

R. W. EAMES.
CASING SWAGE.

APPLICATION FILED DEC. 18, 1909.

Patented Dec. 27, 1910.

3 SHEETS-SHEET 1.

980,079.

Fig. 1.

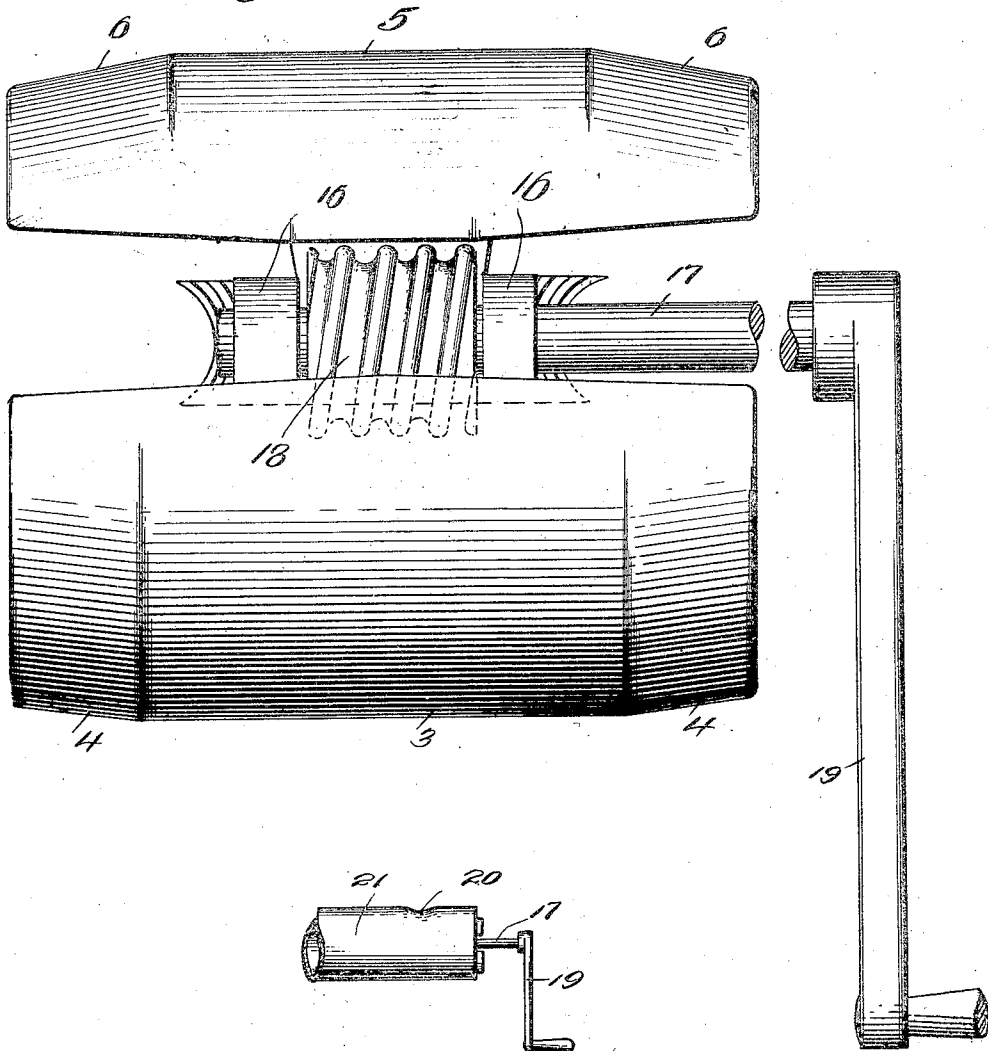


Fig. 4.

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Fig. 2.

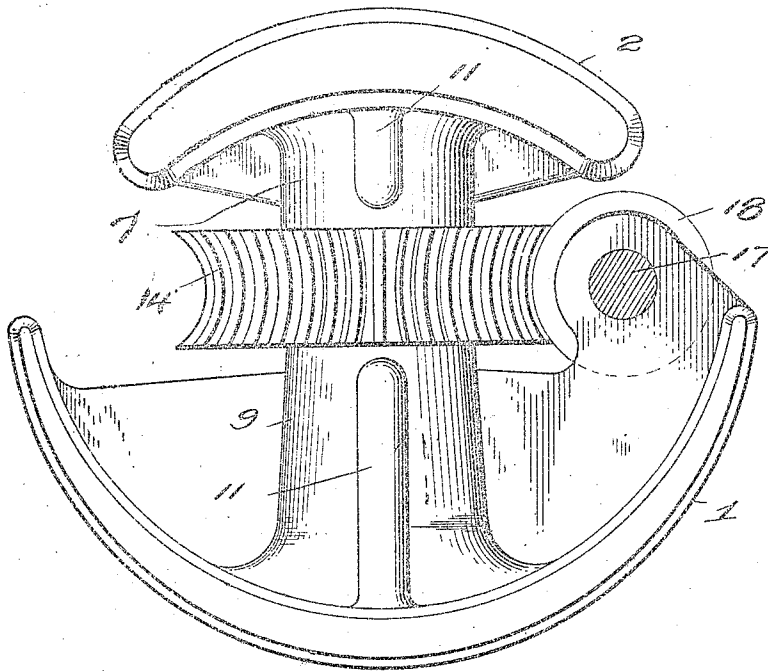
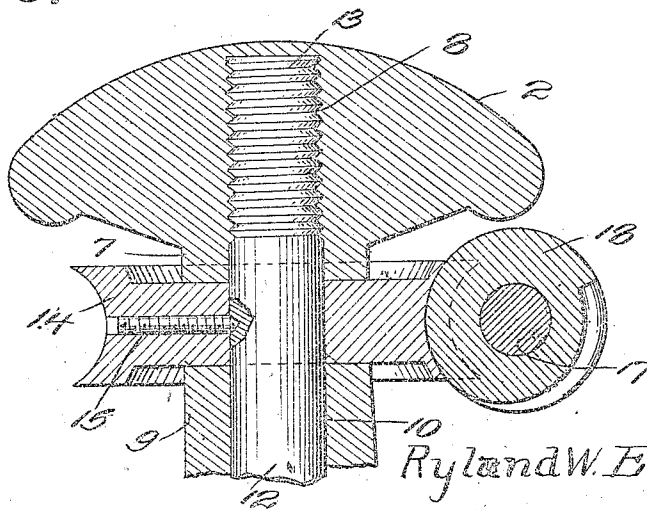


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CASING-SWAGE.

980,079.

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To all whom it may concern:

Be it known that I, RYLAND W. EAMES, a citizen of the United States, residing at Vale, in the county of Malheur and State of Oregon, have invented new and useful Improvements in Casing-Swages, of which the following is a specification.

The invention relates to an improved casing swage, being more particularly directed to an implement adapted to be adjusted within the casing tube or pipe section and operated to correct any surface indentation or irregularity in said section.

The main object of the present invention is the provision of a swage embodying separable sections and including with said sections a mechanism whereby the sections may be separated at the will of the operator to bear with practically any desired force upon the interior surface of the casing of the section, the formation of the swage sections being such that in size they will force the material of the casing against which they bear into the normal plane of the casing thereby obliterating any indentations or other irregularities in the casing wall and in effect reforming said casing to provide a true cylindrical interior form.

The invention in its preferred details of construction will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a side elevation of the improved swage. Fig. 2 is an end view of the same. Fig. 3 is a broken vertical section, partly in elevation. Fig. 4 is a reduced view illustrating the use of the swage.

Referring particularly to the accompanying drawings, the improved swage is made up of two members 1 and 2, the former of which will be hereinafter termed the base member and the latter the anvil member. The base member is of approximately cylindrical form and of a thickness in accordance with the material to be operated upon. The exterior surface of the base is, for the greater portion of its length, disposed at right angles to its plane of movement, providing a bearing surface 3, while the ends beyond said bearing surfaces incline inwardly, as at 4, whereby to provide for the easy introduction of the implement into the casing. The anvil member 2 is preferably of greater thickness than the base member and of less circumferential extent, the curvature of the

outer or bearing surface of said anvil member being preferably on a smaller radius than the curvature of the base member. The exterior surface of the anvil member corresponds to the similar surface of the base member, being formed to provide a central bearing surface 5 arranged opposite the bearing surface of the base member and inwardly inclined end 6. The anvil member is centrally provided with a radially arranged tubular projection 7 interiorly threaded at 8, while the base member is formed with a similar radial projection 9 having an interior bore 10. The projections 7 and 9 are braced from the respective members by the usual webs 11, so that a strong and substantial structure is provided.

Rotatably arranged in the bore 10 of the base member projection is an operating rod 12 terminally threaded at 13 to cooperate with the threads 8 in the bore of the projection 7. A worm gear 14 is secured upon the rod 12 in any preferred manner, as for example by means of a set screw 15. The gear is thus disposed between the proximate ends of the projections 7 and 9 so that when the parts are in collapsed or inoperative positions the inner ends of the projections will bear against opposing surfaces of the gear. Mounted in spaced ears 16 projecting from the base member adjacent one edge of the cylindrical portion thereof is a shaft 17 on which intermediate the ears is formed a worm screw 18. The parts are so arranged and of such relative sizes that the thread on the worm screw will engage the teeth on the gear 14 and rotate the latter in the revolution of the shaft 17. The shaft 17, which may be of any desired length, is terminally provided with an operating handle or crank 19.

In use, assuming that the swage is to be put in service to obliterate an indentation, as 20, in a casing tube, as 21, the parts are withdrawn to operative position that is the shaft 17 is operated so that through the medium of the threaded connection of the rod 12 and the anvil member, said latter is drawn to that position most nearly adjacent to the base member, as illustrated in Fig. 2. The swage is then inserted in the casing so that the anvil member is in alinement with the indentation 20 and the handle 19 operated to rotate the operating rod and thereby cause the base and anvil members to move apart. The operation is continued until the pressure

is sufficient to cause the anvil member to force outwardly the material forming the indentation, thereby obliterating the same and restoring the normal form of the casing.

5 It is obvious, of course, that any irregularity in the interior surface of the casing, other than a fracture, can be quickly obliterated by the proper application of the swage. The implement is to be made in any
10 desired size and the plane of the curvature of the respective base and anvil members will be varied to suit different requirements.

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

15 1. A swage including an anvil member, a base member having a greater circumferential extent than the anvil member, an oper-

ating rod having threaded engagement with one of said members, a gear secured upon the rod and means for operating the gear. 20

2. An interior swaging implement comprising a base member, an anvil member, an operating rod having threaded connection with one of said members, a gear mounted upon the rod, a worm screw supported on the
25 base member and cooperating with the gear, and a shaft cooperating with the worm screw.

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

RYLAND W. EAMES.

Witnesses:

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