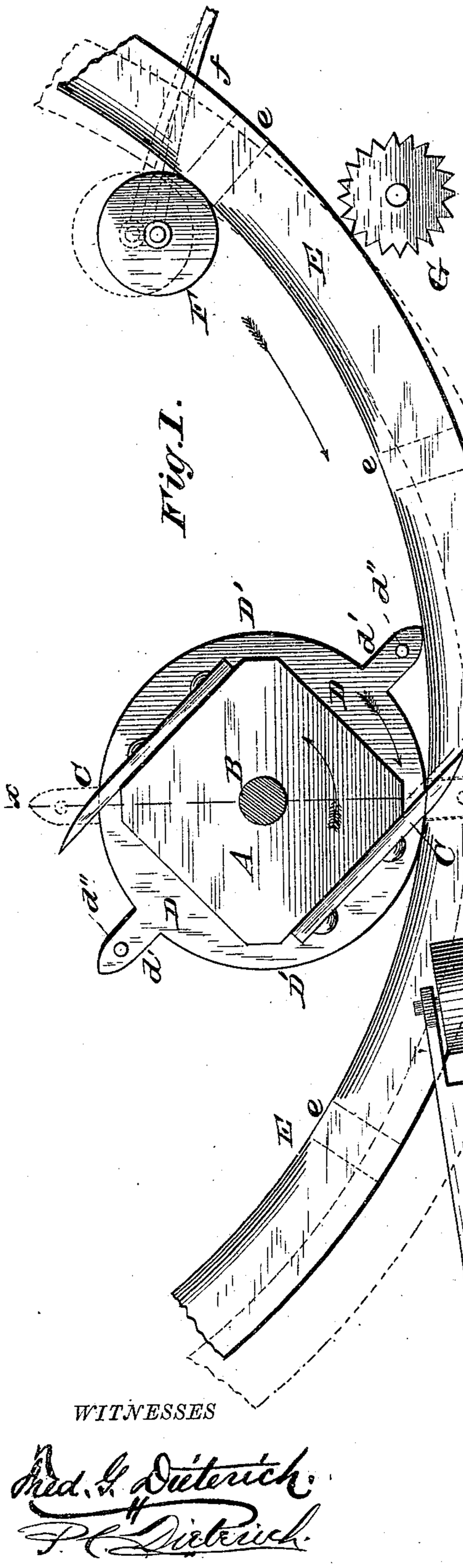
(No Model.)

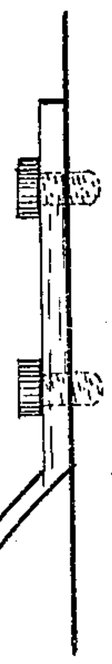
2 Sheets—Sheet 1.

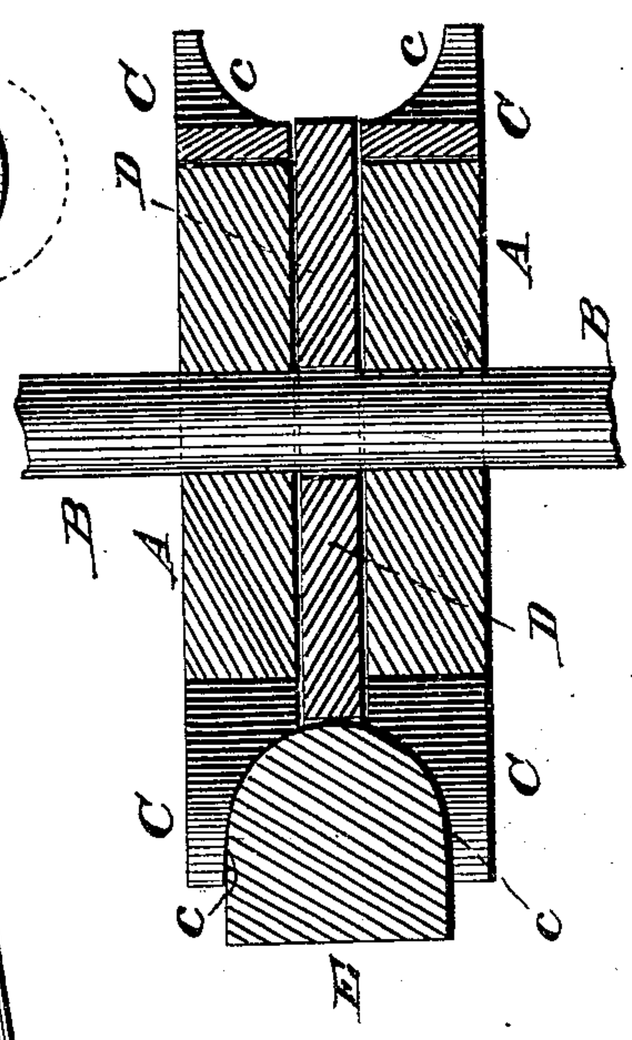
J. C. TUNNICLIFF.

CUTTER HEAD FOR ROUNDING FELLIES.

No. 249,121. Patented Nov. 1, 1881.







WITNESSES

Fred. L. Dieterich.

P. L. Dieterich.

INVENTOR

John C. Tunnicliff

By W. B. Richards

Attorney

(No Model.) 2 Sheets—Sheet 2.

J. C. TUNNICLIFF.

CUTTER HEAD FOR ROUNDING FELLIES.

No. 249,121. Patented Nov. 1, 1881.

Fig. 3.

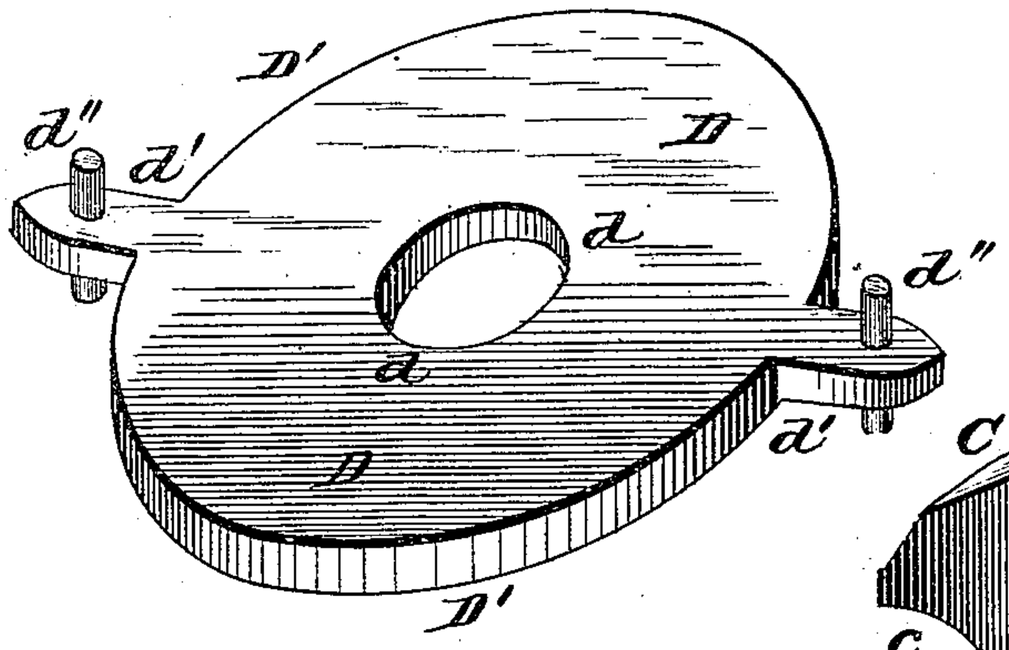


Fig. 4.

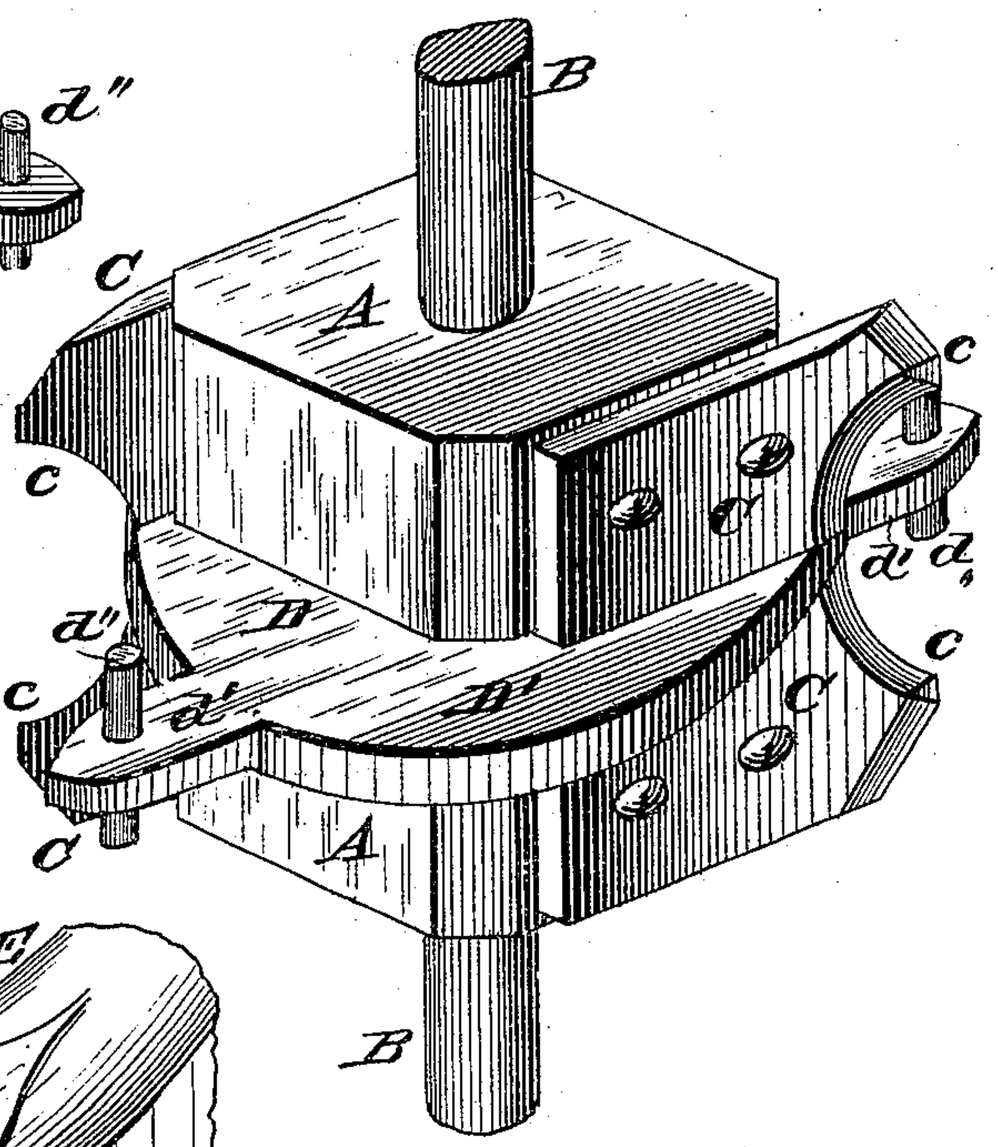
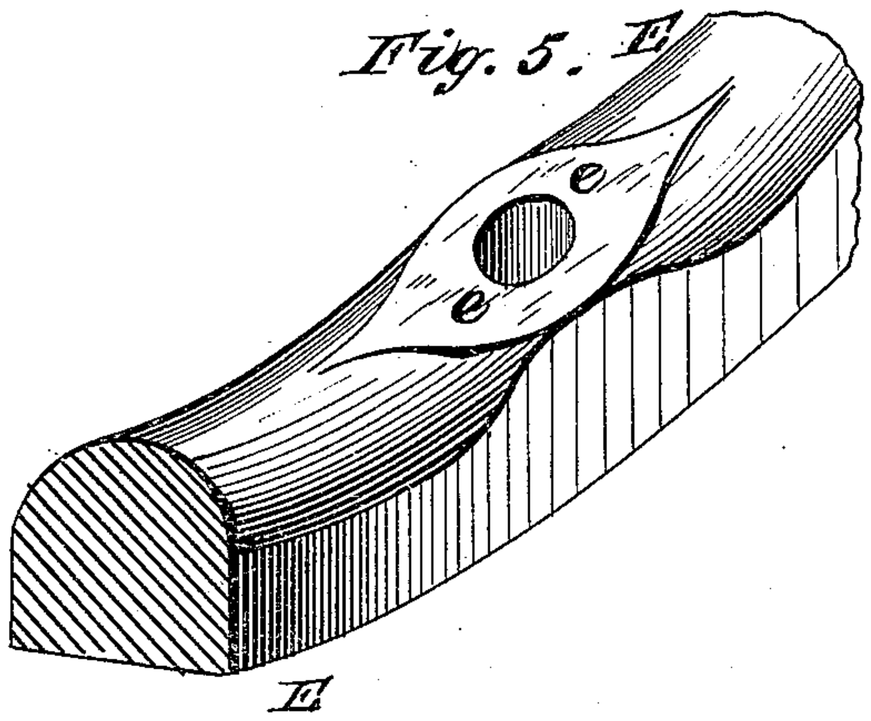


Fig. 5. E



WITNESSES

Fred. L. Dieterich

P. C. Dieterich.

INVENTOR

John C. Tunnicliff

By W. B. Richards

Attorney

UNITED STATES PATENT OFFICE.

JOHN C. TUNNICLIFF, OF GALESBURG, ILLINOIS.

CUTTER-HEAD FOR ROUNDING FELLIES.

SPECIFICATION forming part of Letters Patent No. 249,121, dated November 1, 1881.

Application filed August 4, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. TUNNICLIFF, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Cutter-Heads for Rounding the Inner Peripheries of Wheel-Fellies; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to cutter-heads for dressing or rounding the inner peripheries of wheel-fellies; and it consists in the use of a loose collar journaled on the cutter-head shaft, and provided with projecting lugs adapted to enter the holes in the fellies for the spokes and press the felly away from the cutters, so that they will not act on it and leave it unrounded and not cut away around said holes.

The invention further consists in combinations and constructions hereinafter described, and set forth in the claims hereto annexed.

In the accompanying drawings, which illustrate my invention, and in which the same letter is used as a mark of reference for the same part in the different figures, Figure 1 is a side elevation of a cutter-head embodying my invention, and of a felly, and also devices for holding and feeding the felly to the cutters. Fig. 2 is a sectional plan of the cutter-head in the plane of the crooked line *x x* in Fig. 1, seen from the right-hand side of said section-line. Fig. 3 is a perspective of the gage-collar. Fig. 4 is a perspective of the cutter-head. Fig. 5 is a perspective of a short section of a felly.

The construction and relative arrangement of the parts of the improvement are fully shown and described herein; but it has not been thought necessary to show all of the parts of the general and common machine in which said improvements may be incorporated, and hence only those parts of the general machine are shown and described which are necessary to illustrate fully and clearly the method of applying my improvements to practical use.

A in the drawings shows a cutter-head carried on a shaft, B, mounted in a suitable frame, and rotated by any ordinary mechanism, which rotating mechanism is not shown in the drawings.

The cutters C have each an arc-shaped cutting-edge, *c*, and are arranged in pairs, with a disk-shaped gage-collar, D, between the cutters of each pair. The gage-collar D is formed, as plainly shown at Fig. 3, of a circular disk, with a central hole, *d*, and side projections or lugs, *d'*, each provided with laterally-projecting studs or tappets *d''*. This disk D is loosely journaled on the shaft B, between the cutters C, as hereinbefore described, and the circular part D' of its periphery rests against the inner side of the felly and acts as a gage to limit the depth to which the cutters may act on the felly.

E is a felly; F, a presser-roller, carried on one end of a spring, *f*, which is secured to the frame. (Not shown.)

G is a feed-roller, journaled to the frame. (Not shown.)

H is a presser-roller, carried on a spring, *h*, which is secured to the unshown frame.

I is a spring-roller, carried on a spring-bar, *i*, which is also secured to the unshown frame.

In operation the felly E is fed to and operated upon by the cutters, as shown at Fig. 1, as follows: The felly is held against the unshown frame by spring-roller I, which rests against the side of the felly. The spring-roller H rests against the lower side of the felly and holds it up to the cutters, and the spring-roller F rests upon its upper side and holds its rear end down as it is fed forward by the feed-roller G. The disk D, being free to turn on the shaft B independent of the cutter-head, will rest with its circular part D' on the inner surface of the felly and act as a gage to limit the cut of the cutters, as hereinbefore described, until one of the spoke-holes *e* advances so that the end of the adjacent lug *d'* enters the hole *e*, and the tappets *d''* are brought into contact with the inner face of the felly, and force the felly and spring-roller H downward, and thereby free the felly of the action of the cutters, as shown by dotted lines at same figure. The tappets *d''* will force the felly from the cutters gradually as the disk D is carried forward when the lug *d'* is in a hole *e*, and the felly will return toward the cut-

ters gradually as the lug *d'* is carried forward by the advancing felly, and thereby released from the hole *e*, thus giving the felly the form on its inner side adjacent to the spoke-holes *e*, shown by Fig. 5. After a lug *d'* escapes from a hole *e* in the felly, the felly will by its forward motion rotate the disk D until the next lug *d'* comes into contact with the felly, as shown by full lines at Fig. 1, where the lug will stand (the felly sliding on the periphery D') until the next hole *e* approaches, and the adjacent lug *d'* drops therein to again force the felly away from the action of the cutters, as shown by the dotted lines, and as hereinbefore described. The lugs *d'* may be variously constructed with shoulders, or otherwise, as equivalents of the lugs *d''*.

The shape of the cutters, and the matter of a fixed gage-disk located between the cutters, is shown and claimed in an application I have executed of even date herewith for improvements in cutter-heads, and hence I do not claim the shape of the cutters, nor a fixed gage-disk herein; but

What I claim as new is—.

1. In a cutter-head for rounding the inner peripheries of wheel-fellies, in combination with the cutters, a gage-disk loosely mounted on the cutter-head shaft, and adapted to be rotated by contact with the advancing felly, to bring lugs or projections thereon into contact with the spoke-holes in the fellies, whereby the felly and cutter-head may be forced apart adjacent to said holes for the spokes, substantially as and for the purpose specified.

2. In combination with a cutter-head having cutters C, a gage-disk having a circular portion, D', and projecting lugs *d'*, adapted to force the felly from the cutters, substantially as and for the purpose specified.

3. In a cutter-head having cutters C in pairs, a gage-disk loosely mounted on the cutter-head shaft between the cutters of each pair, and provided with projections adapted to force the stuff being operated upon away from the cutters at intervals, regulated substantially as and for the purpose specified.

4. In combination with a cutter-head having cutters C, a gage-disk having a circular portion, D', and projecting lugs *d'*, having laterally-projecting lugs *d''*, substantially as and for the purpose specified.

5. In a cutter-head, in combination with the cutters, a disk loosely mounted on the cutter-head shaft, and provided with means, substantially as described, whereby it is adapted to act as a gage to limit the depth to which the cutters act on the stuff, and also provided with projections or equivalents adapted to force the stuff away from the action of the cutters at given places, substantially as and for the purpose specified.

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

JOHN C. TUNNICLIFF.

Witnesses:
SAML. N. GROSE,
J. F. BARKER.