

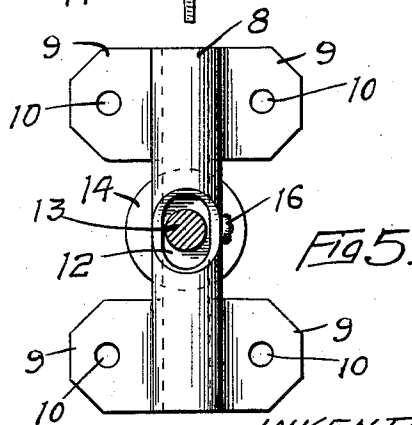
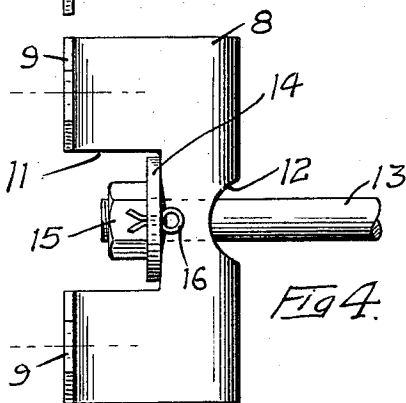
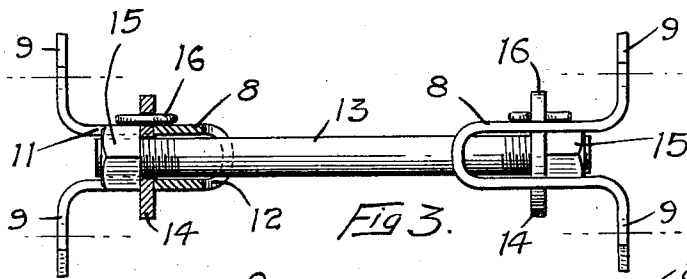
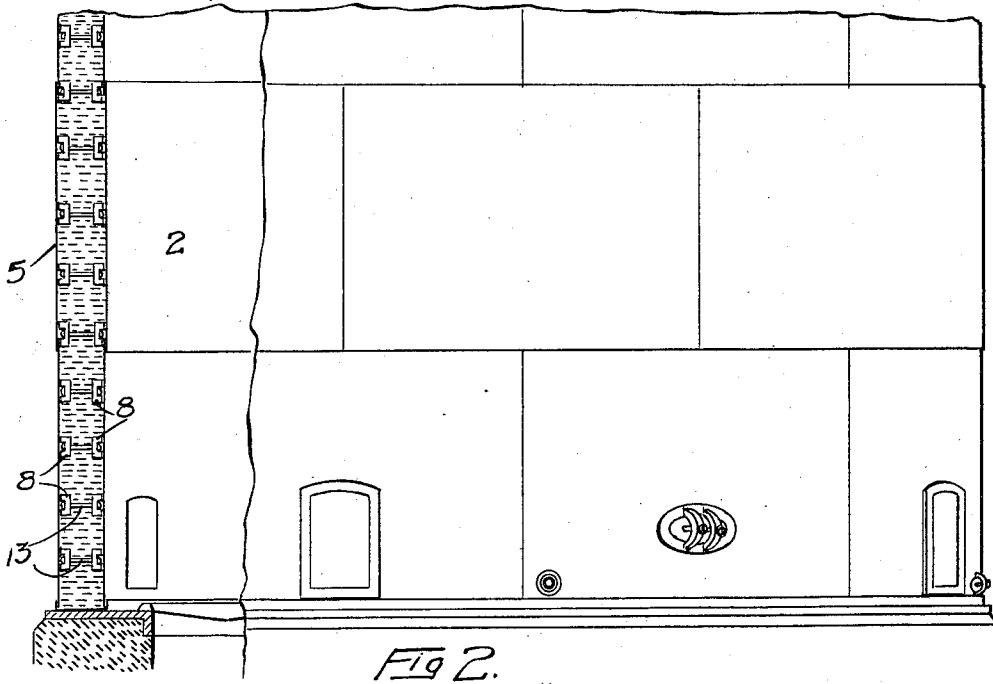
W. BROS.
STAY BOLT.

APPLICATION FILED JAN. 29, 1912.

Patented Feb. 4, 1913.

2 SHEETS—SHEET 2.

1,052,213.



WITNESSES
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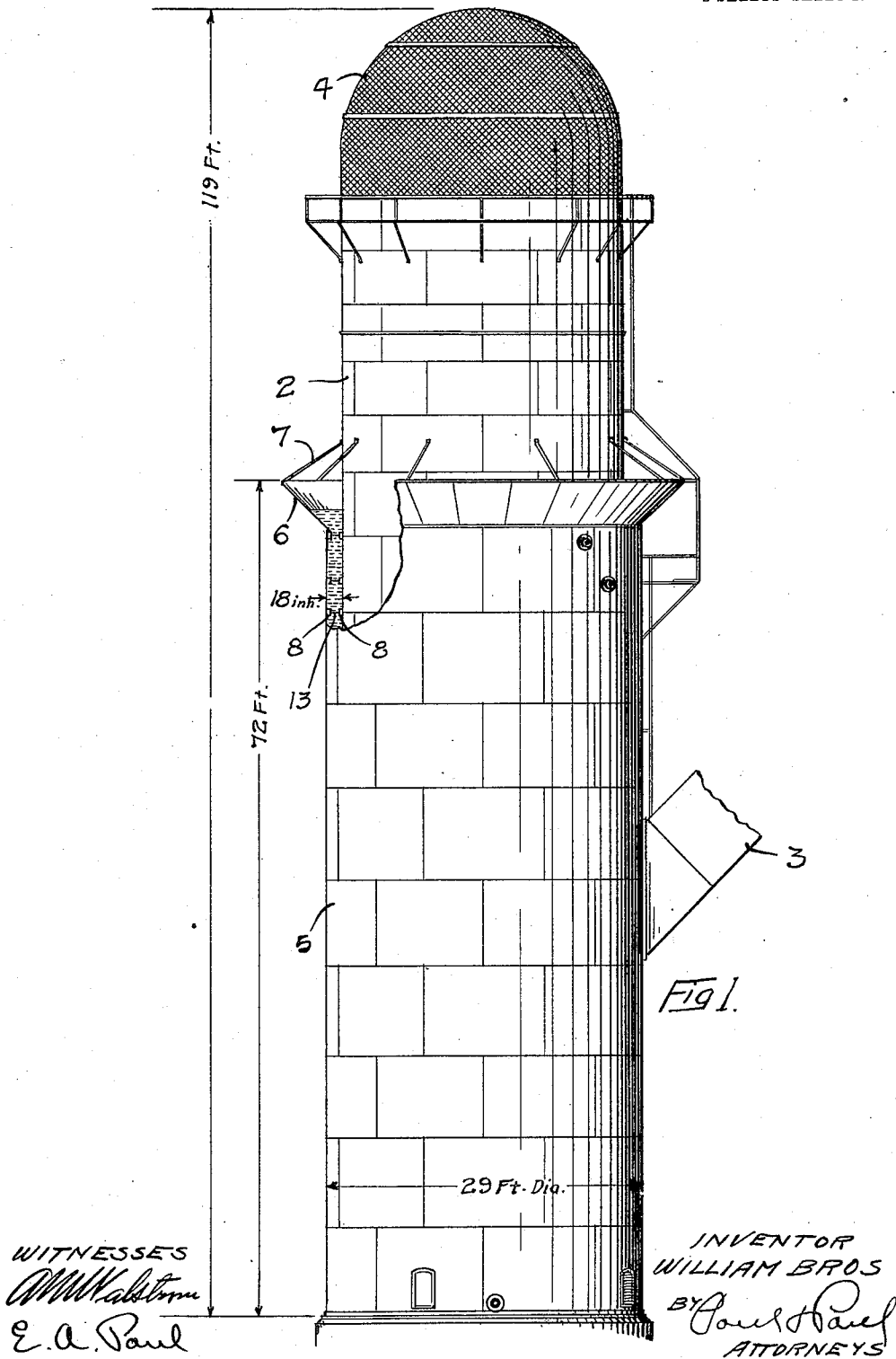
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UNITED STATES PATENT OFFICE.

WILLIAM BROS, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO WM. BROS BOILER & MFG. CO., OF MINNEAPOLIS, MINNESOTA, A CORPORATION.

STAY-BOLT.

1,052,213.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed January 29, 1912. Serial No. 674,070.

To all whom it may concern:

Be it known that I, WILLIAM BROS, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful Improvements in Stay-Bolts, of which the following is a specification.

My invention relates to stay-bolts adapted for use generally where a device of this kind may be employed, but particularly designed for securing the jacket and walls of a refuse burner together to hold them in proper relation to one another under all conditions.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a side elevation of a refuse burner illustrating my invention for tying the wall of the burner and the jacket together, Fig. 2 is a detail view, partially in section, showing the preferred location and arrangement of the stay-bolt between the wall of the burner and the jacket, Figs. 3, 4 and 5 and 6 are detail views of the stay-bolt and brackets for connecting the bolt with the walls that are to be secured together.

In the drawing, I have illustrated a refuse burner to the construction of which my improved stay-bolt is particularly adapted, though it may be used in various other places where a device of this kind is necessary or desirable.

2 represents a refuse burner of common construction, having a spout connection 3 and screen 4.

5 is a jacket surrounding the burner and spaced therefrom to form a water chamber in the usual way. The top of the jacket is provided with flaring walls 6 connected to the wall of the burner by stay-rods 7. Evidently in an apparatus of the height of this burner there will be an extreme pressure on the lower walls due to the weight of the volume of water above, and it is particularly important to provide stays of such construction that they will not only hold the walls of the burner and the jacket in their proper relative position but will adapt themselves to the varying conditions of temperature. These stay-bolts are illustrated in use in Figs. 1 and 2. In the detail views of these bolts 8 represents brackets,

U-shaped in cross section, preferably of wrought metal, having at each end outwardly turned flanges or feet 9 that are adapted to seat themselves against the wall or jacket and be secured thereto by bolts passing through holes 10 in said feet. A transverse recess 11 is formed in the walls of the brackets between the feet 9, and an elongated opening 12 is formed in the curved portion of the bracket communicating through the space between the side walls of the bracket with the recess 11. A stay-bolt 13 has its ends inserted into the openings 12 and washers 14 are mounted on the bolt and adapted to bear on the inner edges of the recess 11, being held in place by lock nuts 15. Cotter pins 16 are preferably provided in the washers to prevent rotary movement of the nuts 15. The elongated opening 12 allows the bolt to rock back and forth and compensate for the difference in expansion and contraction of the wall and the jacket. The other end of the bolt will be mounted in a similar manner in a corresponding bracket, which I have indicated by corresponding reference numerals. Any suitable number of these stay-bolts may be provided, according to the strain to which the walls or jacket may be subjected, and the purpose for which the apparatus may be used.

I claim as my invention:

1. A stay-bolt comprising brackets, U-shaped, substantially in cross section and having feet thereon for securing them to a wall, said brackets having openings in their curved portions and a bolt having its ends fitting loosely in said openings and provided with lock nuts which are seated against the side walls of said brackets.

2. A stay-bolt comprising brackets formed of blanks of sheet metal bent into a form U-shaped, substantially, in cross section and having feet for securing the brackets to a wall, said brackets having openings in their curved portions and transverse recesses in their side walls, a bolt having its ends fitting loosely within said openings and provided with washers and lock nuts which are seated against the inner edges of said recesses.

3. A stay-bolt comprising brackets having means for securing them to a wall and provided with openings, bolts fitting loosely within said openings and capable of rocking

therein, said bolts having washers and lock nuts on the ends thereof, said washers having seats on the walls of said brackets.

4. A stay-bolt comprising brackets having means for securing them to a wall, a bolt having its ends loosely mounted within openings in said brackets, the bearings of said ends in said brackets allowing said bolt to rock laterally therein and accommodate itself to the expansion and contraction of the walls whereto said brackets are secured.

5. A stay bolt comprising brackets, U-

shaped, substantially, in cross section and having means for securing them to a wall, said brackets having openings in their curved portions, and a bolt having its ends fitting loosely in said openings and provided with an adjusting means seated against the walls of said brackets.

In witness whereof, I have hereunto set my hand this 26th day of January, 1912.

WILLIAM BROS.

Witnesses:

GENEVIEVE E. SORENSEN,
EDWARD A. PAUL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."