J. JEX.

PYROTECHNIC DEVICE.

APPLICATION FILED NOV. 26, 1919.

1,397,425. **Patented Nov. 15, 1921.**

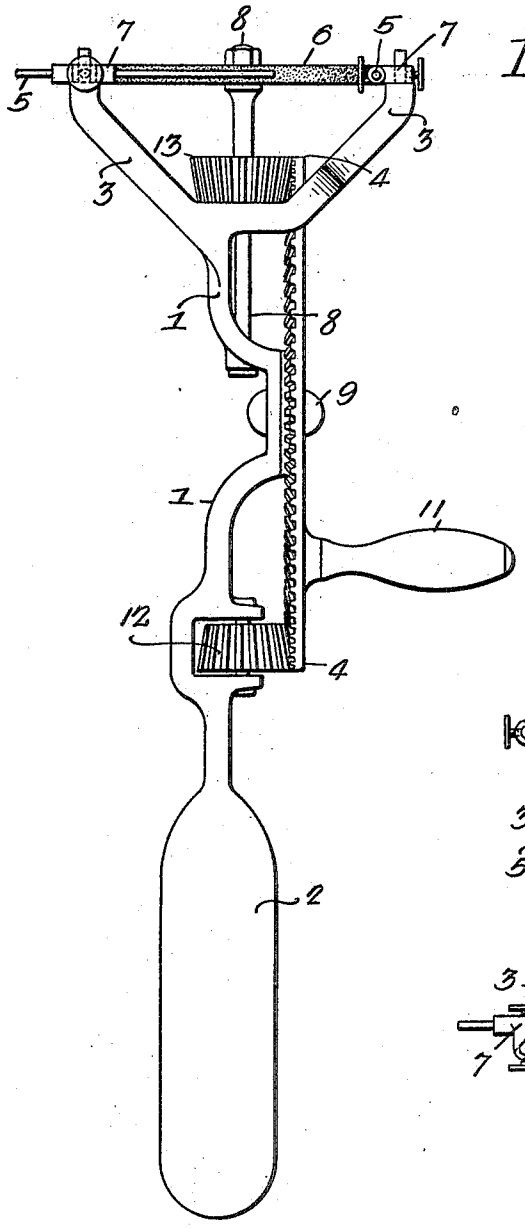
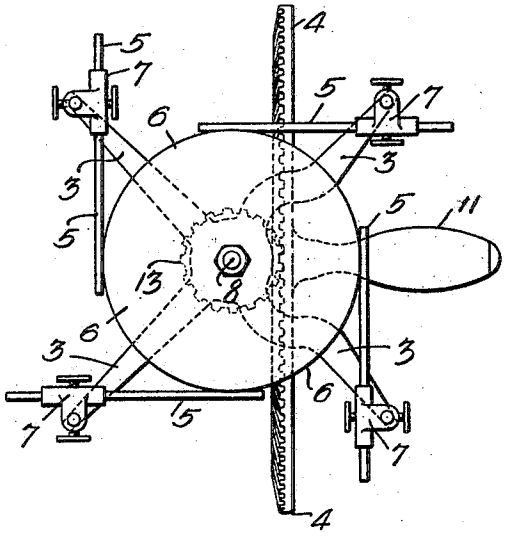


Fig. 1.

Fig. 2.



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UNITED STATES PATENT OFFICE.

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PYROTECHNIC DEVICE.

1,397,425. Specification of Letters Patent. Patented Nov. 15, 1921.

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To all whom it may concern:

Be it known that I, JOHN JEX, a citizen of the United States, residing in Newark, Delaware, have invented the Pyrotechnic Device, of which the following is a specification.

One object of my invention is to provide a relatively simple, easily operated and brilliantly effective pyrotechnic device which shall be of such a nature as to be simple and inexpensive to construct as well as easy and safe to operate.

Another object of the invention is to provide a novel mechanical device for maintaining brilliant pyrotechnic effects by the utilization of cheap and easily obtainable materials,—the arrangement of parts being such that the danger of fire or personal injury from the use of the device is practically negligible.

These objects and other advantageous ends I attain as hereinafter set forth, reference being had to the accompanying drawings, in which,

Figures 1 and 2 are respectively a side elevation and a plan illustrating the detail construction of my invention.

In the above drawings 1 represents an elongated frame having at one end a handle 2 and at its opposite end a series of radiating arms or fingers 3 which are upwardly inclined and terminate in portions which extend in substantially parallel lines. The frame 1 between the handle 2 and arms 3 has rotatably mounted upon it a beveled gear wheel 4 meshing with a beveled pinion 13 fixed to a spindle 8 extending at right angles to the spindle or pivot bolt 9 of the gear 4.

Said spindle 8 is mounted in suitable bearings adjacent the end of the frame 1 at the junction or meeting point of the arms 3 and carries a wheel 6 in a plane parallel to that of the beveled pinion 13. This wheel is made of some abrasive material such as carborundum or the like and it is designed to coact with a series of rods 5 of steel or pyrophoric alloy supported by holders 7 on the arms 3 so as to tangentially engage the circular periphery of the wheel 6.

The large gear wheel 4 is provided with a laterally projecting crank handle 11 and is steadied and partially supported by a second bevel pinion 12 suitably journaled in the frame 1 at a point diametrically opposite the pinion 13. The rods 5 are so mounted in the holders 7 as to be longitudinally adjustable toward and from the wheel 6, so that when the latter is turned by revolution of the large gear 4 each of them by reason of its engagement with the abrasive wheel 6 will produce a shower or diverging stream of incandescent particles or sparks and this will be continued as long as the wheel 4 is turned and the rods 5 remain in engagement with the abrasive wheel.

The number and arrangement of the rods 5 with their supporting holders and arms may be widely varied without departing from my invention and it is to be noted that the materials of which the abrasive wheel and the rods 5 are composed may likewise be varied as desired as long as they are of such a nature as to produce sparks or other pyrotechnic effects when said wheel is turned.

I claim:

1. A pyrotechnic device consisting of a supporting structure having diverging arms; a shaft; a rotary abrasive member mounted on the shaft; a body of material supported by each of said arms and coacting with the abrasive member to produce incandescent particles when the latter is turned; and means for rotating the shaft.

2. The combination of a supporting frame having diverging arms; a handle therefore; a main gear wheel rotatably mounted on the frame; a second gear wheel engaged by the first main gear wheel; an abrasive wheel operatively connected to the second gear wheel; and material carried by the arms in position to coact with the abrasive wheel and produce luminous particles when the latter is turned.

3. The combination of a supporting frame having a handle at one end and a series of diverging arms at the opposite end; holders carried by said arms respectively; a main beveled gear wheel rotatably mounted on the frame; a second gear wheel meshing with said first gear wheel and also rotatably carried by the frame; an abrasive wheel operatively connected to said second gear wheel; with masses of material carried by the holders and coacting with the abrasive wheel to produce pyrotechnic effects when the latter is turned.

4. In a pyrotechnic device the combination of a supporting frame having a handle at one end and a series of diverging arms at the opposite end; a holder carried at the

end of each of said arms; a main beveled gear wheel rototably mounted on the frame; a second gear wheel meshing with said first gear wheel and also rotatably carried by the frame; an abrasive wheel operatively connected to said second gear wheel and disposed between said arms; and rods of material carried by the holders and tangentially abutting the periphery of the abrasive wheel to produce pyrotechnic effects when the latter is turned.

In witness whereof I affix my signature.

JOHN JEX.