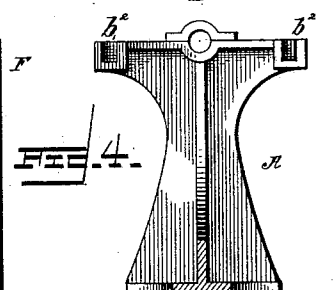
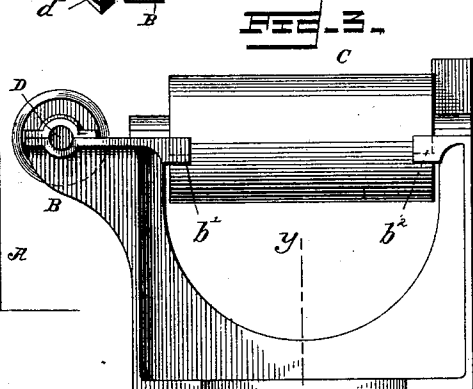
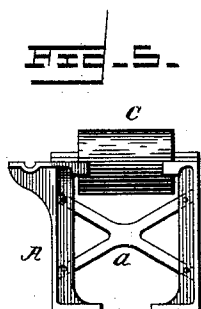
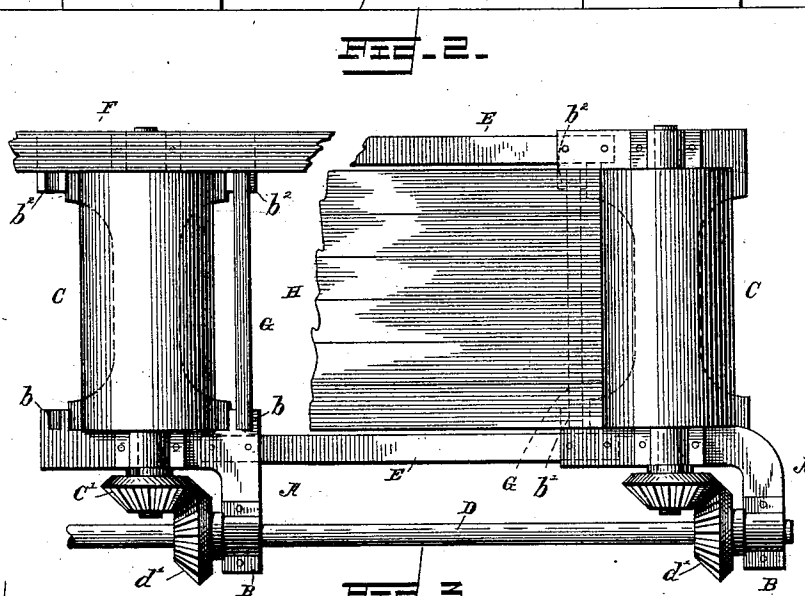
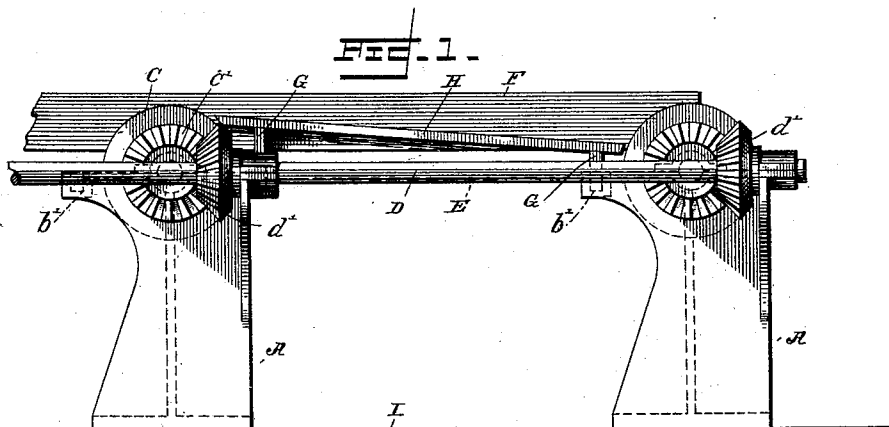


(No Model.)

D. BURNS.
ROLLER CASE FOR SAWMILLS, &c.

No. 484,490.

Patented Oct. 18, 1892.



Witnesses

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UNITED STATES PATENT OFFICE.

DAVID BURNS, OF MUSKEGON, MICHIGAN.

ROLLER-CASE FOR SAWMILLS, &c.

SPECIFICATION forming part of Letters Patent No. 484,490, dated October 18, 1892.

Application filed January 22, 1892. Serial No. 418,903. (No model.)

To all whom it may concern:

Be it known that I, DAVID BURNS, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Roller-Cases for Sawmills, &c.; 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.

My present invention relates to an improvement in that class of mechanical devices pertaining to sawmill machinery commonly known as "roller-cases for sawmills." As is well known, a roller-case is ordinarily composed of a series of rollers located behind the cutting-saw, which saw may of course be either a band-saw or a circular saw, said series of rollers extending toward the rear end of the mill for the purpose of conveying the lumber, slats, or other cut pieces of wood after they have left the saw to the machines which may be located near the rear of the mill. In common practice a considerable number of these rollers is driven by power, and when so driven they are called "live" rollers, while others have no actuating power applied thereto, and they are designated "dead" rollers. Generally these rollers are journaled at each end in a wooden frame or case having a continuous or elongated structure, said case being a solid and rigid supporting structure, generally mounted upon the floor of the mill, and therefore having two parallel sides, so that when it is necessary to clean out the refuse which accumulates between the two sides or cases a large amount of time and labor must be expended for the purpose. With this common construction, also, there is likewise the cost of constructing the cases and fitting the iron brackets and boxes thereto, which is considerable.

My present improvement has for its object the simplification and bettering of roller-cases of this character; and it consists, primarily, in metallic frames constructed separately for each roller, which frames are connected together by iron bars or other suitable connections. In this way I make a roller-case which is much cheaper and more durable, and there-

by I am enabled to greatly facilitate the cleaning of the floor between the rollers, enabling it to be done more easily and quickly than is possible with the old construction.

Various other advantages also accrue from the detailed construction of my improved roller-case.

The invention therefore consists, essentially, in the construction, arrangement, and combination of parts, substantially as will be hereinafter described, and then more particularly pointed out in the appended claims.

In the annexed drawings, illustrating my invention, Figure 1 is a side elevation of my improved roller-case for sawmills. Fig. 2 is a top plan view of the same with certain parts broken away. Fig. 3 is an end elevation of one of the frames. Fig. 4 is a vertical sectional elevation on the line *yy* of Fig. 3. Fig. 5 is a detail view of a modified construction for the frame.

Similar letters of reference designate corresponding parts throughout all the different figures of the drawings.

A designates the frame, which supports one of the rollers. There may be as many of these frames as are desired. In the drawings I have shown two. They are made of metal, and preferably of iron, and generally I cast them in a solid piece. The frame A is provided with the necessary journal boxes or bearings, wherein its roller may be journaled.

C denotes the roller.

Frame A is provided at one end with a right-angled projection B, which is furnished with a journal box or bearing wherein the driving-shaft D is journaled. The end of the frame which has the angular projection B is also provided on its inside face, as is shown in Figs. 2 and 3, with sockets or recesses *b'*. It will also be observed that the opposite interior end of frame A—that is to say, that end of the frame which has no angular projection—is provided with sockets or recesses *b*², which are situated directly opposite to the aforesaid sockets *b'*. The sockets *b*² are very clearly represented in Fig. 4. The roller C has a bearing in one end of the frame between the two sockets *b*² and in the other end of the frame near the bracket B and between the two sockets *b'*.

Instead of making the frame A, as shown in Fig. 3, consisting of a single structure cast in one solid piece, I can make it as it is shown in Fig. 5, where it consists of two separate sides connected together by a bracing cross-piece *a*, which is firmly secured to both the sides. When it is made in this way, it will be cheaper and it can be more readily adapted to any desired length of roller. Therefore in many cases it will be found more convenient to have the frame made in separate parts, as shown in Fig. 5, rather than to have it built of a single piece, as it is represented in the other figures of the drawings.

The rollers C, of which obviously there is one in each frame A, are furnished at one end with a vertical bevel-pinion *c'*. The line or driving shaft D, which we have seen is journaled in the outlying brackets B, is provided at points adjacent to each roller C with a bevel gear-wheel *d'*, which engages with the adjacent pinion *c'*. In this way all the rollers C are caused to revolve through the application of the power derived from the shaft D through the gearing connections. It may be stated that the rollers C, the driving-shaft, and connecting gear-wheels are substantially the same in their general construction as those which are now in general use.

The frames A A are connected together by horizontal bars E, which are preferably of iron. These bars are secured to each end of the frame at their upper ends, and therefore they rigidly fasten the frames together in a solid continuous structure. As they are represented in the drawings, the frames are securely bolted to the bars E a short distance from the center of the roller-shaft.

F designates a horizontal guard-rail, generally made of wood, the bottom of which rests on the top of the main frame, and it extends sufficiently above the rollers to serve as an accurate and efficient guide for the lumber while it is passing along the rollers after leaving the cutting devices and while it is on its way toward the rear of the mill and toward the machines there located.

G G denote cross-bars, the ends of which are inserted loosely into the sockets *b'* and *b''*, situated at the opposite ends of the frames A, as we have already seen. By referring to Fig. 1 it will be seen that one of the cross-bars G of each pair is wider than its companion, or, in other words, one of the cross-bars which is located on one side of the roller C is wider than that located on the opposite side of said roller. The object of this inequality in the width of the cross-bars is to permit the table H, which is superposed thereon, to be situated in an inclined position, as it is shown in Fig. 1. The table H is fastened to the bars, so as to allow the short lumber to be easily driven along the rollers. Said table will be of a width equal to the length of the rollers. By having the bars G made as stated the table H can be situated at the proper incline so as to serve all the pur-

poses thereof in a convenient and successful manner.

I indicates the floor of the mill, upon which the roller-frames are securely mounted. As the height from the floor-line I to the center of the rollers C is generally in actual practice somewhere about twenty-eight inches or so, it will be evident that my improved construction must be considerably cheaper and more durable than the construction of cases which are made entirely of wood to that depth, besides gaining the advantage of permitting the floor to be more easily cleared of its accumulated refuse.

In the drawings, at Figs. 1 and 2, the right-hand roller is represented as at one end of the case, next to the saw, whose frame does not require a cavity on each side of the roller, that being the only difference between that one and the intervening rollers.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a roller-case for sawmills, the combination of the table H, a frame A, having a projecting bracket B, a roller journaled in said frame at each end, the sockets *b'* and *b''*, formed in the opposite ends of the frame on opposite sides of the roller, the bars G G, supported in said sockets and being of unequal widths, and the drive-shaft supported in the bracket and geared to the roller, substantially as described.

2. In a roller-case for sawmills, the combination of a frame A, a roller C, journaled therein, a projecting bracket at one end of the frame, sockets *b'* and sockets *b''*, located at opposite ends of the frame and on opposite sides of the roller, drive-shaft D, supported in a projecting bracket and carrying bevel-pinions which intermesh with other pinions on the end of the rollers, the bars supported in the aforesaid sockets parallel to the roller, those on opposite sides thereof having unequal widths, and the inclined table H, substantially as described.

3. The herein-described roller-case for sawmills, which consists in the combination of a series of independent frames A, located at suitable distances apart, said frames being provided each with a projecting bracket, the horizontal rollers journaled in the frames, a driving or line shaft journaled in the brackets and carrying gears that intermesh with gears on the ends of the rollers, the intervening inclined table between the rollers, and the cross-bars supported in brackets in the ends of the intervening frames, those bars on opposite sides of any single roller having an unequal length, substantially as described.

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

DAVID BURNS.

Witnesses:

ANDREW L. MCINTOSH,
JOHN D. VAN DER WERP.