M. MAHONEY.

STAY BOLT.

APPLICATION FILED AUG. 30, 1909.

969,383. Patented Sept. 6, 1910.

Fig. 1.

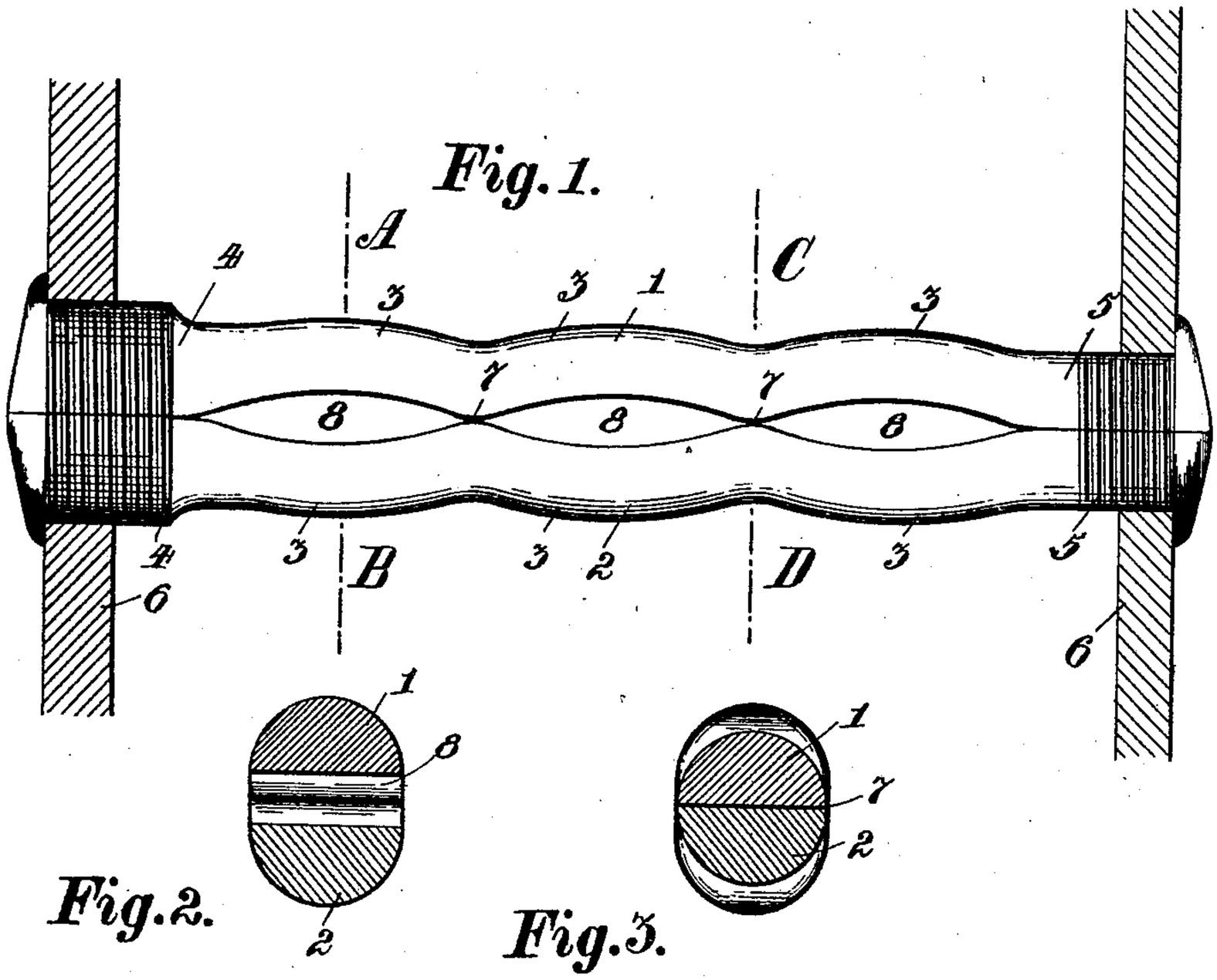


Fig. 2.

Fig. 3.

Fig. 4.

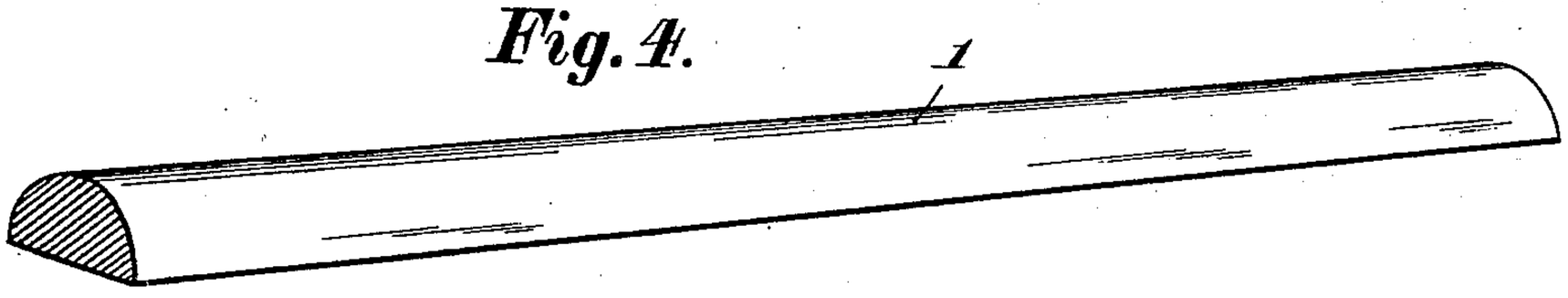
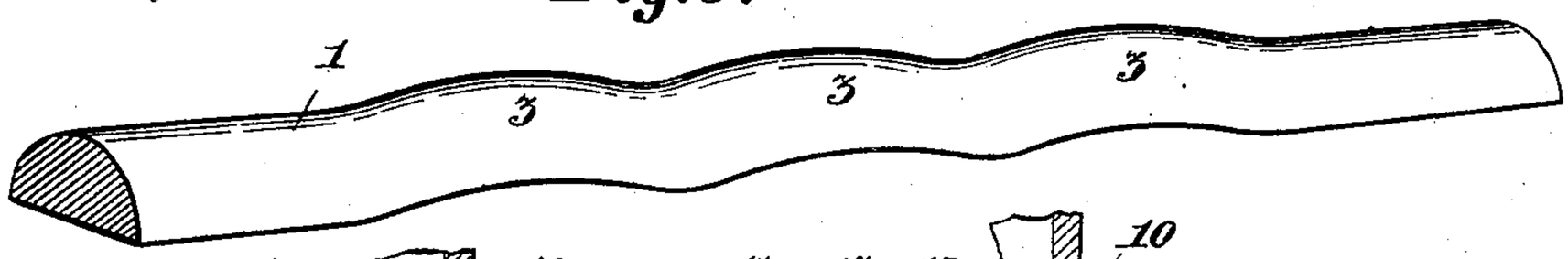


Fig. 5.



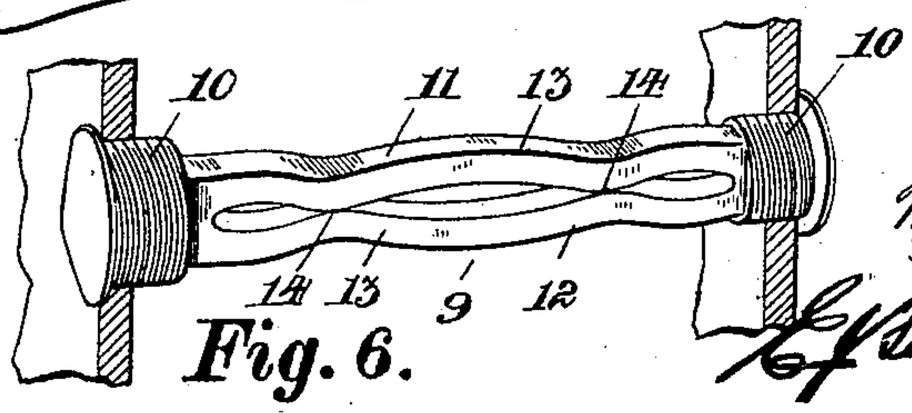


Fig. 6.

Witnesses.

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STAY-BOLT.

969,383. Specification of Letters Patent. **Patented Sept. 6, 1910.**

Application filed August 30, 1909. Serial No. 515,298.

To all whom it may concern:

Be it known that I, MYLES MAHONEY, a subject of the King of Great Britain, and resident of 1139 Delormier avenue, in the city and district of Montreal, in the Province of Quebec, in the Dominion of Canada, have invented certain new and useful Improvements in Stay-Bolts; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention relates to improvements in stay bolts, as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially in the novel construction whereby the tensile strain, produced by the expansion and contraction of the parts stayed, is relieved by the undulating form of the middle length of the bolt.

The objects of the invention are to devise a bolt which will accommodate itself to the distances between the plates stayed, varying according to the expansion and contraction of said plates, and to provide a simple and cheap construction, in that type of bolt.

In the drawings, Figure 1 is a side elevation of the bolt showing the plates stayed in cross section. Fig. 2 is a cross sectional view of the bolt on the line A—B in Fig. 1. Fig. 3 is a cross sectional view of the bolt on the line C—D in Fig. 1. Fig. 4 is a perspective detail of the blank from which one portion of the bolt is made. Fig. 5 is a perspective detail of the blank formed up and ready for welding. Fig. 6 is a perspective view of the bolt formed up from a single piece of metal.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 and 2 are the parts comprising the bolt, each of said parts being preferably of semi-circular shape and formed longitudinally into the curved bends 3 between meeting ends 4 and 5, said parts being securely welded together at said ends. The end 4 is upset to enlarge it for the entrance hole in one of the metal plates 6 and both ends are threaded as customary. The parts 1 and 2 are preferably made of steel, though not necessarily a high carbon steel as a low carbon steel will be quite sufficiently resilient.

It will be noticed that the bends 3 correspond in the parts 1 and 2, said bends meeting at 7 and forming a series of arc-shaped openings 8 between the welded ends, consequently on the expansion of the metal plates 6, the tensile strain on the bolt is relieved by the temporary straightening out of the bends 3, said bends returning to their original curved state on the contraction of said plates 6.

The undulating form of the bolt between the welded ends is, of course, a very salient feature of the invention as also the arrangement of the parts for construction purposes, as it will be readily seen that these bolts can be made from long rods previously prepared in the undulating form and subsequently cut and welded thereby producing a flexible bolt having no objectionable features in regard to the cost of production.

In the present specification and drawings, the bolt has been shown in two parts longitudinally divided and joined at the ends, but it must be understood that without departing from the spirit of my invention, it may be made in more than two parts.

In Fig. 6, 9 is the middle length of the bolt extending between the plates stayed from the solid threaded ends 10, each of said ends 10 being integral with the middle length 9. In the construction of the bolt illustrated in Fig. 6, the middle length 9 is shown as rectangular though it may be of any suitable shape and said middle length 9 is slotted longitudinally, thus dividing it into two parts, 11 and 12, these parts 11 and 12 are formed into curved lengths 13, which preferably meet at 14 similar to the construction shown in Fig. 1.

The spring form of the undulating middle length of the bolt between solid straight ends is that part of the construction which provides for the flexibility of the bolt in the tensile strain as before explained, but it will be seen that this middle length may be varied in construction considerably and yet retain the chief characteristics of this invention.

What I claim as my invention is:

1. In a stay bolt, a middle length extending between suitably formed ends and separated for the greater part of its length into parts forming spaces therebetween for the purpose of the expansion and contraction of said parts.

2. In a stay bolt, a plurality of parts of part circular shape and in longitudinal arrangement in relation one to the other, said parts being securely welded together to-

ward and at the ends and having a plurality of curved bends between said welded ends, said bends forming arc shaped openings between the parts in the middle length of the bolt.

3. In a stay bolt, a pair of semi-circular parts securely welded together toward and at the ends, having one end thereof upset and enlarged and both ends suitably threaded, said parts being longitudinally waved in the middle length between the said joined ends and meeting at points intermediate of said middle length.

Signed at the city and district of Montreal, Province of Quebec, in the Dominion of Canada, this 25th day of August, 1909.

MYLES MAHONEY.

Witnesses:

H. DAVIS,

G. H. TRESIDDER.