(No Model.)

L. LASSEN.

REAMER.

No. 393,767. Patented Dec. 4, 1888.

Fig. 1

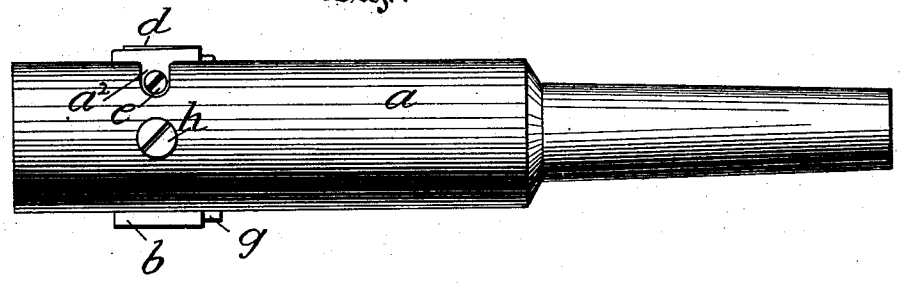


Fig. 2

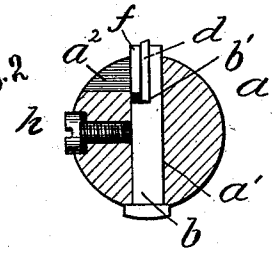


Fig. 3

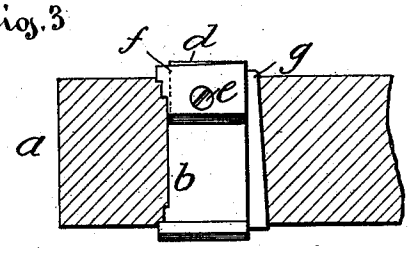
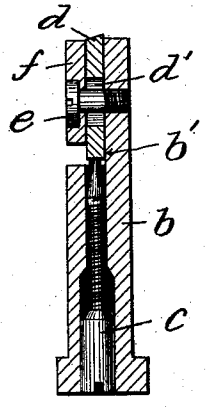


Fig. 4



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UNITED STATES PATENT OFFICE.

LORENS LASSEN, OF MANCHESTER, CONNECTICUT.

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SPECIFICATION forming part of Letters Patent No. 393,767, dated December 4, 1888.

Application filed September 21, 1888. Serial No. 285,985. (No model.)

To all whom it may concern:

Be it known that I, LORENS LASSEN, a subject of the Emperor of Germany, and a resident of Manchester, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Reamers, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a reamer that may be readily adapted for use in various reamer-stocks, and one that is adjustable and interchangeable and that can be kept true to gage with but a little labor.

My invention consists in the combination of a blade-carrier having a blade-clamp and blade-adjusting device and a reamer-stock in which the blade-carrier is adapted to be secured.

It further consists in details of the blade-carrier, the blade-clamp, and the reversible blade and the adjusting device; and it further consists in details of the several parts of the device and their combination, as more particularly hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a side view of a reamer-stock fitted with my improved reamer. Fig. 2 is a detail view in central cross-section through the reamer-stock and in edge view of the reamer. Fig. 3 is a detail view in lengthwise section through the reamer-stock and in side view of the reamer. Fig. 4 is a detail view, on enlarged scale, in cross-section through the reamer.

In the accompanying drawings, the letter *a* denotes a reamer-stock, that may be of any convenient size, determined by the special work to be done, and this reamer-stock is provided with a reamer-socket, *a'*, located transversely of the stock, and preferably passing through the axis thereof. A portion of the stock on one side is cut away, as at a^2, to give access to the blade-clamping screw, that is borne in the side of the blade-carrier of the reamer. This blade-carrier *b* is a block of suitable material, as steel, cut down in thickness on one end to provide a blade-socket, *b'*, and carrying an adjusting-screw, *c*, that is seated in a threaded socket lengthwise of the carrier in such manner that the head of the screw is presented at one end of the blade-carrier in convenient position to be reached by a screw-driver when the blade-carrier is held in the reamer-stock. The blade *d* is a flat piece of tool-steel held in the blade-socket in the carrier by means of a blade-clamp, *e*, that is a screw passing through a filling-piece, *f*, through a screw-slot, *d'*, in the blade, and takes into a threaded socket in the carrier. When the several parts of the reamer are assembled, the blade is clamped in place in the carrier with its cutting edge projecting a suitable distance beyond the edge, as shown in the drawings, the filling-piece *f* serving not only as part of the clamp device, but also as a means of backing up the cutter, as this piece fits snugly against the walls of the socket in the reamer-stock. The inner edge of the blade rests upon the end of the adjusting-screw *c*, and is in part held by such screw against any lengthwise movement, although the main holding or clamping of the blade is effected by means of the clamp-screw.

As a convenient method of securing this reamer in the reamer-stock, one edge of the carrier is indented, so as to leave the ends with an overhang that fits into corresponding sockets in the stock, and the said socket is wide enough to permit the introduction of the blade of the carrier, that is then moved sidewise until one edge of the carrier engages the side socket, and a key, *g*, is then used to hold the blade-carrier *b* firmly in the reamer-socket. I do not, however, limit myself to any special or particular means of holding the blade-carrier of the reamer in place. An additional means of securing the blade-carrier in the reamer-stock is by means of a screw, *h*, seated in a threaded socket in the stock at right angles to the blade-carrier socket, so that its inner end may be made to bite upon the blade-carrier.

I claim as my invention—

1. In combination with a reamer-stock, a removable blade-carrier having a blade-clamp, and a blade-adjusting device and a blade held in said carrier, all substantially as described.

2. In combination with a blade-carrier, *b*, having a blade-socket and adjustable blade held by a clamping device at one end of the blade-carrier, the clamping device and the adjusting-screw borne in the blade-carrier, all substantially as described.

3. In combination with the blade-carrier *b*, having the blade-socket *b'*, the adjustable blade *d*, the clamp device *e*, with filling-piece *f*, and the blade-adjusting screw *c*, with its head presented at the edge of the blade-carrier opposite the blade, all substantially as described.

4. In combination with a reamer-stock, *a*, having a blade-carrier socket, *a'*, a removable blade-carrier, with means, substantially as described, for securing it in the reamer-stock, the blade-carrier *b*, with the blade-socket, the adjustable blade, the blade-clamp, and the blade-adjusting device, all substantially as described.

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