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P. KNUTH.
GUARD FOR THE KNIVES OF MACHINES.
APPLICATION FILED MAR. 28, 1907.

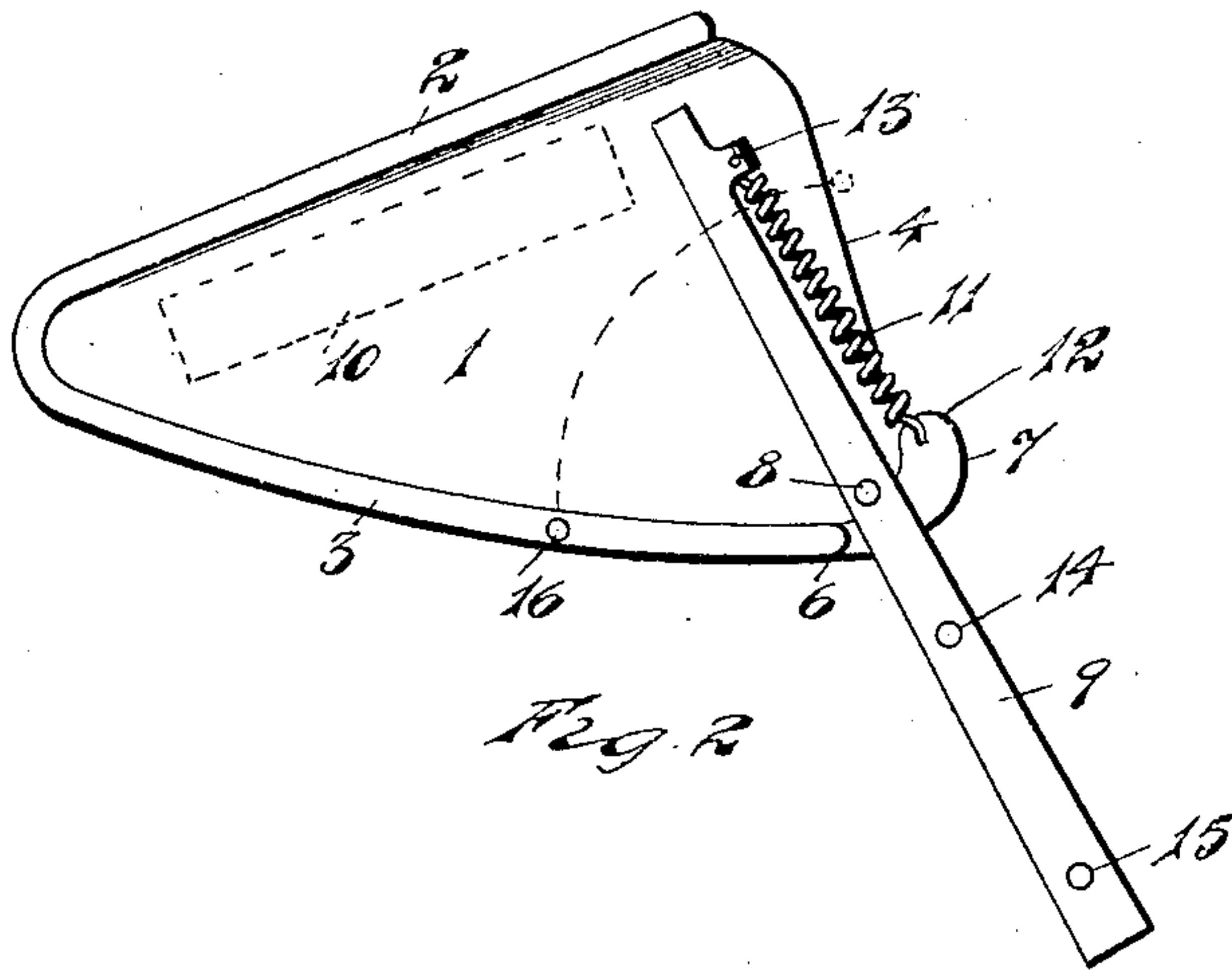


Fig. 2

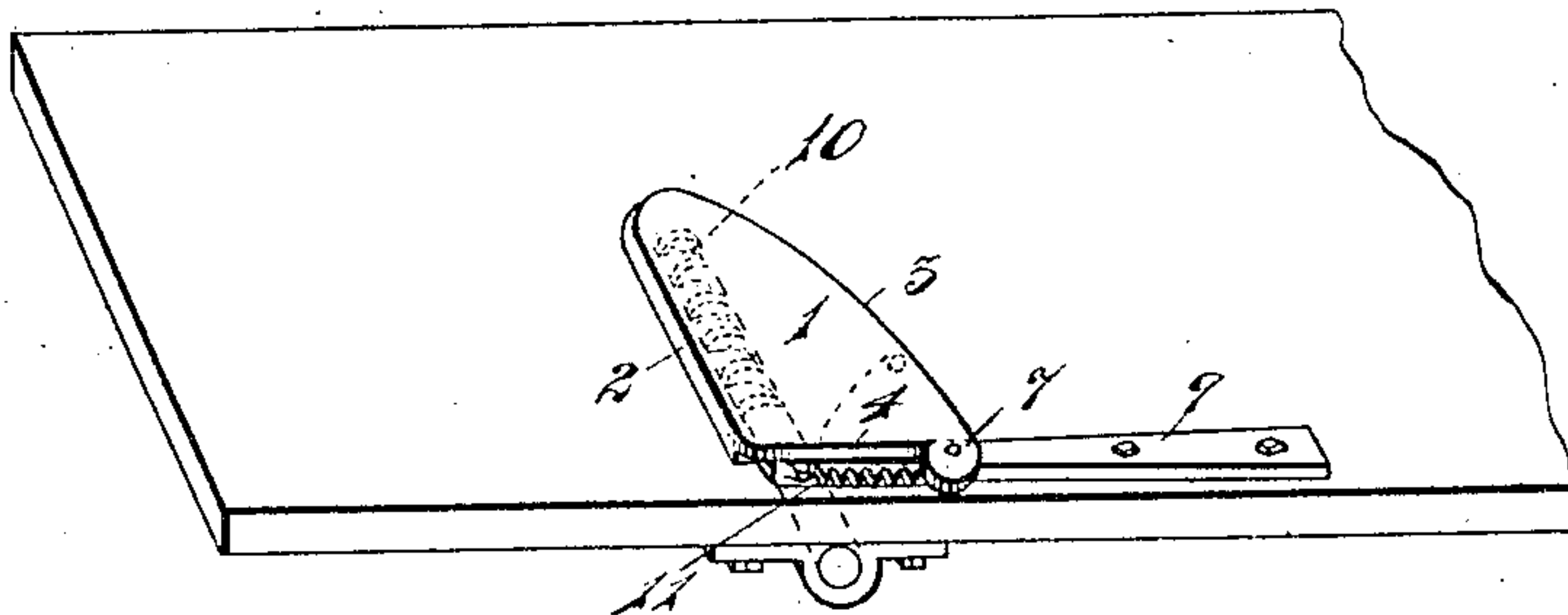


Fig. 1

WITNESSES

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PAUL KNUTH, OF ST. JOSEPH, MICHIGAN.

GUARD FOR THE KNIVES OF MACHINES.

No. 882,252.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed March 28, 1907. Serial No. 365,143.

To all whom it may concern:

Be it known that I, PAUL KNUTH, a citizen of the United States, residing at St. Joseph, county of Berrien, State of Michigan, have
5 invented a certain new and useful Improvement in Guards for the Knives of Machines, and declare the following to be a full, clear, and exact description of the same, such as
10 it pertains to make and use the same; reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to guards for the knives of machines in which there are rotary
15 knives or cutters; it is especially applicable to machines in which a small portion of the rotary cutter projects above the bed of the machine and is dangerous. In this class of
20 machines the workman is employed constantly in close proximity to the knives, and it is the purpose of the guard which forms the subject of this invention to cover the cutting
25 knives with a guard that will to a large extent protect the workman from actual contact with the knives and yet will readily yield and uncover the knives should a plank or
30 similar object be caused to travel over the knives in the ordinary way for the proper treatment of the plank.

In the drawings:—Figure 1, shows the guard in the position it assumes when in use, the position of the knife and table is indicated. Fig. 2, is a perspective showing a reversed or under view of the guard.

35 The guard consists of a plate 1, somewhat triangular in form and bounded on two sides by flanges which lift the broad surface of the plate 1 above the plane which passes through the margin of the flanges 2 and 3. The
40 flanges 2 and 3 extend around two sides of the triangular plate, leaving the third side 4, free from the flange.

Between the end 6 of the flange 3, and the extreme corner 7 of the triangular plate is a
45 section of the device provided with a pin 8, upon which is pivoted a securing arm 9. The pin 8 passes through the arm 9 and forms a pivotal connection between the arm
50 9 and the plate 1; this pin 8 is so located that the arm 9 may be bolted to the table and the plate is free to swing on the arm until the plate will clear the knife 10 of the jointer. A spring 11 is stretched between
55 a lug 12 at the angle 7 of the guard and a lug 13 at the end of the arm 9; the tension of this spring tends to swing the guard to the

position shown in Fig. 1. As the spring 11 must of necessity be located on the opposite side of the arm 9 from that along which the board slides toward the knife 10, the arm 9
60 extends under nearly the whole width of the guard along the side 4, so that as the guard turns about the pivot pin 8 it may furnish an opposite point of pulling for the spring 11, with its terminal lug 13 to the lug 12. 65

The arm 9 is provided with bolt holes 14 and 15, by which it is bolted and secured to the table of the jointer. The entire guard rides on a button 16 on the flange 3, at a distance from the end 6, such that it will swing
70 clear of the knives while it supports the guard free from the table.

The arm 9 is removably attached to the supporting table in a position of substantial parallelism with the longitudinal extent
75 thereof, so that the guard 1 extends over the knife 10, as shown in Fig. 1. When a board is to be trimmed by the knife it is run along the table, parallel with its side and with the arm 9 until it engages the guard and forces it
80 about its pivot 8 away from its position over the knife, against the pull of the spring 11. As long as any part of the board is over the knife, it holds the guard in this position projecting beyond the edge of the table. As
85 soon as the board is removed the pull of the spring 11 suffices to restore it to position over the knife and ready for displacement by the next board engaging against it.

What I claim is:— 90

1. A guard attachment for the knives of rotary cutters, having in combination a supporting arm adapted to be attached to the table substantially parallel with the path of travel of a board toward the knives, a plate
95 pivoted near one corner to a part of said arm intermediate its ends and extending over that portion between the point of pivoting and the end nearest the knives, and over the knives, and means engaging between said
100 end of the arm nearest the knives and a projecting lug portion of the plate, whereby the displacement of the plate by the engagement thereagainst of an object approaching it from a particular direction is yieldingly op-
105 posed, and the plate restored to its normal position upon the cessation of the displacing pressure thereagainst, substantially as described.

2. In combination with a supporting table
110 provided with a crosswise extending knife cavity, a knife rotatably supported therein,

an arm piece adapted to be attached to said table in a position of parallelism with respect to its longitudinal axis, a guard plate provided with downwardly depending flanges
5 on two sides pivotally supported by said arm in a horizontal plane above said cavity, said knife and that portion of said arm between the point of pivoting of the plate thereto and the end nearest said knife, and a spring connecting said guard plate to the covered end
10 of said arm whereby its movement away from its normal position because of the engagement thereagainst of an object moving lengthwise of the table is yieldingly opposed,
15 substantially as described.

3. In combination with an arm adapted to be secured to a table, a plate having depending flanges around two of its sides pivotally secured to said arm and adapted to swing

thereon with a part of said arm within the 20 cavity formed by the body of the plate and said depending flanges, substantially as described.

4. In combination with an arm adapted to be secured to a table, a plate pivotally secured to said arm and adapted to swing 25 thereon with a part of said arm at all times beneath the plate, a projection extending below the said guard upon which the guard may rest and a spring connecting the arm and the plate, whereby the plate is yieldingly 30 held from displacement from its normal position, substantially as described.

In testimony whereof, I, sign this specification in the presence of two witnesses.

PAUL KNUTH.

Witnesses:

C. E. BURCHFIELD,
GEORGE W. SCHNEIDER.