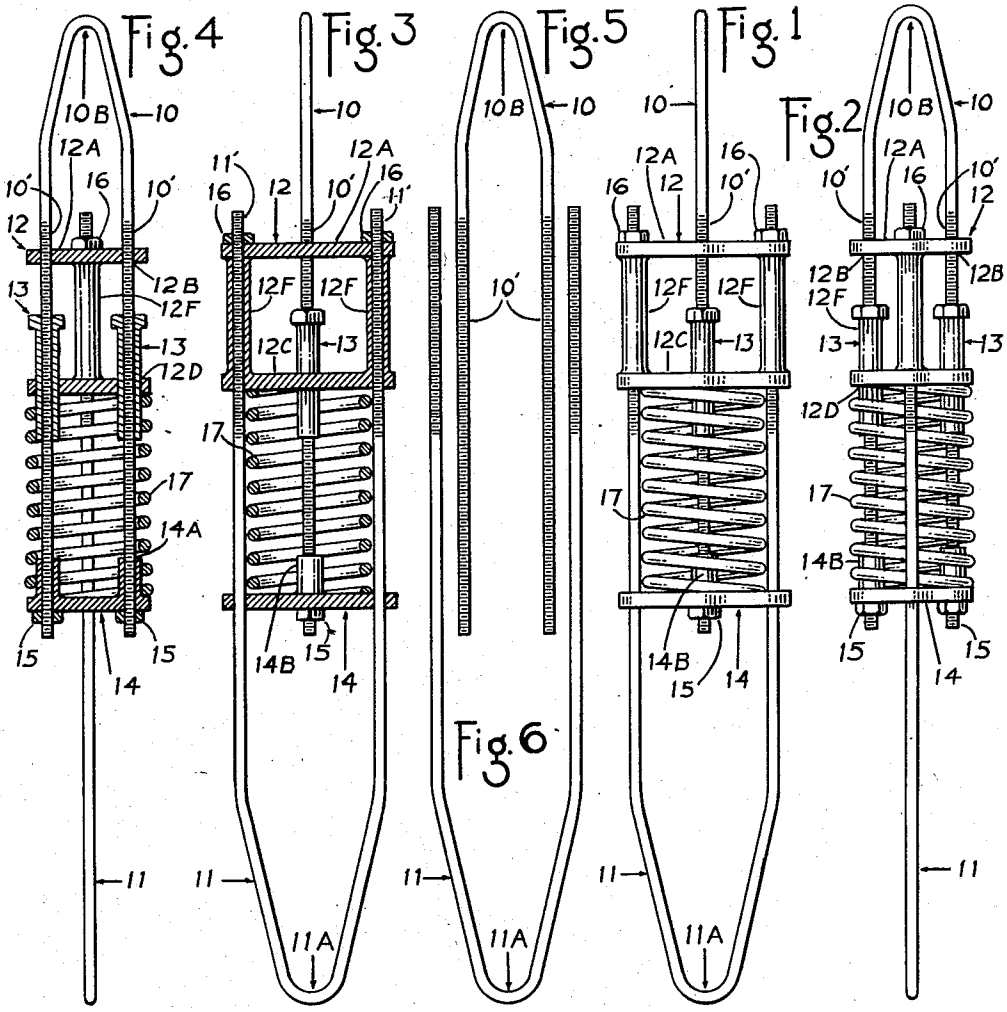
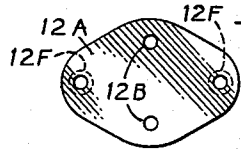
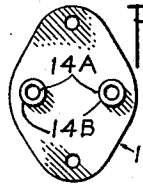
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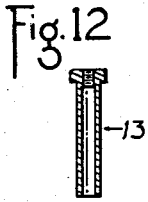
SPRING HANGER

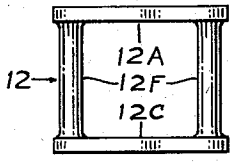
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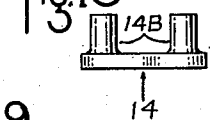




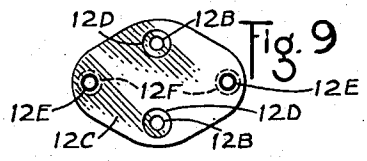












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SPRING HANGER

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3 Claims. (Cl. 248—54)

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This invention relates to spring hangers and more especially to one particularly adapted for supporting steam pipes and the like in commercial and industrial plants where strength, durability and safety are important factors, and which receive primary consideration in such hangers.

In steam pipe and other essential pipe installations, special care and skill are required in order to meet the strict regulations and laws of city and State building inspection, fire prevention regulations, etc. And in line with such laws and regulations it is frequently necessary to provide precise drainage and many other essential features of building structure, in which the various pipe installations are of vital importance. Now, in view of the foregoing, our improved device contrives to enable substantially large industrial installations of piping with a minimum of time and labor, due to its instant adjustability, and its simple and practical construction, which, coupled with its low manufacture and production cost, has rendered it a most desirable and economical improvement in the plumbing and steamfitting trade.

With the foregoing described and other objects and advantages to be attained as will hereinafter appear, the invention consists in the parts and novel construction and arrangement thereof as hereinafter described and set forth in the appended claims.

In the accompanying drawings, illustrative of a practical but non-limiting exemplification of the invention,

Figure 1 is an elevational assembly view.

Figure 2 is an elevational view taken transversely of Fig. 1.

Figure 3 is a sectional view taken centrally through Fig. 1.

Figure 4 is a sectional view taken centrally through Fig. 2.

Figure 5 is an elevational view of the upper yoke member.

Figure 6 is an elevational view of the lower yoke member.

Figure 7 is an elevational view of the frame unit.

Figure 8 is a top plan view of Fig. 7.

Figure 9 is a bottom plan view of Fig. 7.

Figure 10 is an elevational view of the plate unit.

Figure 11 is a top plan view of Fig. 10.

Figure 12 is a sectional view of the tie sleeve member, and,

Figure 13 is a bottom plan view of Fig. 12.

A clear example of the practical operation of our improved spring hanger for steam pipes and the like may be had from reference to the drawings in detail, referring first to Figures 1, 2, 3 and 4 in which are designated generally by numerals the upper yoke 10, the lower yoke 11, the frame unit 12, the tie-sleeve 13 and the plate unit 14.

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The substantially U-shaped upper yoke member 10, being adapted for inverted position in assembly, has the threaded portions 10' which slidably engage the apertures 12B in the upper plate portion 12A of the frame unit 12, to extend thence downwardly and threadably engage the upper hexagonally-shaped portion of the tie-sleeves 13 (which slidably engage the apertures 12D in the lower plate portion 12C of the frame unit 12), and finally engage by slip-fit the apertures 14A in the upwardly extending boss portions 14B of the plate unit 14, the lower end of said threaded portions 10' threadably engaging the nut members 15 which bear against the bottom face of the plate unit 14 to support it, in assembly.

In right-angularly disposed co-operative action and association with the upper yoke member 10 is the substantially U-shaped though somewhat wider lower yoke member 11 having the threaded portions 11', said threaded portions 11' of the yoke member 11 and the threaded portions 10' of the yoke member 10 being adapted to face each other in assembly, in that the threaded portions 11' extend upwardly and slidably through the apertures 14B in the plate unit 14 and into slip-fit through engagement with the apertures 12E in the spacer sleeve portions 12F of the frame unit 12 to be secured in such engagement by the nut members 16 threadably engaging the upper end of the threaded portions 11' of said yoke member 11, said nut members 16 bearing against the upper face of frame unit 12.

The helical spring 17 is mounted between the opposing faces of the lower plate portion 12C of the frame unit 12 and the plate unit 14, being held therebetween and secure against lateral movement by means of the spaced apart threaded portions 10' of the yoke member 10 positioned inwardly of the helical spring and by the spaced apart threaded portions 11' positioned outwardly of said helical spring 17 and right-angularly arranged with respect to said threaded portions 10', thus forming a resilient cushion for a pipe or pipes resting in the crotch 11A of the yoke member 11 in use.

It is obvious too, that in hanging a group of parallelly arranged pipes, the bulk of which would be too large to enter the said crotch 11A, a pair

of pipes in our improved spring hangers may be suspended in alignment laterally of the group of pipes, with a cross-bar spanning the pair of hangers by resting in said crotch 11A of each hanger, and the group of pipes resting on said cross bar.

In actual use our improved spring hanger is suitably suspended by the inverted crotch 10B of the yoke member 10, the pipe or pipes being cradled in the crotch 11A of the yoke member 11. It is obvious that in order to adjust the level at which the pipe may be suspended, it is necessary only to move the nut members 16 either upwardly or downwardly on the threaded portions 11' of the yoke member 11, and then move the nut members 15 upwardly on the threaded portions 10' of the yoke member 10, thus compressing the helical spring 17 between the opposing faces of the lower plate portion 12C of the frame unit 12 and the plate unit 14, to fix the degree of resiliency desired, and at a suitable level.

It is also pointed out as obvious that the frame unit 12 in the structure and arrangement shown and described is cushioned on the helical spring 17 which is supported on the plate unit 14, and that the frame unit 12 slidably and vertically engages the said threaded portions 11' and the threaded portions 10' (within the tie-sleeves 13) to effect such resiliency.

Now, in the event that it becomes necessary to remove the helical spring 17 for any reason, it is necessary only to move the tie-sleeves 13 upwardly on said threaded portions 10' to contact the lower face of the upper plate portion 12A of said frame unit 12, thus sustaining the position of the frame unit, while the nut members 15 are removed from the lower ends of the threaded portions 10' which releases the plate unit 14 and permits the removal and replacement of the helical spring and at the same time holds the pipe load in its original position until the re-assembly operation is next completed, after which the tie-sleeves 13 are moved downwardly to their original posiiton, resulting in the accomplishment of the original position of the invention as a whole.

From the foregoing it is apparent that a very convenient, practical, and efficient spring hanger is produced, capable of easy adjustment and manipulation in use, and although the illustrated structure is a practical working embodiment of the invention, it is not a specific limitation, as modification and change is both possible and contemplated within the scope of the appended claims.

What is claimed is:

1. In a spring hanger of the type herein described comprising in combination a pair of oppositely facing substantially U-shaped threaded yoke members, a hollow frame unit and a plate unit slidably and co-operatively engaging said pair of yoke members, tie sleeve members mounted on said hollow frame unit and threadably engaging one of said yoke members, a helical spring member mounted between the lower face of said frame unit and the upper face of said plate unit and co-operatively there held against lateral displacement by means of one of said yoke members being positioned inside of the spring member and the other yoke member being positioned outside of the spring member.

2. In a spring hanger of the type herein described comprising in combination a pair of substantially U-shaped yoke members having threaded parallelly projecting prongs, the prongs on each of said yoke members being adapted to face those of the other, a substantially square-shaped hollow frame unit having upper and lower plate portions and spaced apart sleeve portions connecting said upper and lower plate portions, said sleeve portions extending below the lower plate portions, means on said hollow frame member for slidably engaging the prongs of one of said yoke members, a plate unit having upwardly projecting boss portions, means on said plate unit for mounting it beneath the frame unit for slidably engaging the same one of said yoke members, a helical spring mounted around the sleeve portions extending below the lower plate of the hollow frame unit and between the upwardly projecting boss portions on the plate unit, for compression between said frame unit and plate unit and held against lateral displacement of said yoke members, means on said frame unit and on said plate unit for slidably engaging the prongs of the other of said pair of yoke members, and thread means on said other of said pair of yoke members for engaging a pair of tie-sleeve members in spaced apart opposite position, means on one of the pair of yoke members for suitably mounting the invention to a suitable point of suspension, and means on the other one of said pair of yoke members for carrying a pipe or pipes for suspending the pipes at suitable heights in industrial plants and the like.

3. In a spring hanger of the type herein described comprising in combination a pair of substantially U-shaped threaded yoke members having parallelly projecting prongs threaded over part of their length, the prongs of each of said pair of yoke members adapted for face-to-face co-operative association with those of the other pair, a hollow substantially square-shaped frame unit comprising flat upper and lower plate portions and spaced apart and oppositely disposed sleeve portions between and connecting said upper and lower plate portions, an opening longitudinally through said sleeve portions for slidably engaging the prongs of one of said yoke members, a plate unit having openings in register with said openings in sleeve portions to slidably engage the prongs of the same one of said yoke members, a helical spring for compression between said frame unit and said plate unit, said spring being held against lateral displacement by said yoke members, apertures in said frame unit in register with apertures in said plate unit for slidably engaging the prongs of the other of said pair of yoke members for slidably engaging, and apertures in said frame unit for slidably engaging a pair of tie-sleeve members threadably mounted on said other of said pair of yoke members.

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