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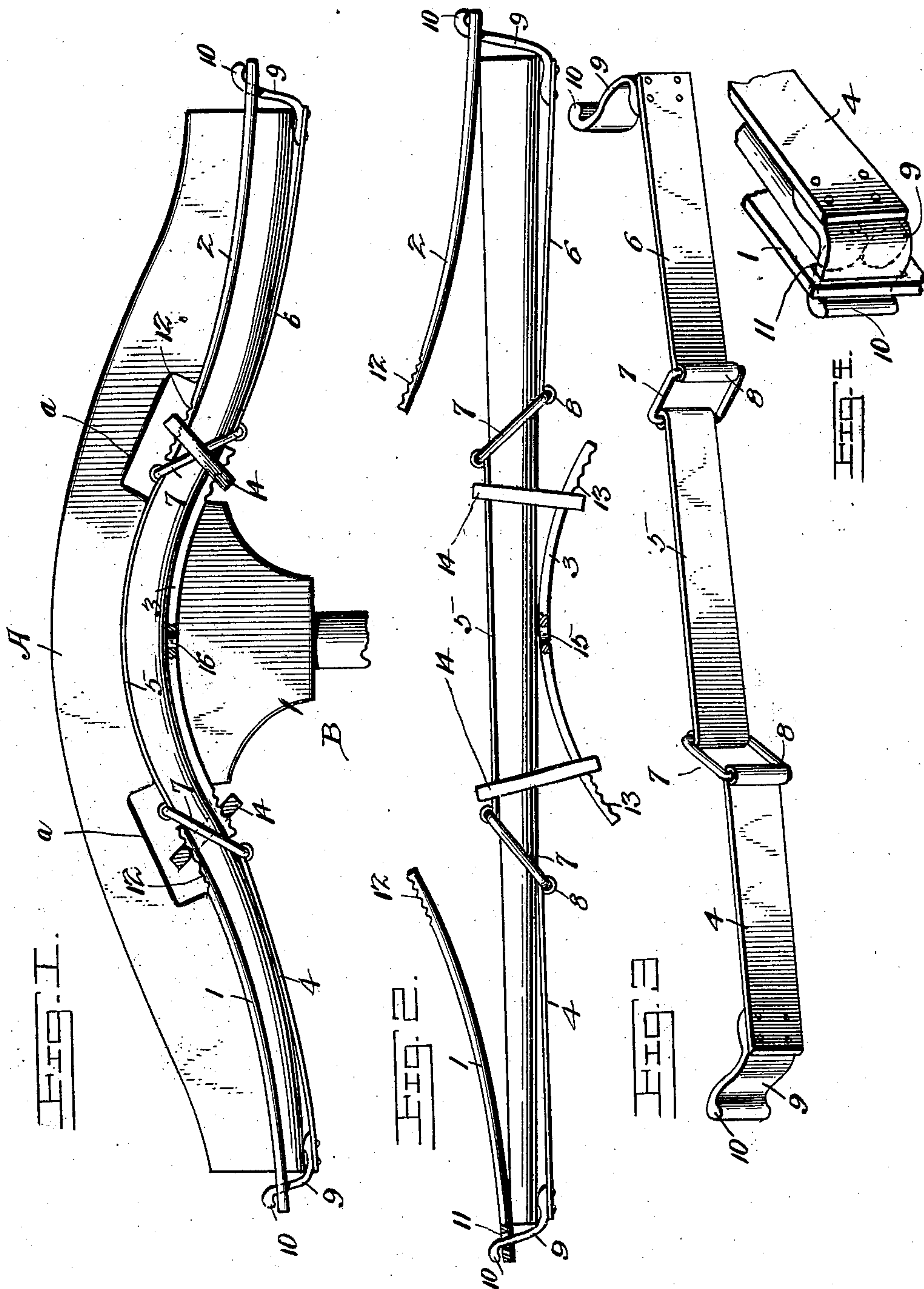
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G. M. FENN.

FRAME FOR BENDING SCYTHE SNATHS.

(Application filed Aug. 31, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

GEORGE M. FENN, OF CHARLOTTE, MICHIGAN.

FRAME FOR BENDING SCYTHE-SNATHS.

SPECIFICATION forming part of Letters Patent No. 687,144, dated November 19, 1901.

Application filed August 31, 1901. Serial No. 74,023. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. FENN, a citizen of the United States, residing at Charlotte, in the county of Eaton and State of Michigan, have invented a new and useful Frame for Bending Scythe-Snaths, of which the following is a specification.

This invention relates generally to wood-bending apparatus, and specifically to a frame for bending scythe-snaths.

The objects of the invention are to prevent stretching of the fibers of the blank on the outside of the bends and to effect compression of the fibers on the inside thereof, to prevent splintering or breaking of the blanks, to obviate injury to the snath when being removed from the bending-frame, to effect large saving of labor in associating the blank with the frame, to cheapen the cost of production of the snath, to effect uniformity of the output, and generally to simplify and improve the existing modes of manufacturing scythe-snaths.

The object first stated is attained by means presenting resistance to the end thrust of the convex sides of the blank, thereby crowding or forcing the fibers on the outside of the bends toward the centers thereof and preventing the fibers at the inside of the bends from assuming a position tending toward a straight line.

The object second stated is attained by the employment of a flexible metallic jacket, which bears tightly against the bent surface of the snath.

The object third stated is attained by making the frame members separable, so that when the snath has been thoroughly dried the frame members may be disassociated from the snath to permit its removal.

The object fourth stated is attained by the employment of a frame constructed to receive the said blank without any adjustment of parts, after which the members of the frame are brought into operative relation to the snath to effect bending.

The object fifth stated is attained by the employment of a frame constructed to receive at one time a plurality of snath-blanks, so that at one operation of the bending-frame several snaths may be produced, and the object sixth stated is attained by the employ-

ment of rigid forms having the curves of the finished snath, by which arrangement all of the snaths produced will be uniform and practically of exact contour.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a frame for bending scythe-snaths, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, there is illustrated a form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements herein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the scope of the invention, and in these drawings—

Figure 1 is a view in plan exhibiting a snath associated with the frame and pressed into shape. Fig. 2 is a similar view showing the position of the parts of the frame prior to the bending of the snath. Fig. 3 is a detached detail view in perspective of the flexible jacket. Fig. 4 is a fragmentary detail view showing the manner of assembling a plurality of snaths with the frame.

Referring to the drawings, A designates a matrix or head-block, and B a die or plunger coacting with the matrix to impart form to the snath. These parts form elements of an ordinary press, the other parts of which are not necessary to be shown, as their construction and operation will be readily understood.

The frame or holder for retaining the bent snath in position until dried comprises three rigid forms 1, 2, and 3, whereof the forms 1 and 2 are counterparts of each other and engage the end portions of the snath and the form 3 engages the center or belly portion of the snath, the form 3 being reversely curved to the forms 1 and 2 for this purpose. Coacting with the forms is a flexible jacket comprising three plates 4, 5, and 6, each the counterpart of the other, the plate 5 being associated with the plates 4 and 6 by links 7. The manner of associating the links with the plates is shown as effected in this instance by providing the two ends of the plate 5 and one

end of each of the plates 4 and 6 with a loop or eye 8, formed by bending a length of the end of each of the plates around the side bars of the links; but it is to be understood that these parts may be assembled by other means than that shown and still be within the scope of the invention. Secured to the outer end of each of the plates 4 and 6 is an abutment 9, each having an outcurved end 10, designed to pass through a transverse opening 11 in the outer end of each of the forms 1 and 2 and to engage with the form adjacent to the opening, thereby to hold the forms from separation from the abutments and also to present fulcrums for the said forms. The abutments further serve the important function of end bearings to receive the end thrust of the convex side of the snath, by which, as before pointed out, stretching of the fibers of the blank on the outside of the bends is prevented and compression of the fibers on the inside of the bend is effected.

The inner end of each of the forms 1 and 2 is provided with a plurality of transversely-disposed serrations or teeth 12, and both ends of the form 3 are similarly provided with teeth 13, the teeth on the two sets of forms being oppositely disposed and are engaged when the snath has been bent to shape, as shown in Fig. 1, by clamps 14, which interlock with the two series of teeth, as clearly shown in the above figure, these clamps to be of a size to straddle or inclose the links 7.

When a snath-blank is to be bent into form, the same is steamed or otherwise treated to render it flexible, and the flexible jacket is then associated with the blank, as shown in Fig. 2. When so positioned, the plates 4 and 6 rest against the end portions of the blank and the plate 5 rests against the center portion thereof, the ends of the blank being in engagement with the abutments 9. The forms 1 and 2 are then hooked into engagement with the ends of the abutments, as shown in Fig. 2, and the form 3 is placed against the concave side of the blank, this plate being provided with an orifice 15, to be engaged by a pin 16 on the plunger, whereby to hold the form in proper operative relation to the blank. The blank, with the frame so associated, is then placed in the press and the plunger B is operated, thereby bending the snath to the proper shape and bringing the ends of the forms 1, 2, and 3 into engagement with the blank, whereupon the clamps 14 are brought into engagement with the serrated faces of the forms, thereby securely locking the forms against the blank, and thus holding it in the shape bent, the disposition of the teeth on the forms being such that any tendency on the part of the snath to straighten out will operate to cause the clamps to become more firmly associated with the said teeth. In order to permit adjustment of the clamps with relation to the forms, the matrix A is provided with two recesses *a*, through which the hands of the operator may be inserted to effect the

requisite adjustment. The plunger is now retracted and the snath, with the attached frame, placed in a kiln and thoroughly dried, after which by loosening the clamps 14 the snath may readily be removed from the frame, thereby obviating the necessity of driving the snath from the forms, such as is necessary with the bending-machines in ordinary use for this purpose, thus obviating danger of marring or injuring the snath.

By the manner of procedure described it will be seen that there is a compression of the snath on the inside of each bend thereof, thereby preventing any tendency of the fibers becoming crushed or destroyed by the pressure applied, and also a flexible band bearing against the outside of the bend, which will effectively prevent any splintering or cracking of the blank at those points. The end resistance of the abutments 9 prevents stretching of the blank and consequent separation of fibers on outside of the bend, whereby the finished snath will be smooth and devoid of splinters, and will thus be of effective service in use.

It is to be understood that the forms and the members of the flexible jacket may be of such width as to permit several snaths being made at one time, and as this will be readily understood illustration is deemed unnecessary.

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

1. A frame for bending scythe-snaths, comprising, in combination, a series of forms having convex surfaces engaging the work alternately on opposite sides, and a jacket having flexible connected sections engaging opposite sides of the work alternately and arranged opposite the fixed forms, the end forms being connected at their outer ends to the outer ends of the jacket, and means for connecting the outer ends of the inner to the inner ends of the outer forms.

2. A frame for bending scythe-snaths, comprising, in combination, a series of forms having convex surfaces engaging the work alternately on opposite sides, and a jacket having flexible connected sections engaging opposite sides of the work alternately and arranged opposite the fixed forms, the end forms being connected at their outer ends to the outer ends of the jacket, such connections bearing on the ends of the work and resisting the end thrust of the convex sides thereof, and means for connecting the outer ends of the inner to the inner ends of the outer forms.

3. A frame for bending scythe-snaths, comprising, in combination, a series of forms having convex surfaces engaging the work alternately on opposite sides, and a jacket having flexible connected sections engaging opposite sides of the work alternately and arranged opposite the fixed forms, means for detachably connecting the end forms to the outer ends of the jacket, and means for con-

necting the outer ends of the inner to the inner ends of the outer forms.

4. A frame for bending scythe-snaths, comprising, in two rigid end forms each provided
5 at one end with an eye and at the opposite end with a plurality of serrations or teeth, a rigid center form having its extremities provided with serrations or teeth, a flexible jacket composed of a plurality of sections connected by
10 links adapted to permit the work to be passed therethrough, the extremities of the outer sec-

tions carrying abutments adapted to engage the eyes of the rigid end forms, and clamps to engage the teeth or serrations on the series of forms.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE M. FENN.

Witnesses:

JOHN C. NICHOLS,
ERNEST G. DAVIDS.