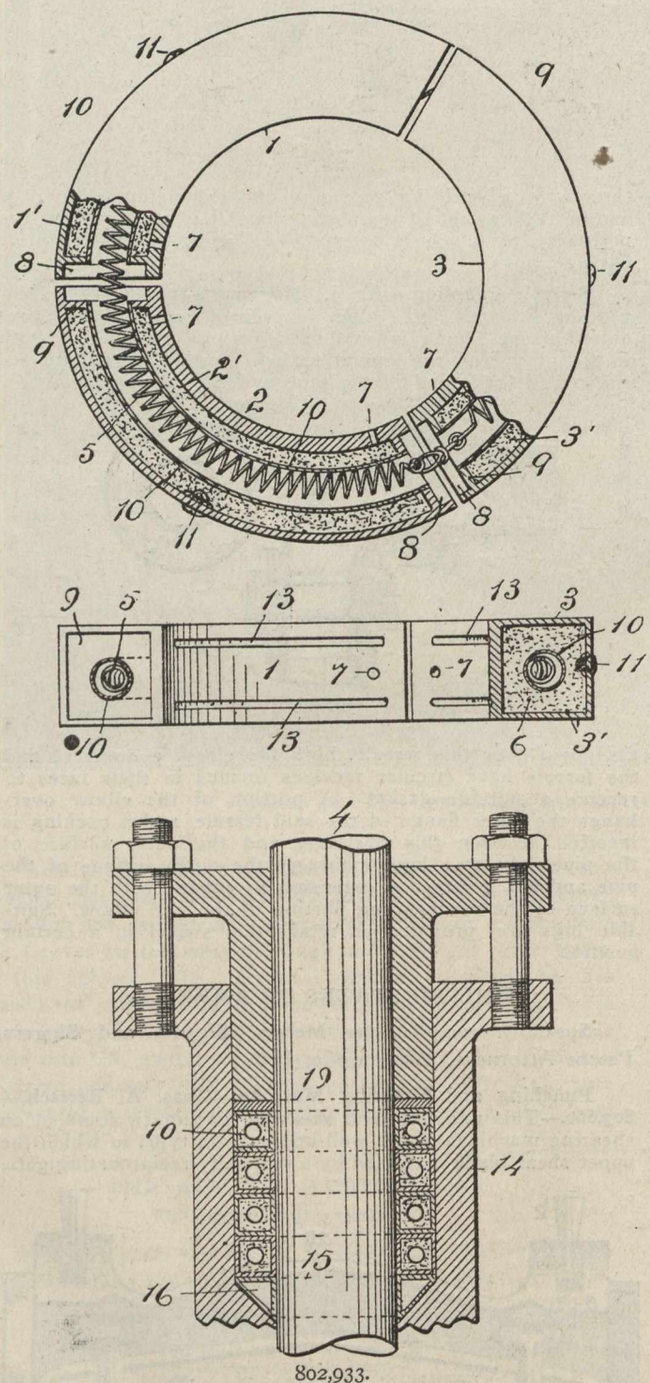
The shear gate is provided with a punch-holder to co-operate with the dies in the table which carries the lower shear blade, so that the machine may be used for punching or shearing alternately, or for punching near the edge of a sheet, and simultaneously trimming its edge. It is practically essential that one end of the shearing blade be lower than the other, but the punches must all be in line, in order to accomplish this the portion of the gate to which the blade is bolted, is made as deep as it possibly can be without coming in contact with the sheet to be sheared, and the blade only is made lower at one end. To overcome the weakness of the blade at the wide end, a separate block is bolted on to the frame, and fixed firmly to the blade by means of a set screw. In case it is desired to use the machine without the upper shear blade, this block can be removed so that the sheets may be punched any distance from the edge.

Metallic Packing-Ring for Stuffing-Boxes.—Gustav Huhn.—802,933.—The packing-rings, consist of several parts kept together by a spiral spring, made hollow, fitted with openings in their inner surfaces, and filled with suitable lubricating material. The rod, when moving to and fro, sliding along the inner surfaces of the packing-rings, exerts



802,933.

a sucking action on the lubricating material contained in the hollow packing-rings, the lubricating material being thus sucked out of the hollow space and conducted between the rod and the packing-rings. It is obvious that not only is the tightness of the packing increased, but the wear of the material further reduced to a minimum.

Drilling Machine.— A. T. Anderson.— 801,128.— This electrically driven drilling machine, Figs. 1 and 2, is so constructed that it may be swung around to any desired point, and readily adjusted to any height, automatically. The drill is supported entirely by column 1 and base 2, the rack 5

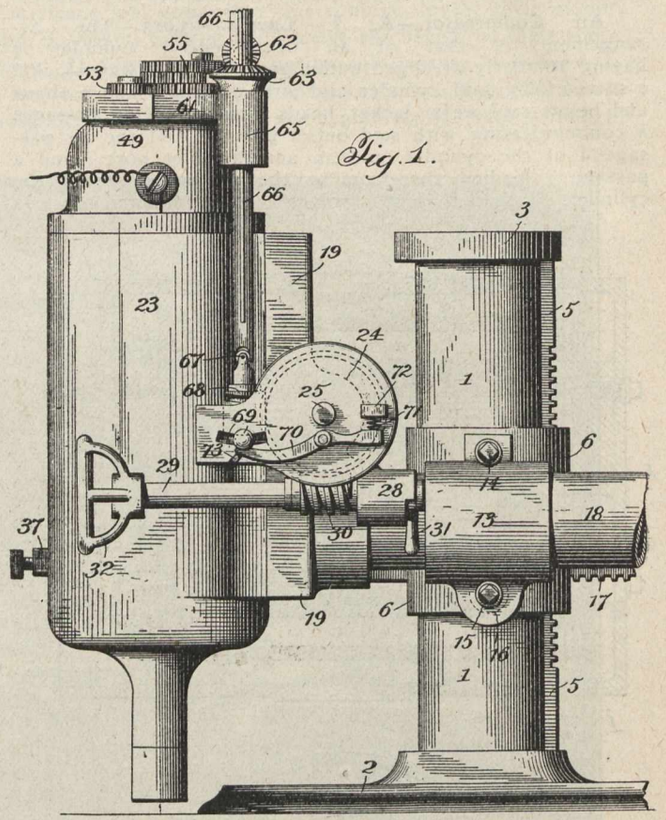


Fig. 1.

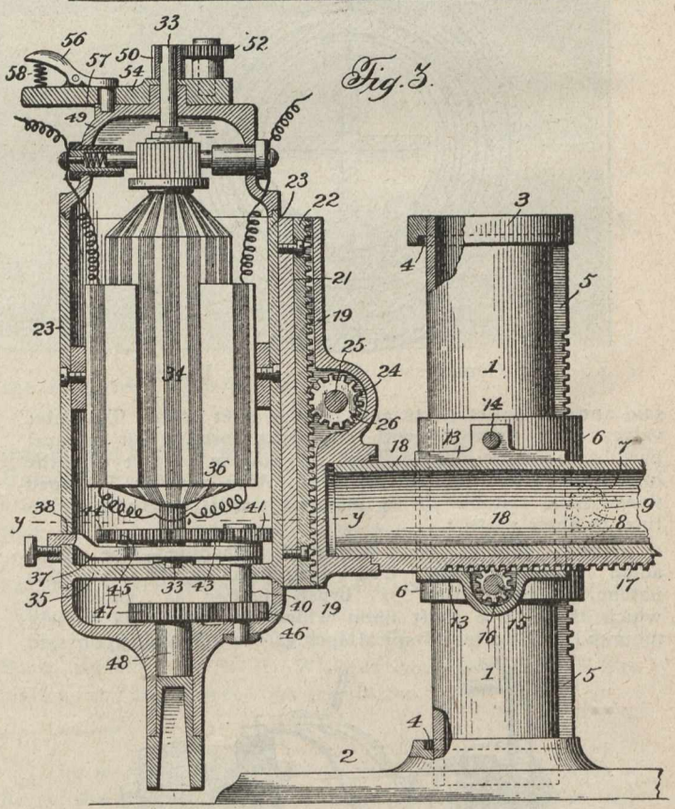


Fig. 2.

801,128.

being so arranged that it will slide around the column to any desired point. The automatic feed may be thrown out very quickly, and the machine fed by hand. The parts are compactly arranged, and very simple in construction.

Self-Governing Centrifugal Pump.—Eugene P. McMurty.—802,775.—The operation of the pump is as follows: When the pump is started, the shaft runs in the step-bearing until the pump is revolving at full speed, producing a suction or vacuum above the runner, causing the runner and shaft to rise. As the runner and shaft ascend, the end of lever 10, connected with shaft, rises with it, and opens the