United States Patent Office.

HILAS D. DAVIS, OF NORTH ANDOVER, MASSACHUSETTS.

Letters Patent No. 106,335, *dated August* 16, 1870.

IMPROVEMENT IN SHEAVES.

The Schedule referred to in these Letters Patent and making part of the same

I, HILAS D. DAVIS, of North Andover, in the county of Essex and State of Massachusetts, have invented an Improved Sheave, of which the following is a specification.

Nature and Object of the Invention.

My invention relates to the method of constructing the sheaves which are used in mounting heddles in looms, so that they may be made of sufficient strength, and yet much lighter and also cheaper than those in common use.

The sheaves usually employed in mounting heddles are made of cast-iron, and are, necessarily, when made as light as practicable, of considerable weight; and in mounting a loom with, say, twenty leaves of heddles with six sheaves (three above and three below) to each leaf, there would be required one hundred and twenty sheaves in all, and as these have to be partially rotated with a reciprocating motion at each movement of the warps, their united inertia and momentum in stopping and starting at each pick, offers considerable resistance to the easy working of the loom, and consumes a considerable amount of the power without any corresponding useful result, and especially in operating the loom rapidly. But by constructing the sheaves of tin, or other sheet-metal, in the manner herein described, they can be made of a better form, and of much less weight and cost, and less liable to be broken, than when made of cast-iron.

Although this mode of making sheaves was especially designed for mounting heddles, it is equally applicable to any other purpose to which its qualities adapt it.

Description.

In the drawing—

Figure 1 is a side elevation of a sheave, full size; and

Figure 2 is a section of the same, showing one form of inserting the bushing or hub to receive the hole at the center.

Figures 3 and 4 are an elevation and section, showing another mode of applying the central bushing or hub, so that it may be removed.

The sheave is formed of two pieces of tin plate, A, which are struck up to form in a die by the well-known process of making raised work, which pieces are placed together face to face, and united by a bushing or hub, B, which is inserted in the central hole and secured therein by soldering, as is shown in figs. 1 and 2, or by flanges upon the bushing, as is shown in figs. 3 and 4, the flange C being formed upon the bushing, and the flange D screwed upon the same, so as to clamp the plates between them.

In this last case, the plates would not be bent out at a right angle at the central hole, as is shown at E, fig. 2.

The plates may also be united by a line of solder at H, around the circumference, if desired.

F F are holes in the flange D, to receive a wrench or spanner to screw it up.

By this means a sheave can be made of a less thickness than in any other practicable way known to me, and yet give a sufficient depth and breadth to the groove G for the cord, without liability of its being broken, which is a matter of great importance in using a large number of heddles, where it is very desirable to make them as thin as possible.

What I claim as my invention, is—

A sheave formed of two thin plates of metal, embossed to form, and placed together face to face, and combined with a central bushing or hub, substantially as described.

Executed March 23, 1870.

HILAS D. DAVIS.

Witnesses:

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Horse Hay-Rake.

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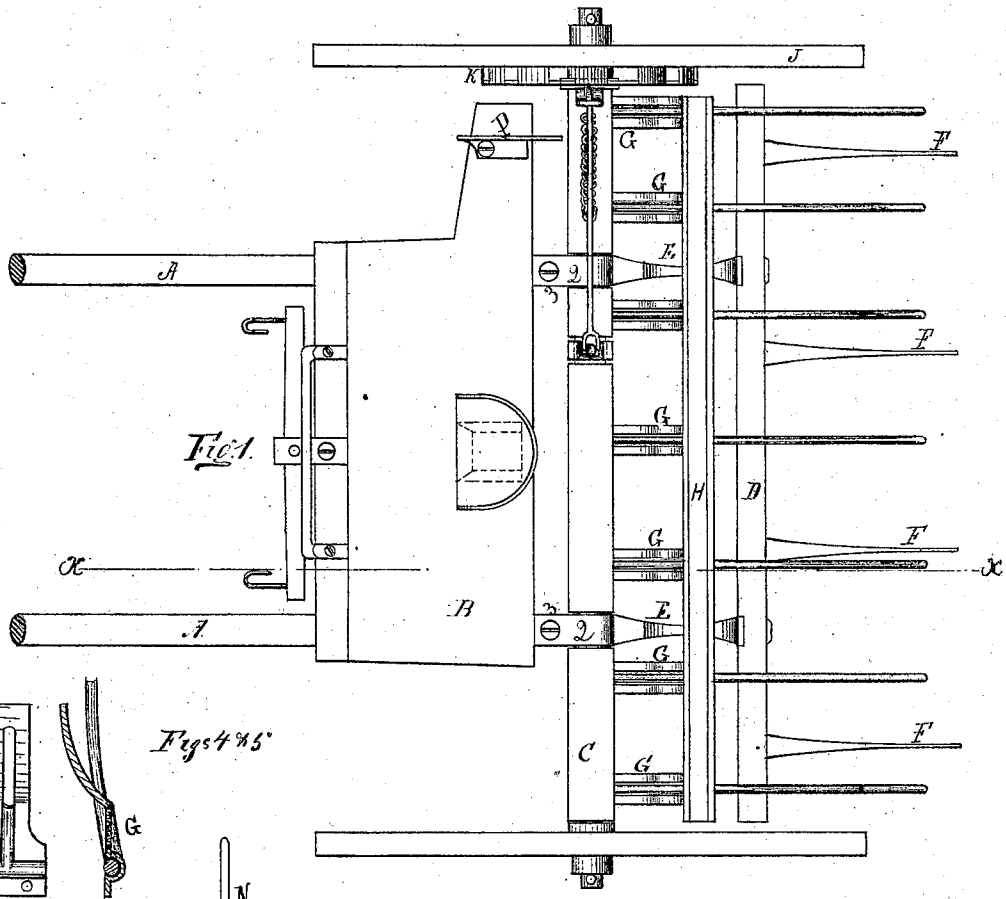

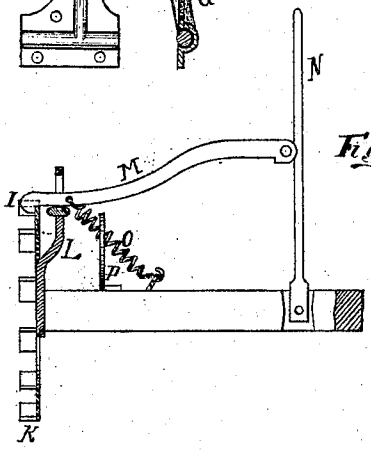

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