

J. MORE.  
CUTTER HEAD FOR PLANER.

No. 107,943.

Patented Oct. 4, 1870.

Fig. 1.

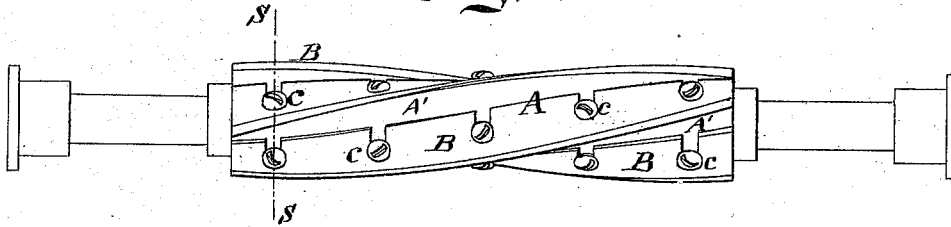


Fig. 2.

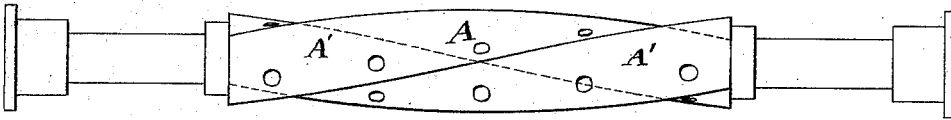
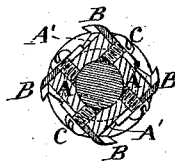


Fig. 3.



Witnesses,

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*A. Hoernama*

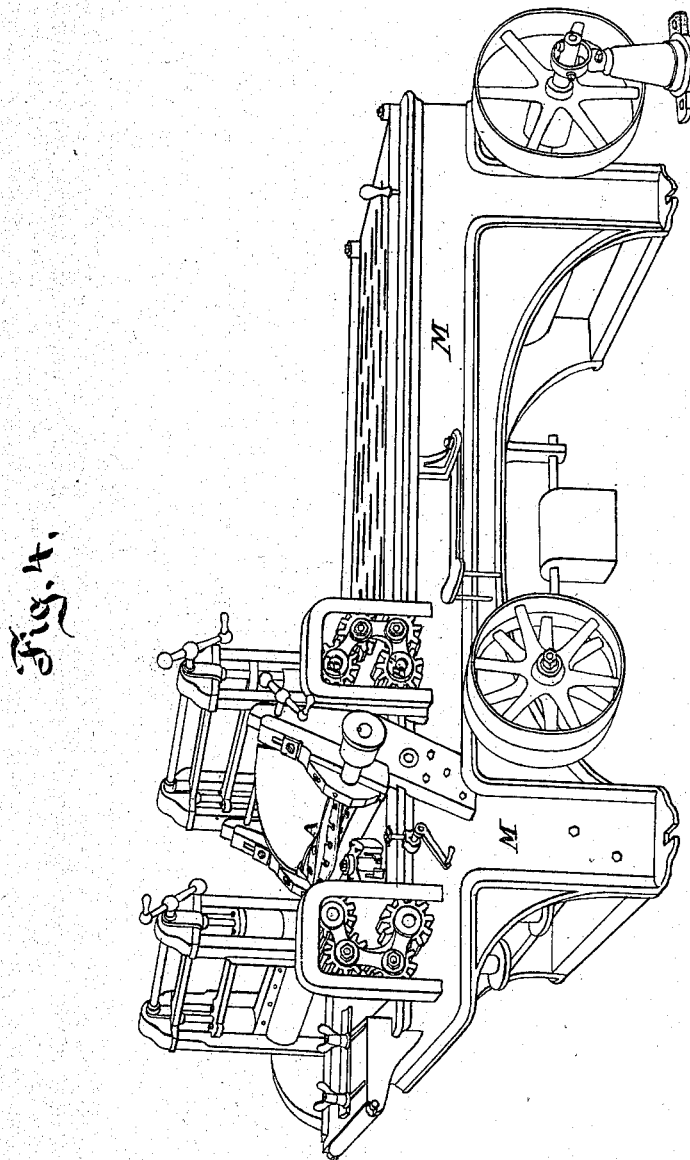
Inventor,

*John More*  
by his attorney *J. S. Stetson*

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Witnesses,  
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Inventor,  
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# United States Patent Office.

JOHN MORE, OF NEW YORK, N. Y.

Letters Patent No. 107,943, dated October 4, 1870.

## IMPROVEMENT IN CUTTER-HEADS FOR PLANERS.

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

### *To all whom it may concern:*

Be it known that I, JOHN MORE, of the firm of DUKE & MORE, carpenters and builders, of the city and county of New York, in the State of New York, have invented certain new and useful Improvements in Cutter-Heads for the Woodworth or Cylindrical Planing-Machines; and I do hereby declare the following is a full and exact description thereof.

I cast the cutter-head with regularly-warped or twisted seats on its exterior for the cutter, and, having forged or otherwise produced the cutters in a corresponding form, secure them firmly thereon by bolts, which allow them to be set forward and backward to adjust their relative depths of cut, as also to provide for their being moved forward by degrees as their edges are ground away.

The cutter-shaft and its connections may be mounted and driven, in all respects, in the ordinary manner. There may be more than one cutter-shaft in the same machine, and one only, or both, may be thus constructed.

The obliquity of the knives may be varied. I prefer about the extent of skew represented in the accompanying drawing, which forms a part of this specification.

Figure 1 is a general view of the cutter-head, with the cutters mounted, and

Figure 2 is a general view of the cutter-shaft and head alone, without the cutters or their screw-bolts.

Figure 3 is a cross-section on the line S S in fig. 1, and

Figure 4 is a perspective view, showing the relation of this peculiar cutter-head and its adjuncts to the feed-rolls and to the other parts of a cylindrical planing-machine.

Similar letters of reference indicate like parts in all the figures.

Referring to the drawing—

A is the head, and

A' A' the warped or twisted surface on which the cutters are screwed.

B B are the twisted or warped cutters, and

C C are bolts, which are tapped strongly into the material of the head, and, standing in slots as represented, allow the cutters to be set forward and backward, as is necessary to adjust them properly.

To grind my cutters truly, I can support the shaft temporarily in fixed or movable bearings, adjacent, to the grindstone, and can turn the head A and its connections either rapidly or slowly, so as to present all parts of the edges in the right position to the stone.

I can face the sides of the cutters by holding them separately on the stone by hand, either before or after, thus producing the proper spiral contour of the edge.

I have had one head with a set of these cutters in successful operation several weeks, and believe that with a little experience any ordinarily good mechanic will find no trouble in constructing the parts and in keeping them in good condition.

The edge being presented to the wood with a drawing cut makes it to plane smoother.

I can, with my improved cutter-head, take off a larger shaving or reduce the thickness of the lumber to a greater extent at a single operation, and leave the wood much smoother than with any of the ordinary cutters and cutter-heads which I have ever used or seen used.

The great mass of the shavings or chips is thrown obliquely to one side, where it produces no difficulty.

I propose to make these cutter-heads by skilled workmen, and to supply them to manufacturers of machines, or to be introduced into machines already in use. I propose to make two kinds, one right-handed and one left-handed, so as to throw the chips to the right-hand or to the left-hand side of the machine, according as the machine shall chance to be located relatively to the steam-bailer or to the spout or other means through which the shavings are discharged.

In fig. 4 of the drawing—

M represents the general frame-work of the machine, and

B' B' a pair of feeding-rolls, driven slowly, by proper belts or other connections from the operating power.

The drawing represents the novel parts, with so much of the ordinary parts as is necessary to indicate their relation thereto.

The feeding mechanism, and also the provisions for raising and lowering the cutter-shaft, and for adapting the feeding-rolls and discharging-rolls to operate on thick and thin stuff, and the several other details of the mechanism, may be of the ordinary character necessary for the Woodworth or cylindrical planing-machines.

I am now using the invention in my regular business, and find an appreciable saving in power to result from its use.

The machine planes two feet wide, and feeds at the rate of forty feet per minute. I can plane smoothly cross-grained and caty wood, which could not be planed nearly as smooth with the ordinary cutters. I can plane off a half inch at a single cut from a wide board or plank of oak, ash, or walnut.

I have not discovered any difficulty attending the use of the invention. I had anticipated a tendency to run the board or other lumber to one side, but do not detect any in practice.

The planer in which I am using the improved

head and cutters requires, with a common head and cutter, about fifteen horse-power. It requires, with the improved head and cutters, about eight horse-power, under the same conditions, and doing the same, but better work.

I do not claim twisted cutters, broadly, those being certainly as old as 1818; but, having now fully described my invention, with what I consider the best means of carrying it into effect,

I claim as new—

The cutter-head A, herein described, in combination with corresponding cutters B and feeding mechanism B<sup>1</sup> B<sup>2</sup>, arranged for joint operation, as and for the purposes herein set forth and described.

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

JOHN MORE.

Witnesses:

WM. C. DEY,

A. HOERMANN.