(No Model.) 2 Sheets—Sheet 1.

C. B. HATFIELD.

SCALLOPING MACHINE.

No. 372,413. Patented Nov. 1, 1887.

Fig. 1.

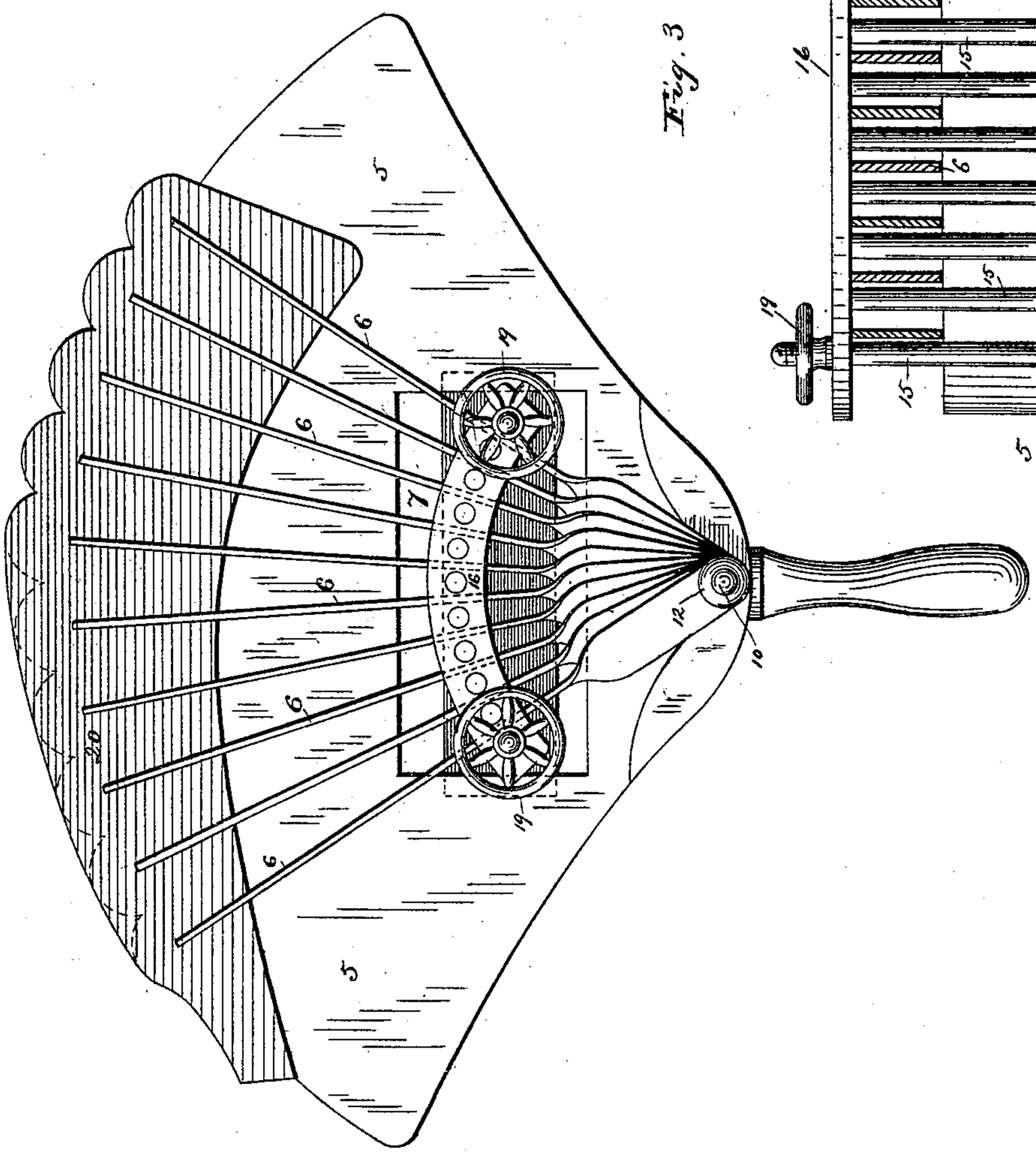

Fig. 3.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

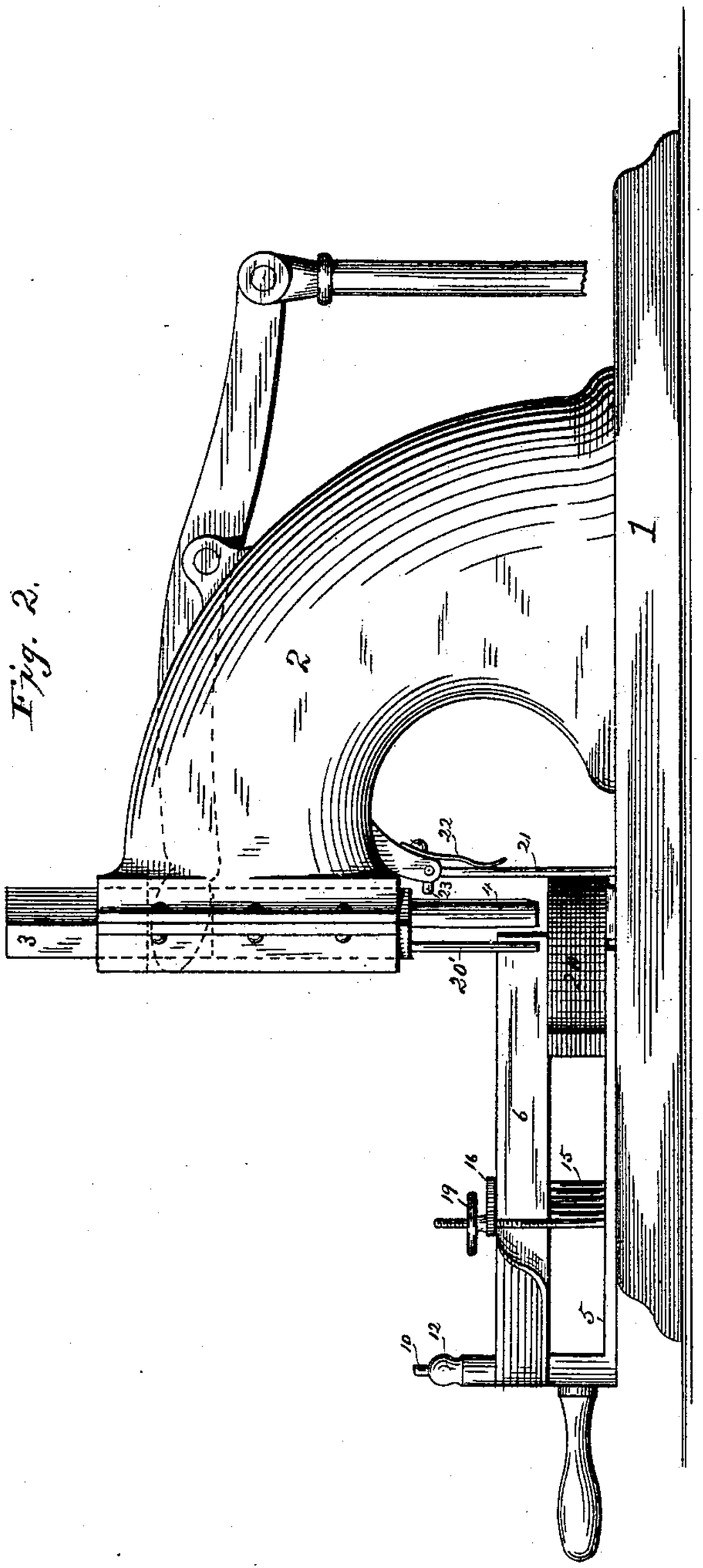
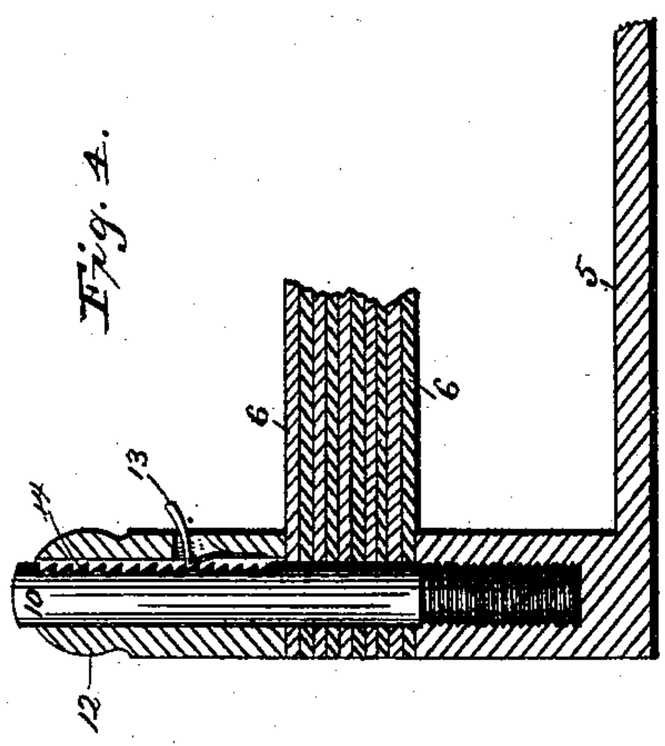


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES B. HATFIELD, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE ROCHESTER SHOE MACHINERY COMPANY, OF SAME PLACE.

SCALLOPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 372,413, dated November 1, 1887.

Application filed July 19, 1887. Serial No. 244,782. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. HATFIELD, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Scalloping-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to improvements in that class of cutting-machines more especially designed and adapted for cutting scallops; and it consists, principally, in the novel form, construction, and application of a blank-holding and scallop-locating device, all as hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a top plan view of my improved blank-holder. Fig. 2 is a side elevation of a cutting-press, showing the manner of applying and using my present improvements. Figs. 3 and 4 are views illustrating details of construction.

Similar letters of reference in the several figures indicate the same parts.

The cutting-press employed may be of any ordinary or preferred form, and in the illustration given comprises the usual bed-plate, 1, head or standard 2, and reciprocating plunger or slide 3, carrying a scalloping-chisel, 4.

The blank carrier or support is composed of a movable plate or base-piece, 5, a series of movable arms or blades, 6, and a regulating or adjusting device, 7, acting upon the arms 6 to simultaneously and accurately position them, so that when the first and last arms of the series are placed over or opposite the points at which the first and last scallops are to be formed each of the intermediate arms will occupy a position corresponding to one of the intermediate scallops, and thus, the length of fly and number of scallops being given, it is only necessary to adjust the two outer blades or arms in order to accurately locate each intermediate scallop, thereby dispensing with a multiplicity of forms and gages.

Although the principal features of this invention, comprehending a series of movable arms, blades, or pointers and a device for simultaneously locating each intermediate arm or pointer by and in accordance with the adjustment of the two outer arms of the series, may be embodied in various forms and modifications of the devices shown, I have illustrated one of the simplest and most efficient forms in which the invention has at present been embodied.

The several arms or blades of the series are preferably supported upon a common pivot or pin, 10, rising from the base-plate 5, and in order to economize space, reduce the cost of manufacture, and at the same time preserve the requisite strength of the parts the blades are each formed of a narrow strip or bar, preferably of metal, the forward or outer portion standing vertically or edgewise, while the rear end is given a quarter turn or twist, so as to lie in a horizontal plane; and in order that the several blades may be brought close together the twisted or pivot portions are formed at different points in the width of each blade, the horizontal portion of one blade at the top edge, the next lower, and so on.

The several blades may be held in position upon the post 10 by any suitable clamping device; but in order to facilitate the removal or addition of one or more blades a removable clamp should be used—such, for example, as shown in Fig. 4, consisting of a head, 12, carrying a spring-pawl, 13, engaging teeth 14 on the pivot-pin 10.

The spreader or adjusting device shown consists of a frame or support movable toward and from the pivot on which the blades are hung, and carrying a series of pins or posts, 15, between which the blades or arms 6 are received. The frame is preferably composed of upper and lower plates 16, to one of which the pins or division-strips 15 are secured, while the other is movably supported above the blades.

The lower plate 16 is guided on the base-plate 5 so that it can be adjusted toward and from the pivot of the arms or blades, and is secured in adjusted position; but it is prevented from vertical movement upon the base-plate by suitable flanges or guides. This arrangement is adopted in order that when pressure

is applied to the upper plate 16, as by adjusting-nuts or cam-levers 19, applied so as to bear against said plate, the series of blades or arms may be pressed or forced down toward the base-plate, and their outer ends, which are elevated above the bed-plate, may serve as clamps for holding the blanks in position, as will presently be explained.

It will be observed that the pins 15, being interposed between contiguous arms or blades and at a point intermediate the ends of said arms and their pivoted point of support, serve to hold the outer ends of the arms separated a distance proportional to the width of the pin and its distance from the pivot, and when the frame carrying said pins is caused to approach or recede from the pivot, or vice versa, all the arms or blades in the series will be moved laterally, the separation or approach of their outer ends being proportional to the movement of the frame and the width of the pins. In the example given the pins 15 are of uniform width and are disposed in the arc of a circle, so that as the frame carrying said pins is moved toward or from the pivot of the arms, or vice versa, all the arms in the series will be simultaneously adjusted and held at substantially equal distances apart, be the space larger or smaller. When using this holder, a number of blanks, 20, are placed on the bed-plate beneath the outer ends of the series of blades 6, and the frame carrying the spreading-pins is moved inward or outward until the arms 6 at the opposite extremities of the series stand over or opposite the points at which the first and last scallops are to be formed. When this adjustment has been made, the top plate 16 is forced down upon the blades, thereby holding the latter in position, and at the same time firmly clamping the blanks upon the bed-plate. As by the adjustment of the two outer blades each intermediate blade is caused to move proportionally, it follows that the space between the outer blades will be accurately proportioned between the several intermediate blades, the latter being adjusted to substantially equal distances apart, and as the number of blades used is governed by the number of scallops to be formed on the given blank each blade will represent by its location upon the blank the proper position for one scallop.

As I prefer to employ a chisel which co-operates with a bed or female die, the outer edge or face of the base-plate 5 is curved in the arc of a circle, so that when the blanks are clamped thereon their outer edges will project beyond the base-plate.

The adjustable blades 6, which serve the double purpose of locating the scallops and holding the blanks in position upon the base-plate, are also utilized in positioning the blanks under the chisel. To this end a pin or stop, 20′, is secured to the frame of the press in position to engage the plates 6 near their outer ends, so that as each plate is brought against the stop by the manipulation of the holder the blank will be presented in proper position for the chisel to operate upon it, the chisel being of the usual form generally employed in scalloping.

The depth of cut is regulated by means of a stop, 21, located upon the press head or frame, and in order that this stop may be located as near the cutter as practicable without interfering with the action of the chisel I pivot it upon the head or frame, and provide a spring, 22, for holding the gage or stop down or in position to co-operate with the edge of the blank, and I also provide a projection or shoulder, 23, in position to engage the reciprocating head or slide of the press, so that as the chisel descends the stop will be pressed to one side and out of the way of the material removed by the chisel.

Having thus described my invention, what I claim as new is—

1. In an attachment such as described, a blank-support, a series of independent movable blades or arms for locating the scallops, and a movable adjusting-frame co-operating with said blades to simultaneously adjust the series, substantially as described.

2. In an attachment such as described, the combination, with a bed-plate or support for the blanks, of a series of independently-movable blades or arms for locating the scallops, and a series of pins or guides co-operating with the blades to simultaneously shift the latter, substantially as described.

3. In an attachment such as described, the combination, with a support for the blanks, of a series of laterally-movable blades or arms for locating the scallops, a movable frame co-operating with said arms or blades to simultaneously adjust the latter, and a clamp for pressing said arms down upon the blades, substantially as described.

4. In an attachment such as described, the combination, with a support for the blanks, of a series of pivoted arms or blades radially arranged, and an adjustable frame provided with pins or guides engaging said arms, substantially as described.

5. In an attachment such as described, and in combination with the blank-supporting plate and the series of radially-arranged arms pivoted thereto, a movable frame provided with a series of pins or guides for the reception of said arms, substantially as described.

6. In an attachment such as described, and in combination with a supporting-plate, radial arms pivoted thereon, and a movable frame carrying pins or guides for engaging said arms to simultaneously adjust the latter, a clamp co-operating with said arms to press their outer ends in contact with the blanks, substantially as described.

7. In an attachment such as described, the combination, with the movable frame provided with a series of pins or guides, of the series of pivoted arms or blades and the movable clamping-plate, substantially as described.

8. In an attachment such as described, the combination, with the base-plate and the ad-

justing-frame, of the series of scallop-locating blades mounted upon a single pivot, substantially as described.

9. In combination with the base-plate and a spreading-frame, the series of pivoted arms or blades, each composed of a twisted plate and all mounted on a single pivot, substantially as described.

10. An attachment for scalloping-machines, such as described, consisting, essentially, of a base-plate and a series of laterally-adjustable arms for locating the scallops, in combination with the chisel and a stop for engaging the adjustable arms to position the blank for each scallop, substantially as described.

11. An attachment for a scalloping-machine, consisting, essentially, of a blank-support, a series of laterally-adjustable scallop-locating arms, and an adjusting frame or device for simultaneously shifting the said arms, in combination with a reciprocating chisel and a stop or gage co-operating with said scallop locating arms, substantially as described.

12. An attachment for scalloping-machines, comprising a movable blank-support, a series of laterally-adjustable scallop-locating arms, and a clamp for pressing said arms upon the blanks, in combination with a reciprocating chisel and a gage or stop for co-operating with said arms, substantially as described.

13. In a scalloping-machine, and in combination with the reciprocating chisel and a movable blank-support, a movable gage and devices, substantially such as described, intermediate the gage and plunger, for effecting the withdrawal of the gage as the chisel descends.

14. In a scalloping-machine, the combination, with a movable blank-holder provided with a series of scallop-locating arms and the reciprocating chisel, of a gage for determining the depth of cut and a stop co-operating with the scallop-locating arms, substantially as and for the purpose set forth.

15. In an attachment such as described, the combination, with the blank-support, of the series of twisted blades, the outer ends standing in vertical planes and their rear ends horizontally and associated together upon a single pivot, substantially as described.

16. In an attachment such as described, the series of radially-pivoted arms, the radially-adjustable frame provided with a series of guides for the reception of the arms, and a clamp acting upon said arms to depress their outer ends, substantially as described.

17. In a blank-holding and scallop-locating device such as described, the combination, with the base-plate, of a series of movable arms and a spreading device engaging each of said arms to simultaneously and proportionally adjust the whole series, substantially as described.

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