

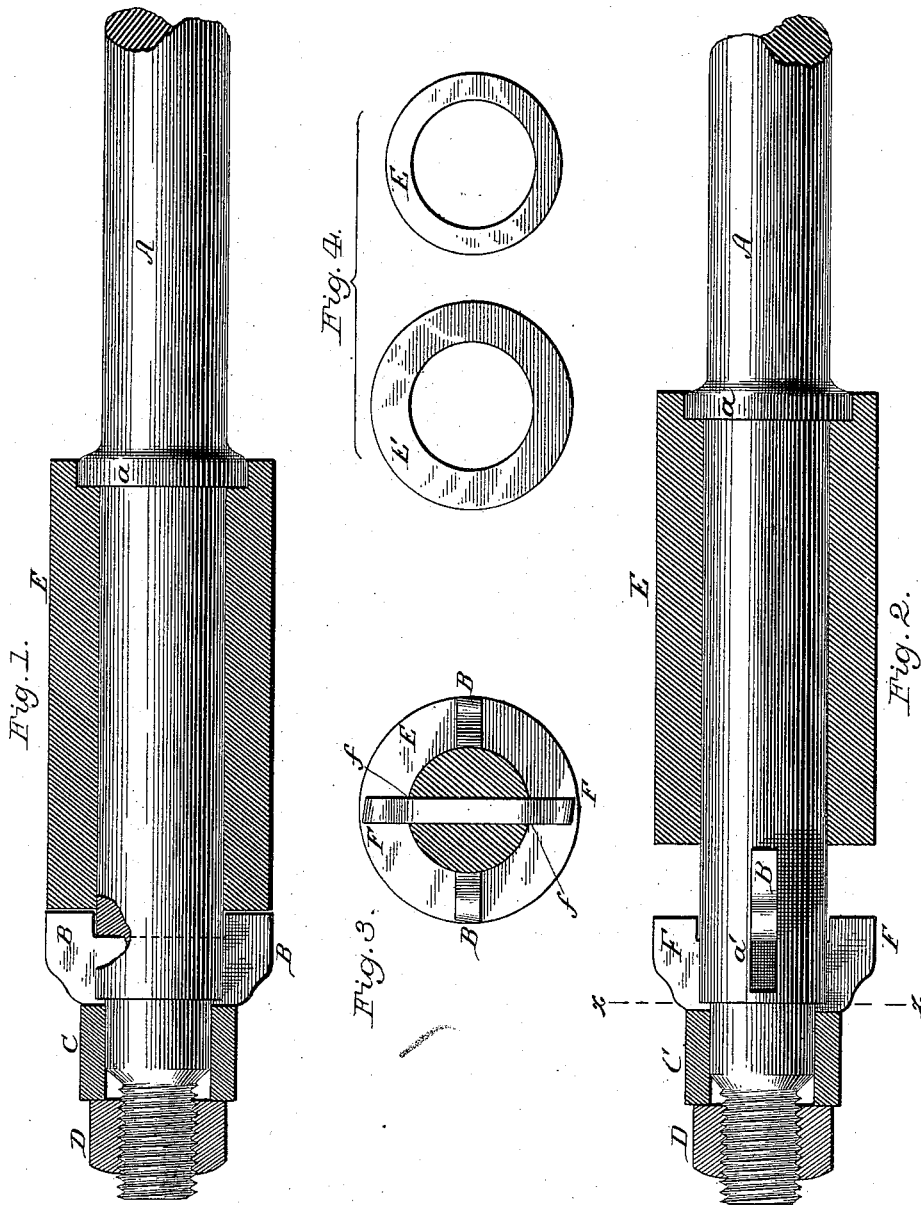
(No Model.)

J. RIDDELL & C. C. TROUT.

REAMER.

No. 319,852.

Patented June 9, 1885.



Attest:
R. C. Grant
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Inventors:
Joseph Riddell,
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UNITED STATES PATENT OFFICE.

JOSEPH RIDDELL AND CONRAD CARVER TROUT, OF SHARON, PA.

REAMER.

SPECIFICATION forming part of Letters Patent No. 319,852, dated June 9, 1885.

Application filed March 16, 1885. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH RIDDELL, a subject of the Queen of Great Britain and Ireland, formerly of the town of Galt, in her said Majesty's Dominion of Canada, but now residing at Sharon, in the county of Mercer and Commonwealth of Pennsylvania, and CONRAD CARVER TROUT, residing at the same place, and a citizen of the United States, have jointly invented certain new and useful Improvements in Reamers, of which the following is a full, clear, and exact description, reference being had to accompanying drawings.

Figure 1 represents a longitudinal central section of our improved reaming device. Fig. 2 represents a similar section, showing the bar provided with two cutters. Fig. 3 is a cross-section on the line $x x$ of Fig. 2. Fig. 4 represents end views of sleeve-guides of different diameters.

The object of the invention is to produce a reamer which will quickly, accurately, and with the least friction and power ream or clean out cored castings—such as car-wheels, pulleys, tubes, cylinders, &c.—and it is particularly adapted to reaming out wheels for coal-bank cars.

The particular matter of improvement embraces a construction and combination which increases the efficiency of the reamer, in the provision for the securement of the cutters in the provision by which the revoluble sleeve overlaps and covers the shoulder-joint to exclude the borings and grit from the interior bearing of said sleeve, and in the construction and arrangement of the cutters by which they are locked in proper relation to each other in right-angled communicating slots in the reamer-bar.

A is the bar, provided with an annular shoulder, a , near its front end, and a transverse slot, a' , at a distance in rear of the shoulder. B is a cutter equal in width to the length of the slot, and provided with a central depression equal in width to the diameter of the bar. This cutter is passed through the slot a' in the bar till its depression coincides with the bar, when it is forced backward, the sides of the depression embracing the sides of the bar preventing any lateral displacement. A collar, C, sleeved on the end of the bar and bearing on the cutter, in connection with the nut D on the

threaded end of the bar, serves to hold the cutter securely in place. A removable guide, E, equal in diameter to the cutter, is sleeved on the bar between the shoulder a and the rear edge of the cutter. In Fig. 2 the bar is shown as being provided with a supplemental cutter, F, of less width than the finishing-cutter B, but of similar construction to the cutter B. It is secured in a supplemental slot, f , running at right angles to the slot a' , as shown in Fig. 3, and communicating therewith, so that when the cutter F is in place its rear edge will bear on the edge of the cutter B, and by means of the collar C and nut D the whole will be firmly secured in place. The function of the cutter F is to take off the first shaving of the bore, and it should for that reason be shorter and thicker than the finishing-cutter B.

It will be readily understood that, the guide and cutters being detachable from the bar, various sized guides and corresponding cutters may be readily applied to the one bar.

It will be understood that the interchangeable guide-sleeves, while being of different diameters, have the same bore, so as to be seated alike upon the bar, and that they are perfectly free to revolve under and by the friction of the moving part.

In practice the cored casting is designed to be chucked in the head-stock of a lathe and rapidly revolved against the bar or reamer, which is centered on the feed-screw of the tail-stock, and held fast by a wrench or dog, the reamer being thus advanced to its work. The operation may be reversed, the reamer being chucked in the head-stock and revolved, and the work advanced thereto by the feed-screw of the tail-stock.

The guide-sleeve is made of chilled iron or hardened steel.

I claim—

1. The combination of the shouldered rod A, having a transverse slot, a' , and the guide E, of the cutter B, centrally depressed, and means for securing the same within the slot, as and for the purpose set forth.

2. The combination, with a rod, A, transversely slotted, of a centrally-depressed cutter seated within said slot, the sides of the depression embracing the sides of the bar, a guide-sleeve and means for holding said cutter in place.

3. The combination, with the bar A, having the annular shoulder *a* and transverse slot *a'*, of the revoluble guide-sleeve E, centrally-depressed cutter B, collar C, and the nut D, the 5 parts being constructed, arranged, and operating substantially as shown and described.

4. A metal-reaming device consisting of the bar A, having the right-angled communicating slots *a' f*, the shoulder *a*, and the screw- 10 threaded end, the revoluble sleeve E, having the shoulder-receiving recess to protect the

interior sleeve-bearing, the cutters, their clamping-collar C, and the screw-nut D, all made and arranged as shown and described.

In testimony whereof we have hereunto set 15 our hands in the presence of two subscribing witnesses.

JOSEPH RIDDELL.

CONRAD CARVER TROUT.

Witnesses:

THOMAS J. FORKER,

J. R. WILLIAMSON.