

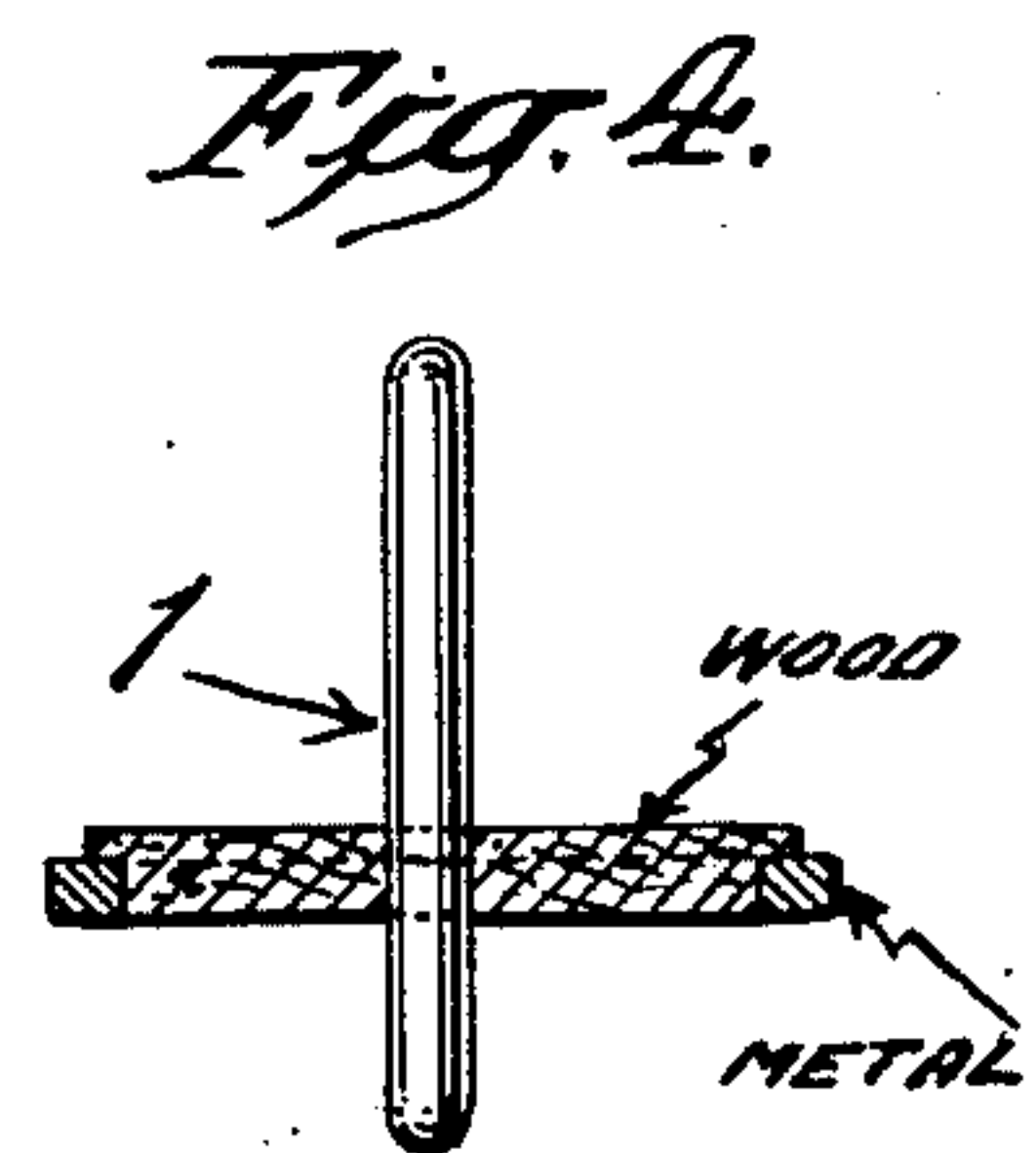
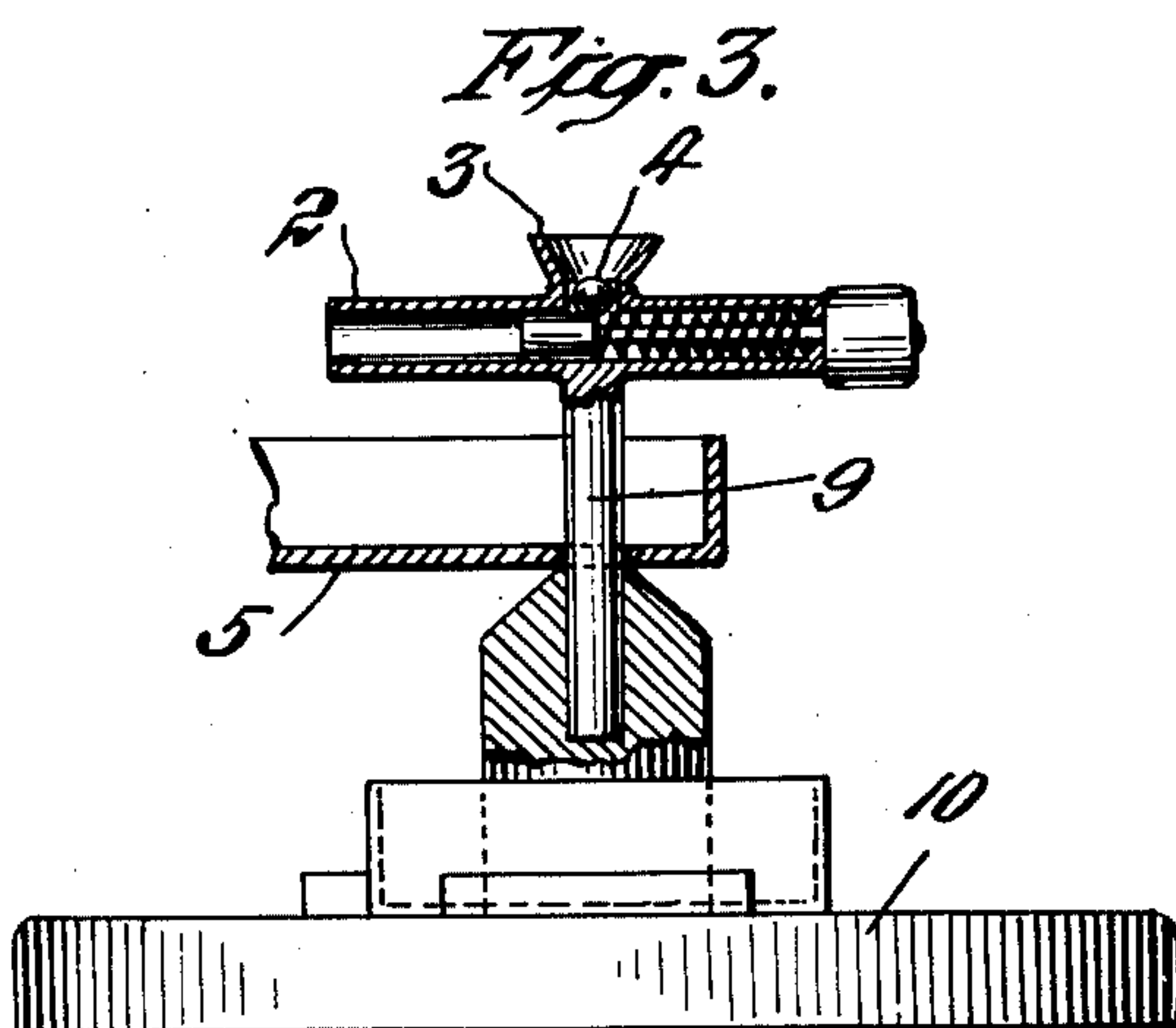
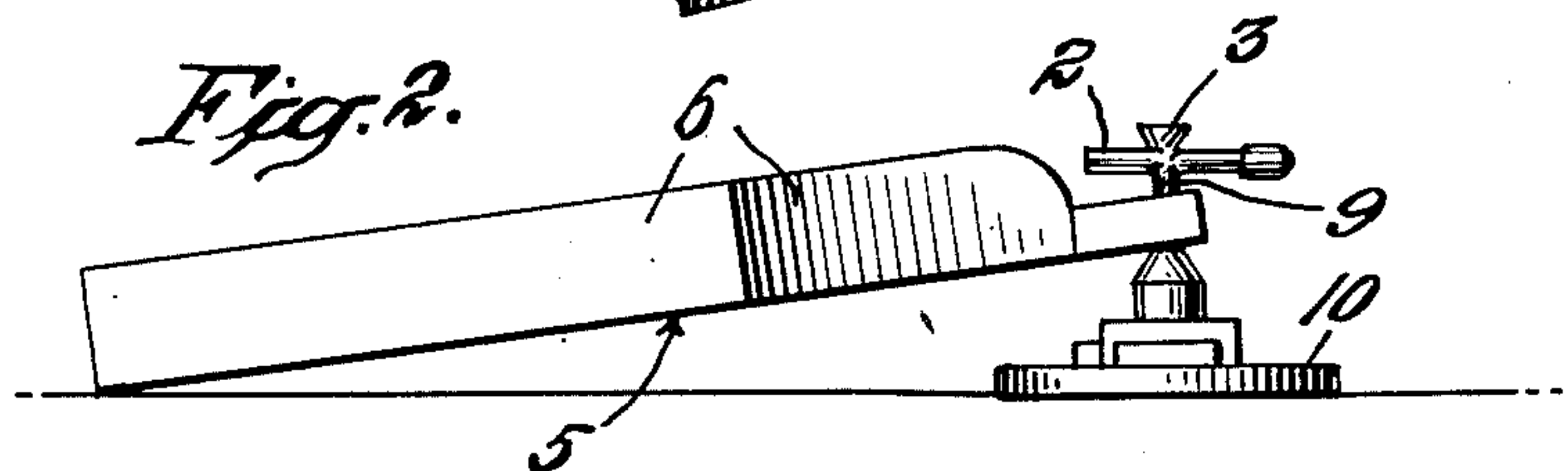
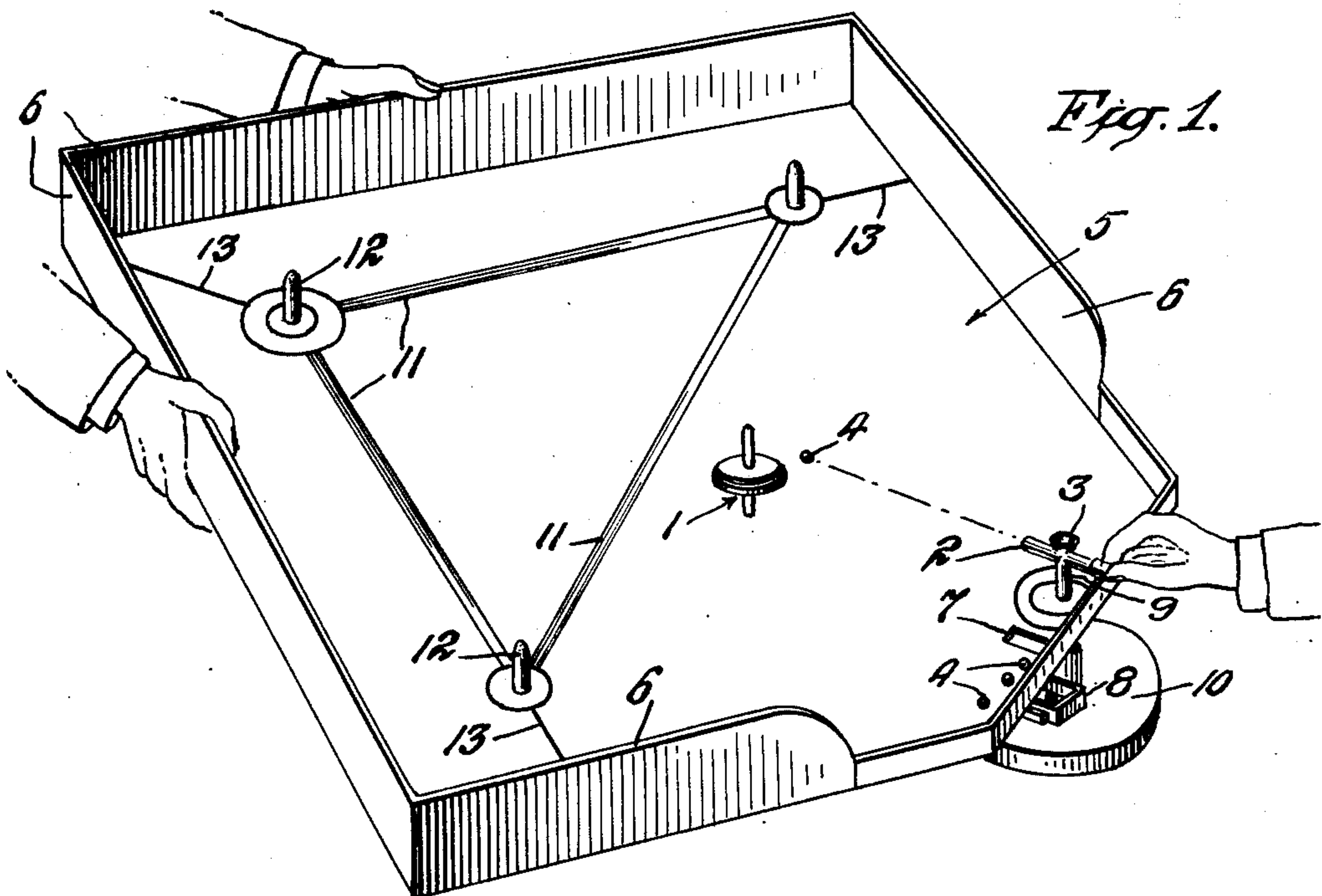
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PROJECTOR AND SPINNING TARGET

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PROJECTOR AND SPINNING TARGET

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This invention relates to a game for shooting missiles at moving objects.

According to the present invention an arrangement is provided in which the exact course of the moving object is not always known in advance by a gunner. In a preferred form of the invention, the moving object may be moved at the will of a person other than the gunner. To provide additional interest, the moving object desirably may possess such physical characteristics that, when it is hit by a missile, it can in some cases continue to move in its course or path of movement in spite of a possible change of position caused by the missile.

The invention, together with the objects and advantages thereof, will become apparent from the following description taken in conjunction with the accompanying drawing forming a part of this specification, and of which:

Fig. 1 is a perspective view of a game embodying the invention;

Fig. 2 is a side elevation of the game shown in Fig. 1;

Fig. 3 is an enlarged fragmentary view, partly in section, of the game shown in Figs. 1 and 2; and

Fig. 4 is a view, partly in section, of one form of top or rotatable element diagrammatically seen in Fig. 1.

Referring to the drawing, the movable object comprises a rotatable element or top 1 which constitutes a target adapted to be hit by missiles 4 discharged from a miniature gun 2. As best seen in Fig. 3, the gun 2 is spring operated to project the missiles from the barrel which is provided with a funnel 3 for feeding the missiles in succession thereto. The top 1 is spun on a board 5 having walls 6 and a small opening 7 through which the fired missiles fall and collect in a box 8. The board 5 and the gun 2 are movable about a post 9 mounted on a base 10.

The moment of inertia and weight and position of the center of gravity of the top 1 are so related to the weight and speed of the missiles 4 that, when the top is hit by a missile, the top will not always be put out of action but can continue to spin after sliding along the board 5 which desirably is formed with a glossy surface. Toward the end of a spinning period and when the speed of the top has slackened considerably, there will no doubt occur a moment when the top can be put out of action by a direct hit. However, during the initial part of the spinning period the top 1 should be able to withstand a number of hits without being rendered completely ineffective to continue moving in its path of movement.

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In order to provide a top possessing the desired physical properties just described, it may be formed of a light material, such as wood, for example, and then provided with a metal ring which encircles the disc, as shown in Fig. 4. It has been found that a top formed in this manner provides a suitable relation between its weight and moment of inertia. As seen in Fig. 1, the board 5 is marked out by lines 11 to define a triangle at the corners of which are fixed posts 12.

Two persons may play the game. One of the players sets the top spinning and tries to move it about the marked triangle by lifting, lowering and turning the board 5. For each lap that the top completes about the marked triangle, the player moving the top receives one point. A lap always begins and ends at the right angle of the triangle. Should the top in its path of movement cross any of the lines 11 and enter the triangle, it must be led back around the nearest preceding post 12 and may then continue its path of movement about the triangle. When the top has stopped and fallen, it is restarted at the post 12 that was passed most recently.

The other player is the gunner who shoots missiles at the top so that it will make as few laps as possible before it falls, while his opponent endeavors to move the top about the triangle as many laps as possible. Each time the top is directly hit by a missile, its speed is reduced. While the top is spinning and moving along the hypotenuse of the triangle, a direct hit by the gunner will cause the top to move within the marked triangle, thus forcing the player manipulating the top to move the latter back to the preceding post. When the top is spinning and moving along the sides of the triangle, the gunner tries to hit the top with a missile so that it will bump against the side walls of the board. A missile may also initially strike a side wall and rebound in a manner to strike the top during its movement and cause the latter to be pushed inwardly into the triangle. No shots may be aimed at a top which is being started. The gunner can begin to shoot missiles as soon as the top has passed the line 13 at the vicinity of the post 12 at which movement of the top is started. The player moving the spinning top employs his best skill to confuse the gunner and prevent the missiles hitting the top, such skill primarily consisting in moving the board sideways and up and down about its supporting region at the post 9.

Both players alternately shoot missiles and manipulate the board to move the top in its path

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of movement. One round consists of three consecutive starts by each player and three rounds may constitute a match. As mentioned above, points are awarded to a player for each completed lap of the top, and the player having the highest score at the end of the game is the winner.

The tops or movable objects may be provided with tips which are pointed, rounded or shaped in any other suitable manner depending upon the motional characteristics the tops should possess. Rotating movement may be imparted manually to the tops with the fingers or with the aid of a string or a mechanical device making use of a spiral spring, for example.

The device for projecting the missiles may assume a variety of forms. A gun designed to project missiles of spherical shape is especially desirable and in a preferred form should embody provisions for shooting the missiles one after another in rapid succession.

The board on which the moving objects are caused to move desirably is movable. A table top may be used, but it is more advantageous to use a special board in such a way that it can be inclined at different angles, thus enabling the moving objects to be manipulated at will.

In view of the foregoing, it will now be understood that the board 5 is angularly movable about several axes which are transverse to and intersect one another at the vicinity of the post 9. Further, the top 1 constitutes a rotatable target which, when spinning movement is imparted thereto, is movable and guidable in any direction on the top surface of the board 5 responsive to the manner in which the board is moved about the post 9. The gun 2, which is located at the vicinity of the post 9, is employed to shoot the missiles 4 at will at the movable target 1 while traveling and spinning on the board 5. In addition, the gun 2 is movable to shoot the missiles 4 over the top surface of the board 5 and at the movable target 1 while the board 5 is being moved about the post 9 and the target 1 is spinning and moving thereon.

Several moving objects and several shooting devices may be employed at the same time. The board can either be flat or formed with irregular and sloping surfaces, and may be made in one piece or several sections and possibly may be fitted with obstacles or signs to indicate the paths of movement of the moving objects.

The board and the shooting devices may be placed in such a manner with respect to one another that tops spinning in different positions on the board may be shot at when the board is held in positions suitable for shooting.

The invention in question can be applied to a variety of purposes, such as military gun-practice, entertainments that are usual at fairs and indoor games, as described above.

Both the design of the game and the rules can be varied in numerous ways within the scope of the invention, and the design and rules given above are only to be regarded as one example of the invention which is set forth in the following claims.

What we claim is:

1. The combination of a game board, means for supporting said board, said board being angularly movable about several axes which are transverse to and intersect one another at the vicinity of said supporting means, a rotatable target movable on the top surface of said board with respect to said supporting means, said tar-

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get, which is formed with a tip about which it spins on said board when spinning movement is imparted thereto, being movable and guidable in any direction on the top surface of said board responsive to the manner in which said board is moved about said supporting means, a number of missiles, and a gun or the like at the vicinity of said supporting means for shooting said missiles at will at said movable target while spinning and traveling on the top surface of said board, said gun being movable to shoot said missiles over the top surface of said board and at said movable target while said board is being moved about said supporting means and said target is spinning and moving thereon.

2. The combination set forth in claim 1 in which the weight and size of said missiles and speed at which they can be shot by said gun are related to the momentum capable of being produced by said movable target when spinning movement is imparted thereto so that, when spinning movement is initially imparted to said movable target, the latter will not always be rendered ineffective to continue spinning when initially hit by a missile while traveling on the top surface of said board.

3. The combination set forth in claim 2 in which said missiles comprise relatively heavy metal balls, such as ball bearings, for example, and said movable target comprises a body portion and pin whose extreme end provides said tip, said body portion and tip being formed of material having a relatively light specific weight, such as wood, for example, and a band of metal encircling said body portion.

4. The combination of a game board, means for supporting said board, said board being angularly movable about a vertical axis passing through said supporting means and several additional axes which are transverse to one another and intersect the vertical axis, a rotatable target movable on the top surface of said board with respect to said supporting means, said target, which is formed with a tip about which it spins on said board when spinning movement is imparted thereto, being movable and guidable in any direction on the top surface of said board responsive to the manner in which said board is moved about said supporting means, a number of missiles, and a gun or the like at the vicinity of said supporting means for shooting said missiles at will at said movable target while spinning and traveling on the top surface of said board, said gun being movable to shoot said missiles over the top surface of said board and at said movable target while said board is being moved about said supporting means and said target is spinning and moving thereon.

5. The combination set forth in claim 4 in which said board is provided with an upstanding side wall and an opening within the walled region thereof, and means including a vessel positioned beneath said board and spaced therefrom for collecting missiles falling through the opening while said board is being moved about said supporting means.

6. The combination of a game board, means including a vertically extending member for supporting said board, said board being angularly movable sideways about a vertical axis passing through said supporting means and angularly movable in a vertical direction about a horizontally extending axis intersecting the vertical axis, a rotatable target movable on the top surface of said board with respect to said supporting

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means, said target, which is formed with a tip about which it spins on said board when spinning movement is imparted thereto, being movable and guidable in any direction on the top surface of said board responsive to the manner in which said board is moved about said supporting means, a number of missiles, and a gun or the like mounted on said vertically extending member for shooting said missiles at will at said movable target while spinning and traveling on the top surface of said board, said gun being rotatable on said member to shoot said missiles over the top surface of said board and at said movable target while said board is being moved about said supporting means and said target is spinning and moving thereon.

7. The combination set forth in claim 6 in which said gun is fixed to a post which is rotatably mounted on said vertically extending member, and said board being adapted to rest on said member to provide said supporting means, said board at said region of rest having an aperture through which said post extends.

8. The combination of a game board, a base, means including a vertically extending member for supporting said board at an elevated position above said base, said board being angularly movable sideways about a vertical axis passing through said supporting means and angularly movable in a vertical direction about a horizontally extending axis intersecting the vertical axis, a rotatable target movable on the top surface of said board with respect to said supporting means, said target, which is formed with a tip about which it spins on said board when spinning movement is imparted thereto, being movable and guidable in any direction on the top surface of said board responsive to the manner in which said board is moved about said supporting means, a number of missiles, a gun or the like which is mounted on said base at the vicinity of said supporting means and at a height above the elevated position of said board for shooting said missiles at will at said movable target while spinning and traveling on the top surface of said board, said gun being movable on said base to shoot said missiles over the top surface of said board and at said movable target while said board is being moved about said supporting means and said target is spinning and moving thereon.

9. The combination set forth in claim 8 in which said gun includes a barrel having a discharge opening for shooting said missiles, a funnel communicating with said barrel at a region thereof which is removed from the discharge

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opening, said funnel being adapted to hold a number of missiles and providing a passageway for feeding one missile at a time by gravity to said barrel, and spring operated means operable to shoot in succession from said barrel missiles held in said funnel.

10. The combination of a game board formed with markings and upright pieces at spaced apart points on such markings, means including a vertically extending member for supporting said board, said board being angularly movable about several axes which are transverse to and intersect one another at the vicinity of said supporting means, a rotatable target movable on the top surface of said board with respect to said supporting means, said target, which is formed with a tip about which it spins on said board when spinning movement is imparted thereto, being movable and guidable in a path of movement on the top surface of said board responsive to the manner in which said board is moved about said supporting means, such path of movement being defined at least in part by said markings and upright pieces, a number of missiles, and a gun or the like mounted on said vertically extending member for shooting said missiles at will at said movable target while spinning and traveling on the top surface of said board, said gun being movable to shoot said missiles over the top surface of said board and at said movable target while said board is being moved about said supporting means and said target is spinning and moving thereon.

11. The combination set forth in claim 10 in which said gun is rotatably mounted on said vertically extending member, said member forming a part of said supporting means and providing a supporting region, and said board including an apertured part which rests on said supporting region and through which said member projects.

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