

# Repairing Locomotive Fittings.

The tools here illustrated are a few of many similar devices used in the Southern Pacific Co.'s shops at Sacramento, Calif. Fig. 1 shows a self-feeding reamer for reclaiming worn distributing valve bushings in air-brake equipment, and fig. 2 shows all parts of the tool in detail. This tool, which is adapted for self-feeding through the work, is made up of a central body, or mandrel, B, 16½ in. long and

ing nut E at the rear is 12 per inch. One complete turn of the nut therefore means the equivalent of an expansion of the reamer of 0.0277 inch.

The reamer D has 18 teeth milled to a depth of 3/16 in. and six 1/16 in. saw cuts are run through from end to end as shown. Except for a distance of ½ in. at the rear face the saw cuts are carried

button-head screws which pass through body-sized holes in the bronze feed nut and enter tapped holes in the steel guide nut.

In use the steel guide nut is screwed into the end of the distributing-valve casing by removing the cap plug, and this brings the feed nut into alignment with the bushing to be reamed, so that when

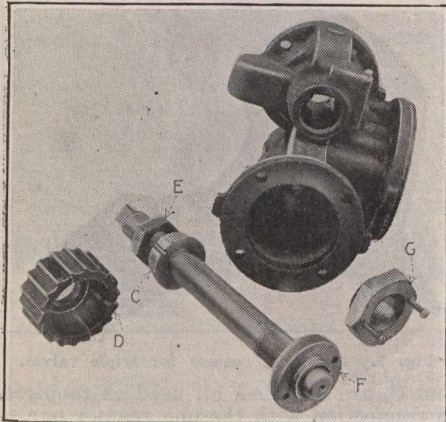


Fig. 1. A 14-in. expanding self feeding reamer.

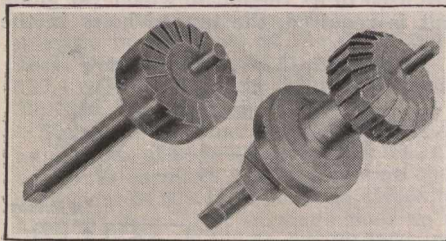


Fig. 3. Hand reamers for steam turret.

1½ in. in diameter, except for the enlarged portion, which carries the reamer proper, and at the outer end is a fine thread for feeding it through a guide nut while at the rear end is a coarser thread for receiving and adjusting the nut which sets the reamer up on the taper at C.

The reamer proper is shown at D, and

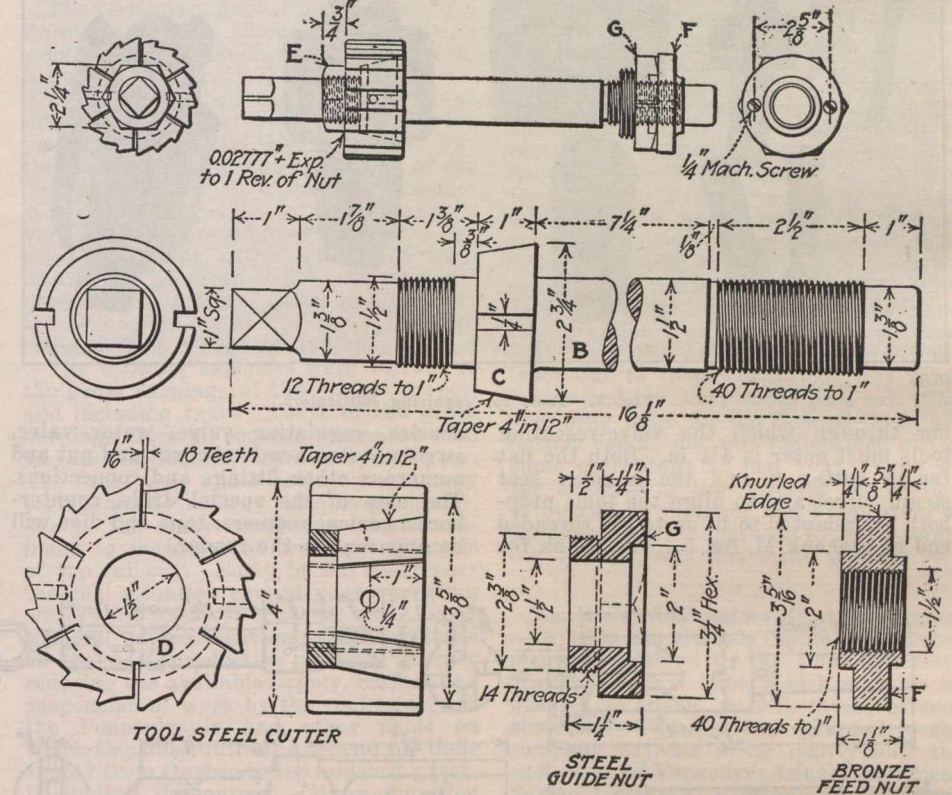


Fig. 2. The reamer members.

down to the bore, so that there is a good opportunity for the reamer to expand with close uniformity for the greater portion of its length. Midway of the face there is a ¼-in. pin inserted to enter a groove of the same width in the conical body C, on which the device is mounted, to provide against the rotation of the tool

the reamer is run into place with its threaded inner end entered through the feed-nut thread the mandrel is correctly positioned for the passing of the reamer through the bushing. On applying a wrench to the squared end of the reamer shank the tool is drawn forward through the work at the rate of 0.025 in. per revo-

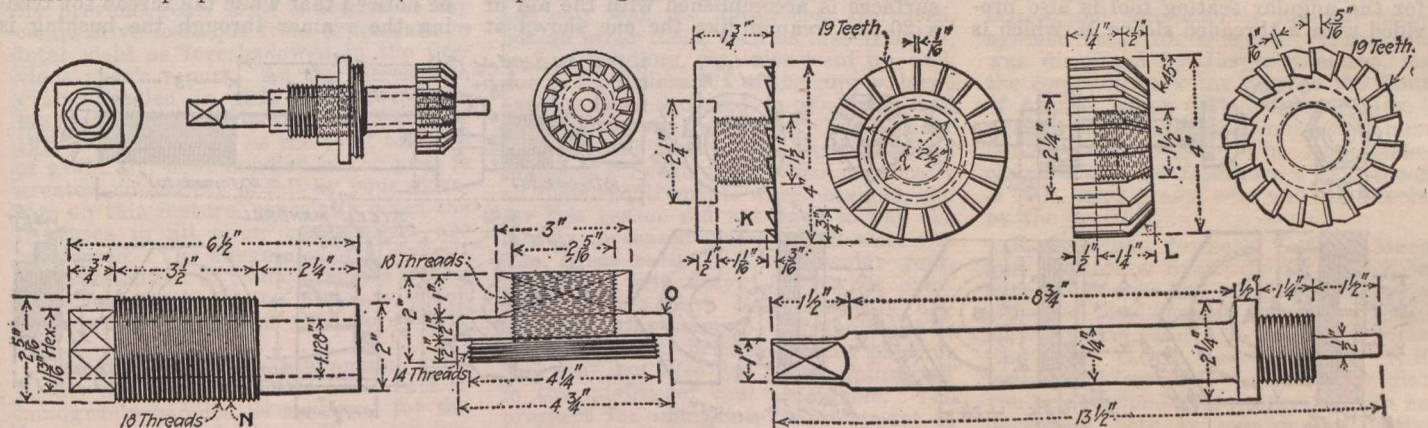


Fig. 4. Details of hand reamer for steam turret.

like all other parts of the tool it is also shown distinctly in fig. 1 in front of the distributing valve which is to be overhauled, the same reference letters being used on both illustrations for convenience in comparison.

Upon referring to fig. 2 it will be seen that the conical body C is a taper of 4 in. to the foot. The thread for the adjust-

ment is 12 per inch. One complete turn of the nut therefore means the equivalent of an expansion of the reamer of 0.0277 inch. The reamer D has 18 teeth milled to a depth of 3/16 in. and six 1/16 in. saw cuts are run through from end to end as shown. Except for a distance of ½ in. at the rear face the saw cuts are carried

button-head screws which pass through body-sized holes in the bronze feed nut and enter tapped holes in the steel guide nut. In use the steel guide nut is screwed into the end of the distributing-valve casing by removing the cap plug, and this brings the feed nut into alignment with the bushing to be reamed, so that when