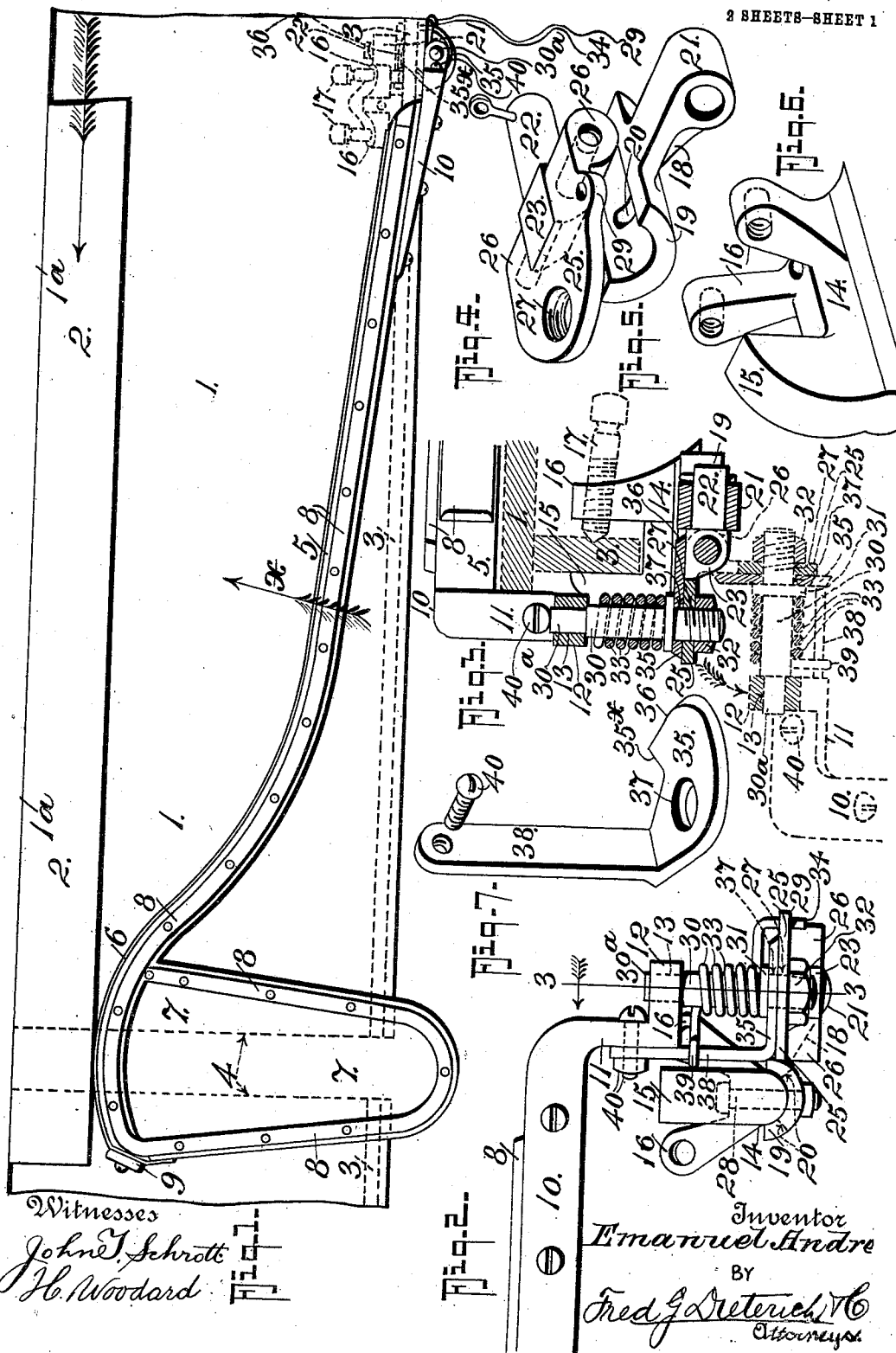


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Patented June 13, 1911

2 SHEETS-SHEET 1



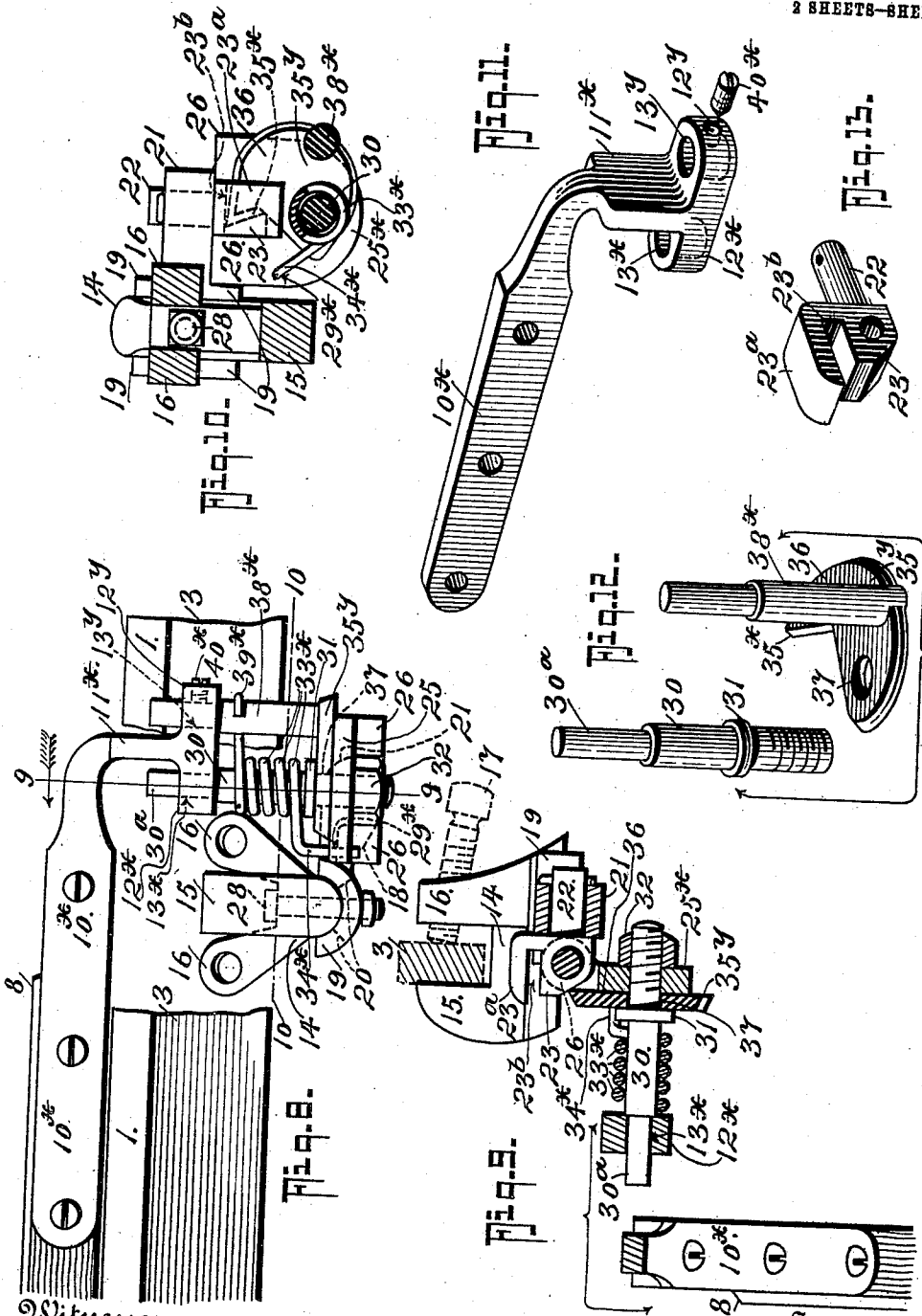
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Witnesses

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CUTTER-GUARD.

994,898.

Specification of Letters Patent. Patented June 13, 1911.

Application filed November 23, 1910. Serial No. 593,895.

To all whom it may concern:

Be it known that I, EMANUEL ANDRE, residing at Marinette, in the county of Marinette and State of Wisconsin, have invented a new and Improved Cutter-Guard, of which the following is a specification.

My invention is an improved cutter guard for planing and joining machines, and it more particularly relates to that type of device disclosed in my Patent No. 961,198, patented June 24, 1910, the present invention being a modification and an improvement on the device disclosed in my patent referred to.

The present invention has for its object to provide a more durable device than is the form shown in my former patent, and in which means are provided whereby the guard and its arm may be lifted vertically, while in its active position parallel with the planer bed, so as to more readily permit its being swung to its inoperative position.

Again, my invention resides in those novel details of construction, combination and arrangement of parts, all of which will be first fully pointed out in the specification, specifically pointed out in the appended claims, and illustrated in the accompanying drawings, in which:

Figure 1, is a top plan view of the invention. Fig. 2, is an enlarged detail side elevation of a part of my invention. Fig. 3, is a section on the line 3—3 of Fig. 2. Fig. 4, is a detail perspective view of the hinge piece and the hinge plate. Fig. 5, is a detail perspective view of the rocking arm. Fig. 6, is a detail perspective view of the clamp member. Fig. 7, is a detail perspective view of the catch member. Fig. 8, is a side elevation (parts being broken away) showing a further modification of the invention. Fig. 9, is a cross section on the line 9—9 of Fig. 8. Fig. 10, is a section on the line 10—10 of Fig. 8. Fig. 11, is a detail perspective view of the cutter guard arm bracket. Fig. 12, is a detail perspective view of the catch member and the pivot pin. Fig. 13, is a detail perspective view of the fixed hinge piece showing its guard 23^a and slot 23^b.

Referring now to the accompanying drawings, in which like letters and numerals of reference indicate like parts in all of the figures, 1 designates a planer bed which has the depending front plate 3, the bed 1 having the cutter opening 4 and the fence 1^a,

against which the board 2 to be planed is held by the arm 5.

5 designates the cutter guard carrying arm which carries the guard plate 7 at its free end and is curved at 6 where it engages the board 2, suitable strengthening plates 8 being provided for the usual purpose, while the anti-friction roller 9, at the other end of the arm 5, serves to retain said arm out of contact with the bed 1, and make its movement easier. Secured to the arm 5 at its pivoted end is a body 10 having a leg 11 projecting in a foot 12 which is apertured at 13 to fit on the reduced end 30^a of the pivot bolt 30.

14 is a clamp member which has the front head 15 and the rear diverging arms 16 in which the set screws 17 are threaded so that the clamp member 14 may be held to the bar 3, as shown in Fig. 3 of the drawings.

The clamp member 14 has its lower edge rounded to receive the spoon bearing end 19 of the rocker arm 18, the end 19 having a slot 20. The arm 18 terminates at its other end in a bearing 21 to receive the spindle portion 22 of the relatively fixed hinge piece whose head 23 is pivoted between the lugs 26 of the hinge plate 25, the hinge plate 25 having a threaded aperture 27 for the threaded end of the pivot pin 30, which is locked in the plate 25 by a lock nut 32 to form a rigid pivot pin.

The plate 25 has an ear 29 to receive the end 34 of the coil spring 33, which is fitted on the pivot pin 30 above the collar 31, the other end 39 of the spring 33 being hooked around the arm 38 of the catch member 35 hereinafter again referred to. The rocker arm 18 is secured to the clamp 14 by a bolt 28, best indicated in Fig. 2 of the drawings, so that the arm 18 may have a limited rocking movement or adjustment on the clamp 14. The catch member 35 is of substantially the same pattern as that disclosed in my patent hereinbefore referred to and includes an aperture 37 to permit passage of the pivot pin 30, the member 35 being located between the collar 31 and the hinge plate 25. The catch member 35 has also the eccentric portion 36 which is adapted to lap over the head 23 of the hinge piece and prevent movement of the plate 25 with relation to the hinge piece when the parts are positioned, as shown in Figs. 1, 2 and 3 of the drawings.

The catch member 35 has an upwardly projecting arm 38 which is secured to the leg 11 of the body 10 by a bolt and nut 40, as shown, thereby holding the foot 12 on the pin 30.

The operation of my invention it is believed will be clearly apparent to those skilled in the art. When the guard 7 is placed over the cutter (not shown) on the bed 1 of the planer, the spring 33 will force the arm 5 in the direction of the arrow x in Fig. 1, thereby always keeping it in contact with the board 2.

When it is desired to move the arm 5 and guard 7 to an inoperative position, the operator simply pulls the guard 7 in a direction opposite to the arrow x in Fig. 1, lifting it more or less, as may be desired, the lifting movement being allowed by provision of the slot 20, and as soon as the guard 7 has been moved in a direction opposite to the arrow x in Fig. 1, a distance sufficient to release the eccentric portion 36 from engagement with the head piece, the guard 7 may be turned through an angle of 90° , this turning being allowed by reason of the hinge connection between the plate 25 and the head 33 and the guard holder to lie in a vertical plane beneath the level of the top of the planer bed 1 in a position corresponding to the position shown in Fig. 2 in my patent hereinbefore referred to. The shoulder 35^x of the catch member 35 will engage the hinge piece 23 and hold the arm 5 in its inoperative position.

In Fig. 8 *et seq.* I have disclosed a further modification of the invention in which the bracket 10^x has the downwardly projecting arm 11^x and the forwardly projecting portion 12^x which is apertured at 13^x to fit on the section 30^a of the pivot bolt 30. The downwardly projecting portion 11^x has a forwardly extending lug 12^y that is bored at 13^y to fit onto the arm 38 that is formed with the catch member 35^y, the catch member 35^y being otherwise substantially of the same construction as that shown in Fig. 7 of the drawings. The bracket portion 12^y is secured to the arm 38^x by a set screw 40^x shown in detail in Fig. 11 of the drawings. In this form of my invention also the hinge plate 25^x has an aperture 29^x on the side opposite to the apertured lug 29 of the form shown in Fig. 4, to receive the end 29^x of the spring 33^x whose other end 39^x engages the arm 38^x to move the cutter guard carrying arm 8 in the direction of the arrow in Fig. 1. The remaining parts of the form shown in Fig. 8 *et seq.* are substantially the same as the corresponding parts in the first form of my invention disclosed in this application, and a further description thereof is thought to be unnecessary.

From the foregoing description taken in connection with the accompanying drawings,

it is thought the complete construction, operation and advantages of my invention will be readily understood by those skilled in the art to which the invention appertains.

What I claim is:

1. An arm having a cutter guard to lie over the cutter of a planing machine, a clamp securable to the planing machine bed, a rocking arm mounted on said clamp, a fixed hinge piece carried by said rocking arm, a movable plate hinged to said hinge piece, means for pivotally mounting said cutter guard arm on said hinge plate, and means preventing said hinge plate from moving with relation to said hinge piece when said guard arm is in position on the planer.

2. An arm having a cutter guard to lie over the cutter of a planing machine, a clamp securable to the planing machine bed, a rocking arm mounted on said clamp, a fixed hinge piece carried by said rocking arm, a movable plate hinged to said hinge piece, means for pivotally mounting said cutter guard arm on said hinge plate, means preventing said hinge plate from moving with relation to said hinge piece when said guard arm is in position on the planer, and means at the guard carrying end of said guard arm preventing its contact with the planer bed.

3. A guard mechanism for planer cutters comprising an arm carrying a guard plate to cover the cutter when in one position, a relatively fixed hinge piece, a hinge plate hinged to said hinge piece, said arm being pivotally mounted at one end on said hinge plate, means preventing said hinge plate from moving when said arm is in position on the planer bed, a rocking arm on which said hinge piece is secured, and means for mounting said rocking arm on the planer frame.

4. In a device of the character stated, a clamp securable to a planer bed, an arm adjustably secured to said clamp, a hinge piece held by said adjustable arm, a hinge plate having lugs pivoted to said hinge piece, a pivot bolt carried by said hinge plate, a guard carrying arm pivoted on said pivot bolt, a brace on said pivot bolt connected to said arm, and a coil spring on said pivot bolt having its ends engaging said brace and said hinge plate to move said arm in one direction.

5. In a device of the character stated, a clamp securable to a planer, an arm adjustably secured to said clamp, a hinge piece held by said adjustable arm, a hinge plate having lugs pivoted to said hinge piece, a pivot bolt carried by said hinge plate, a guard carrying arm pivoted on said pivot bolt, a brace on said pivot bolt connected to said arm, a coil spring on said pivot bolt having its ends engaging said brace and

said hinge plate to move said arm in one direction, and means movable with said arm for holding said hinge plate in fixed relation to said hinge piece at times.

5 6. In a mechanism of the class described, a clamp securable to the frame of a planer, a rocker arm secured to said clamp, said
10 rocker arm having a clamp engaging portion at one end and a bearing at its other end, a hinge piece pivotally mounted in said bearing, said hinge piece having a head, a
15 hinge plate pivoted to said head, a pivot bolt carried by said hinge plate, a catch member mounted on said bolt, said catch
20 member having an arm, a body having a leg to which said arm is joined, said body having a foot apertured to fit on said bolt, and a coil spring on said bolt engaging said arm and said hinge plate, together with a
25 cutter carrying arm secured to said body.

7. An arm having a cutter guard to fit over the cutter of a planing machine, a fixed support, a relatively fixed hinge piece carried by said support, a hinge plate hinged
25 to said hinge piece, a pivot pin rigidly carried by said hinge plate, a bracket member secured to said arm and having an apertured lug to fit on said pivot pin, a catch
30 plate pivoted on said pivot pin and movable over said hinge plate and said fixed hinge piece at times, said catch plate hav-

ing an arm projecting at right angles to the same, said bracket member having an apertured lug to receive said arm, a coil spring
35 mounted on said pivot pin and engaging said catch piece arm and said hinge plate to cause said catch piece to turn on said hinge pin and consequently move said cutter guard arm in one direction.

8. In a mechanism of the class described, 40 a clamp securable to the frame of a planer, a rocker arm secured to said clamp, said rocker arm having a clamp engaging portion at one end and a bearing at its other end, a hinge piece pivotally mounted in said 45 bearing, said hinge piece having a head, a hinge plate pivoted to said head, a pivot bolt carried by said hinge plate, a catch member mounted on said bolt, said catch member having an arm, a bracket member 50 having a leg provided with oppositely projecting lugs, one of said lugs to fit on said pivot bolt and the other of said lugs to receive said catch member arm, and a coil spring on said pivot bolt engaging said 55 catch member arm and said hinge plate, and a cutter carrying arm secured to said bracket member.

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