HENRY F. SNYDER.

Improvement in Rolls for Gang-Saw Mills.

No. 115,538. Patented May 30, 1871.

Fig. 1,

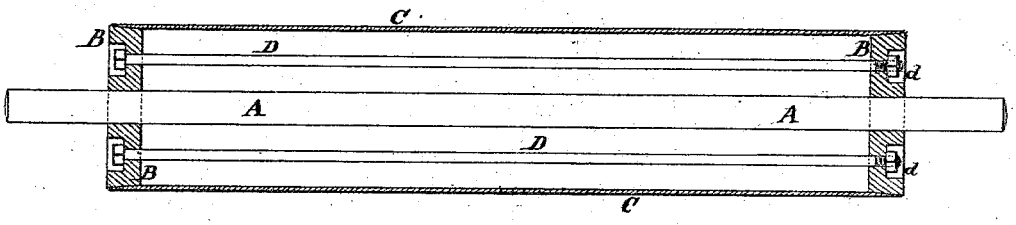
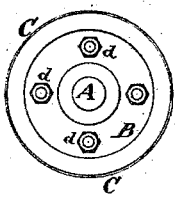


Fig. 2,



Witnesses,

A. Hoermann.

C. C. Sivings

Inventor,

H. F. Snyder

by his attorney F. L. Stetson

UNITED STATES PATENT OFFICE.

HENRY F. SNYDER, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN ROLLS FOR GANG SAW-MILLS.

Specification forming part of Letters Patent No. 115,538, dated May 30, 1871.

To all whom it may concern:

Be it known that I, HENRY F. SNYDER, of Williamsport, Lycoming county and State of Pennsylvania, have invented certain new and useful Improvements in the Construction of Saw-Mill Rolls, of which the following is a specification:

The rolls are light and strong, and peculiarly adapted to serve as saw-mill rolls, by which I mean the long series of rolls on which the weight of the log is supported on being fed past the saw. They are large and hollow. Heavier rolls are used for the feed-rolls immediately adjacent to the saw, where the force of the binder-rolls, which press on the top of the log, is received. It is important that my rolls shall have considerable diameter, and shall turn with slight resistance, while they must be true within reasonable limits, and it is well that they be very light. When made of wood it is difficult to keep them in proper mathematical form. When formed of metal, by any ordinary mode of construction, their cost in metal or in labor, or both, is almost or quite prohibitory. My invention provides an eminently cheap and every way efficient roll for this purpose. I employ the largest size of lap-welded tubing to form the cylindrical surface, with a proper disk of cast-iron fitted within each end.

The following is a detailed description of what I consider the best means of carrying out the invention.

The accompanying drawing forms a part of this specification.

Figure 1 is a central longitudinal section, and Fig. 2 is an end view.

Similar letters of reference indicate corresponding parts in both the figures.

A is a shaft, of wrought or cast iron, having the projecting ends either plain or turned in any desired configuration to fit the corresponding bearings, not represented. B B are similar heads, of cast-iron, and C is a length of tubing, made of rolled iron and welded smoothly, so as to form a uniform and cylindrical surface. The interior of the tubing is turned a little flaring at each end, and the periphery of each disk B being correspondingly conical and carefully adapted in diameter to the interior of the tube at the flared ends, the pieces are drawn together by means of bolts D and nuts *d*. The heads B B are thick at the center, to form a suitable boss, and are thick at the periphery to form a wide bearing, but are thin in the intermediate space, and the recess thus provided serves as a channel, in which the heads and nuts of the bolts are received and protected.

When, by any accident, the end of the roll is subjected either to a rubbing force or to a blow, the heads and nuts on the bolts are protected by the overhanging at the periphery, and by the projecting of the central boss.

The parts may be manufactured and put together with very little skill or labor.

Some success may be attained with a roll having the flare on the interior of the part C, near the ends, and extending inward less than the full thickness of the thickened edge of the end piece B. It may extend only a fourth of the distance, and the remainder may be cylindrical, provided always that the periphery of the castings be finished in a corresponding form, so as to make a firm bearing. It is much easier, however, to adapt the work properly together, and to compensate for inequalities and imperfect workmanship in case the flare extends the whole distance, as shown. A good proportion is to make the roll 48 inches long and 8.63 inches diameter, with the boss and periphery or rim of the end castings 2.5 inches in thickness.

The longitudinal bolts D may be four in number, each about five-eighths of an inch in diameter.

I claim—

The saw-mill roll herein described, composed of castings B B, matched, as represented, within the flared ends of the tubular surface piece C, and held together by bolts D, having their heads and nuts let in and protected, substantially as and for the purposes herein specified.

In testimony whereof I have set my name in the presence of two subscribing witnesses.

HENRY F. SNYDER.

Witnesses:

T. C. ROGERS,

H. D. HEISER.