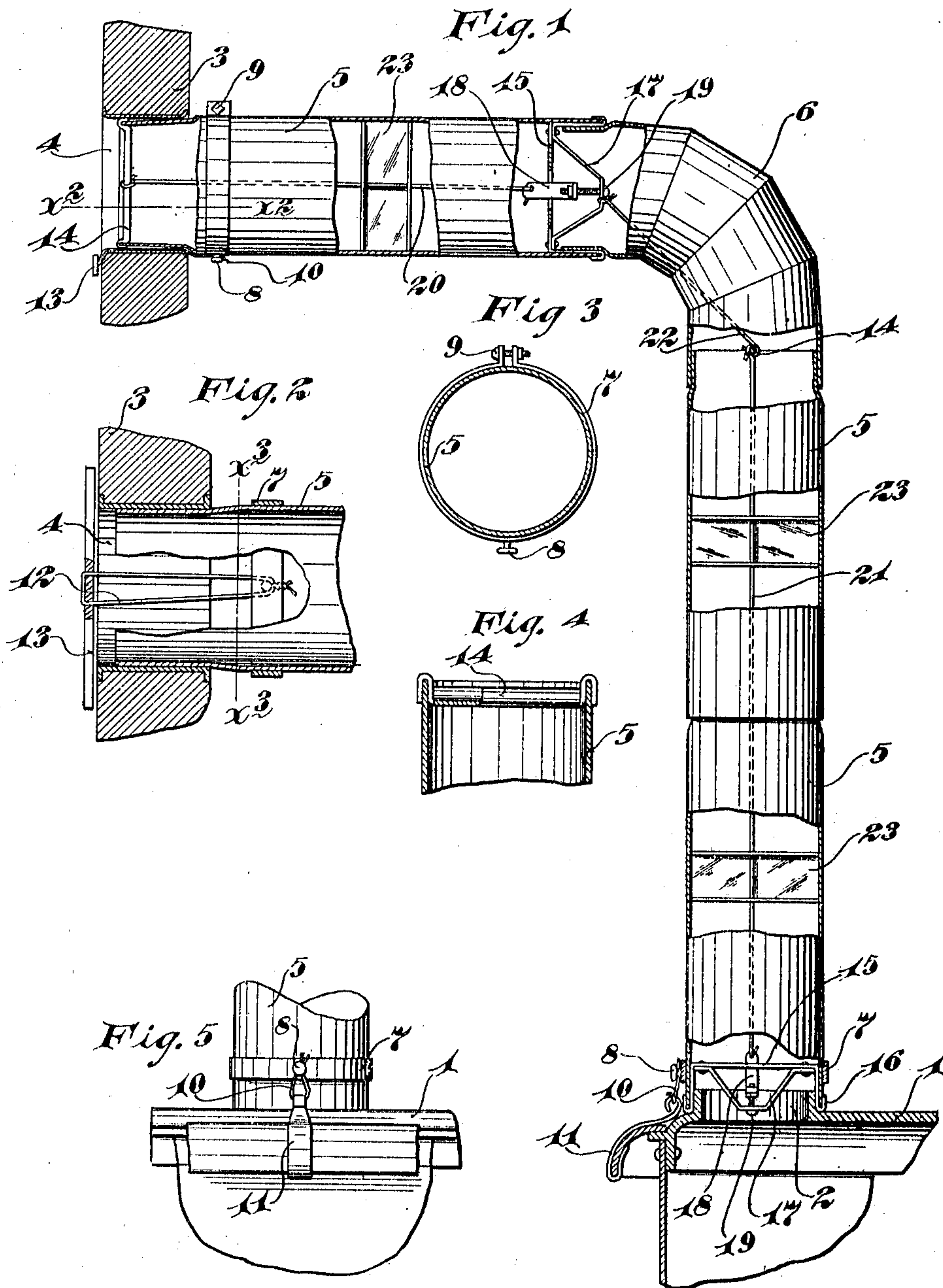


N. T. LJUNGBERG.
STOVEPIPE COUPLING.
APPLICATION FILED APR. 15, 1910.

980,304.

Patented Jan. 3, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE.

NELS T. LJUNGBERG, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-THIRD TO ARTHUR J. MOREN, OF ST. PAUL, MINNESOTA.

STOVEPIPE-COUPLING.

980,304.

Specification of Letters Patent.

Patented Jan. 3, 1911.

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To all whom it may concern:

Be it known that I, NELS T. LJUNGBERG, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Stovepipe-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved stove pipe locking device and, to this end, it consists of the novel devices and combination of devices hereinafter described and defined in the claims.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view partly in side elevation and partly in vertical section, showing my invention applied to a stove pipe; Fig. 2 is a horizontal section taken approximately on the line $x^2 x^2$ of Fig. 1; Fig. 3 is a section on the line $x^3 x^3$ of Fig. 2; Fig. 4 is a detail in vertical section, showing the end of the upper section of the stove pipe and showing one of the anchor bars applied thereto; and Fig. 5 is a fragmentary view in front elevation, showing the device for anchoring the lower end of the stove pipe to a stove.

It may be here stated that my improved locking device may be applied to connect the sections of a stove pipe to each other and to a chimney and to a stove without requiring perforation or cutting of any of the sections of the pipe.

In the drawings, the numeral 1 indicates an ordinary stove or range having the customary pipe thimble 2. The numeral 3 indicates a portion of a chimney having the customary pipe thimble 4 set into the same.

The numeral 5 indicates the straight sections and the numeral 6 the elbow section of the stove pipe. The lower end of the lowermost of the upright pipe sections is telescoped in the customary way onto the stove thimble 2, while the projecting and contracted end of the upper or horizontal extended pipe section is telescoped into the thimble 4 of the chimney.

A split clamping band 7, provided with a headed stud 8 and a tightening bolt 9, is applied to the lower end of the lowermost

stove pipe section and the stud 8 thereof is connected, by a short twisted piece of wire 10, to the looped upper end of an anchoring bracket or clip 11, the hooked lower end of which is applied to the projecting flange of the stove. Another clamping band of identically the same construction is applied to the horizontal section of the stove pipe closely adjacent to the chimney, and the stud 8 thereof is connected, by a twisted wire loop 12, to an anchoring bar 13 that engages the inner side of the chimney and is of such length that it cannot be drawn laterally through the thimble 4.

A small anchoring bar 14 is extended diametrically across the contracted inner end of the upper or horizontal stove pipe section 5 and is detachably connected thereto by hooked ends which engage the adjacent edge of the said pipe section. Another anchoring bar of identically the same construction is applied to the lower end of the elbow 6.

An adjustable anchoring bar is applied to the extreme lower end of the lowermost of the upright pipe sections 5, and another adjustable anchoring bar of the same construction is applied to that end of the horizontal pipe section which is telescoped over the contracted horizontal upper end of the elbow 6. Each of these adjustable anchoring bars comprises a small and light metal bar 15 that is provided with quite long and parallel hook ends 16 and an intermediate truss 17. A small draw bar 18 works through the bar 15 and is adjustably secured to the truss 17 by an adjusting screw 19. The hooked ends 16 are telescoped into and engage with the ends of the pipe section and elbow to which they are applied. A draw wire 20 extends axially through the upper or horizontal portion of the stove pipe and connects the central portion of the upper anchor bar 14 to the projecting end of the draw bar 18. An oblique wire 22 connects the truss 17 of the upper adjustable anchor bar to the central portion of the lower anchor bar 14. A wire 21 similar to the wire 20 extends axially through the upright portion of the stove pipe and connects the central portion of the lower or horizontal anchor bar 14 to the upper end of the lower draw bar 18. In this way, all of the sections of the stove pipe are rigidly secured together and are anchored to the chimney and to the

stove. By adjustments of the screws 19, the tension under which the pipe sections will be drawn together may be varied and the said pipe sections may be drawn together or telescoped until they form tight joints.

To assist in keeping straight the long vertical and horizontal pipes, light truss bars 23 are extended diametrically within certain of the pipe sections and the draw wires 20 and 21 are passed through the central portions thereof so that the said truss bars and wires form a sort of a stiffening truss within the pipe. Wire is employed to connect the distant anchor bars, but any metallic tension member would be the equivalent of a wire. It is, of course, evident that the wire 20 must be properly adjusted by means of the screw 19 before the elbow 6 is placed in position, or, if desired, the order of the anchor bar 14 and bar 15 may be reversed in order to bring the adjusting screw 19 at the outer end of the horizontal pipe section where it could be easily reached for the purpose of adjustments without disconnecting the elbow 6.

In practice, the efficiency of the device above described has been demonstrated. It may be very quickly and easily applied to any stove pipe and has the advantage over other devices for this purpose in that it may be contained within the pipe and may be applied without perforating or cutting any of the pipe sections.

What I claim is:

1. The combination with connected pipe sections, of anchor bars applied to the ends of certain of said sections, truss bars located within and extending diametrically across certain of said pipe sections, and a wire connecting said anchor bars and truss bars and

coöperating therewith to hold the pipe sections together and properly alined, substantially as described.

2. The combination with connected pipe sections, of anchor bars extended diametrically across the ends of certain of the pipe sections and having hooked ends directly engaging the adjacent edges thereof and loosely seated thereon, the body portions of said anchor bars being located inward of the ends of the pipe sections to which they are attached to permit the telescoping of connected pipe sections, and a wire extending within said pipe sections and connecting the distant anchor bars and coöperating therewith to hold the pipe sections together, substantially as described.

3. The combination with connected pipe sections, of anchor bars extended diametrically across the ends of certain of the pipe sections and having hooked ends directly engaging the adjacent edges thereof and loosely seated thereon, the body portions of said anchor bars being located inward of the ends of the pipe sections to which they are attached to permit the telescoping of connected pipe sections, a wire extending within said pipe sections and connecting the distant anchor bars and coöperating therewith to hold the pipe sections together, and means applied to one of said bars for adjustably drawing said wire, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

NELS T. LJUNGBERG.

Witnesses:

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HARRY D. KILGORE.