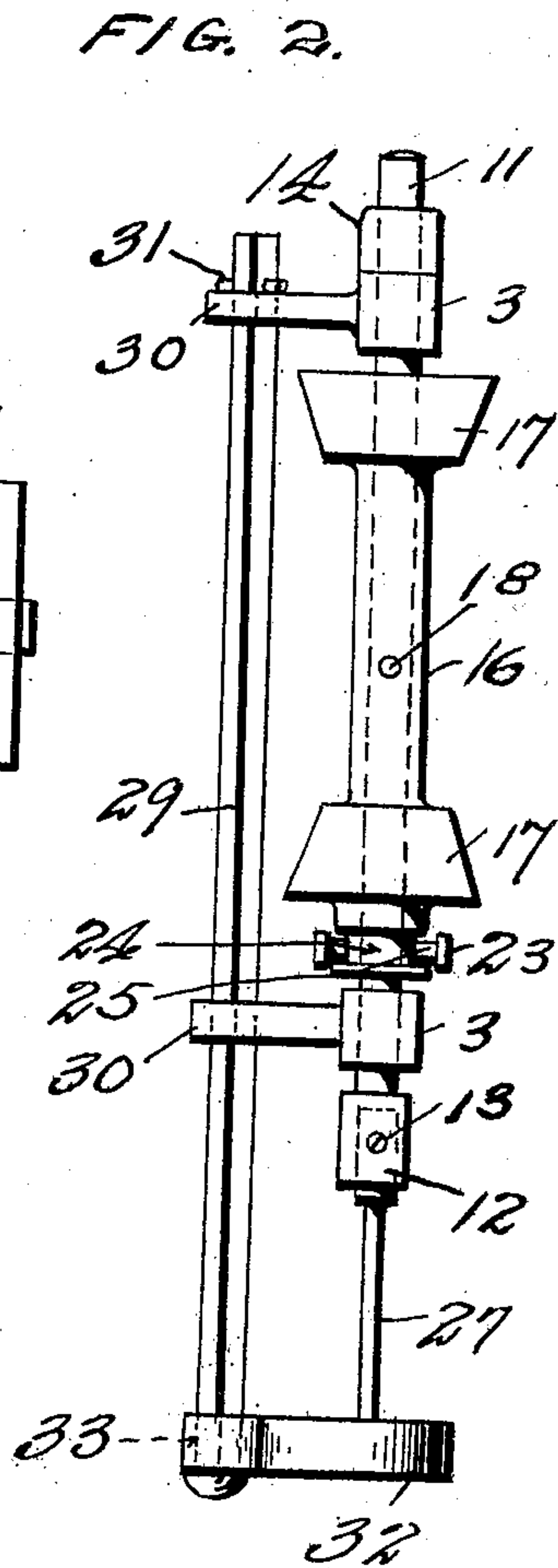
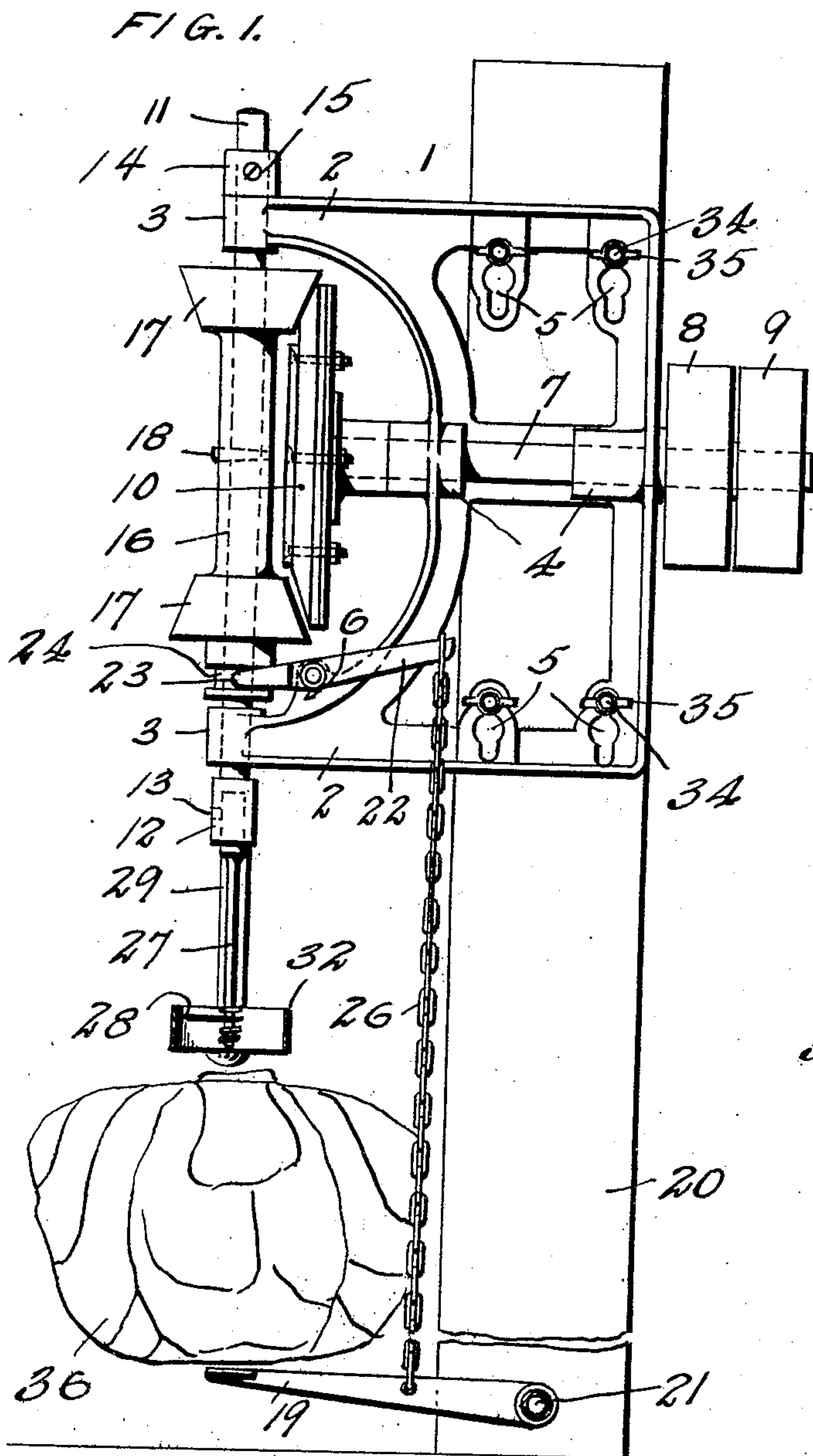


H. D. WILSON.
SHREDDING MACHINE.
APPLICATION FILED FEB. 26, 1909.

920,800.

Patented May 4, 1909.



WITNESSES
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UNITED STATES PATENT OFFICE.

HARRY D. WILSON, OF JACKSON, MICHIGAN.

SHREDDING-MACHINE.

No. 920,800.

Specification of Letters Patent.

Patented May 4, 1909.

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To all whom it may concern:

Be it known that I, HARRY D. WILSON, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Shredding-Machines, of which the following is a specification.

My invention relates to certain improvements in machines for shredding the cores of cabbages, and the like, the object being the provision of a machine which shall be simple in construction, comprised of few parts and light in weight; which shall occupy a small area of floor space, have a safety guard for the knife, and be provided with simple means for reversing the rotary movement of the knife; and which, finally, preferably shall be so constructed that it can readily be detachably secured to a standard, post, or other support, thus allowing it to be transferred with facility from one position to another adjacent the bins containing the cabbages to be cut.

With these main ends in view, my invention consists in certain novelties of construction and combinations of parts as hereinafter set forth and claimed.

The accompanying drawing illustrates an example of the physical embodiment of the invention constructed according to one of the best modes I have so far devised for the practical application of the principle.

Figure 1 is a face view in elevation, showing the machine detachably secured to a post, the central part of the post being removed. Fig. 2 is a partial edge view of Fig. 1.

Referring to the figures, the numeral 1 designates a cast frame having arms 2, 2 provided with bearings 3, 3, for a spindle; bearings 4, 4 for a shaft; four slotted openings 5, 5 through the frame; and a perforated lug 6 upon one of the arms. In the bearings 4, 4 is a rotary shaft 7 upon which at one end are the tight and loose pulleys 8 and 9, and at the other end a fixed bevel wheel 10, preferably composed of suitable fibrous material. Journaled in the bearings 3, 3 is a vertical spindle 11 having at the lower end an enlarged portion within which is a socket 12 with a set-screw 13, at the top end a fixed collar 14, and a set-screw 15 for holding the collar in place. Upon the spindle is a cored sleeve 16 having a bevel wheel 17 at each end, each of which wheels is adapted to alternately and frictionally engage the

main friction bevel wheel as the spindle is moved vertically. To prevent the rotation of the sleeve and gear wheels upon the spindle a key 18 of any kind is passed through holes in the sleeve and spindle.

The numeral 19 designates a foot lever pivoted to a post 20 by a bolt 21 located near the lower end of the post; 22, a lever pivoted by a bolt to the lug 6 on the lower arm of the casting; 23, the fork at the short end of the lever; 24, an annular groove at the lower end of the sleeve within which are loosely seated the lugs 25 at the ends of the fork of the lever; 26, a chain or rod connecting the foot lever and lever 22, as shown, the chain being of proper length to allow the foot lever to be located near the floor or ground and to be reciprocated; 27, the shank carrying the knife, which shank is detachably secured at its upper end in the socket 12 by the set-screw; 28, the slitting knife; 29, a bar angular in cross section movably supported in angular holes in lugs 30, 30 carried by the arms 2, 2 of the casting; 31 a pin; 32, a circular guard, said guard surrounding the knife when the bar is in its lowest position, the said guard having a hole 33 angular in shape through which the bar passes; 34, four bolts or screws threaded at their projecting ends to receive butterfly nuts 35, which, when tightened, rigidly hold the main casting to the post or other suitable support; and 36 is a cabbage resting against the guard and in line with the shank carrying the knife.

The parts being in the relative positions shown, and a belt (not shown) imparting motion to the tight pulley and friction wheels, the machine is used as follows: A cabbage is held by the hands in the position illustrated and then raised so as to lift the guard and bring the cabbage core into the path of the rotary knife. When the shredding is completed the foot lever is pressed down and the spindle and sleeve raised, bringing the lower bevel wheel into frictional contact with the bevel wheel on the main shaft and at the same time throwing the top bevel wheel out of gear. This action reverses the rotation of the knife, whereupon the cabbage is lowered and the guard drops by gravity to its original position. By reversing the rotation of the knife the same is withdrawn, leaving the shredded core within the body of the cabbage. The weight of the spindle, sleeve and bevel

wheels brings the top bevel wheel into gear again when the foot is removed from the lever.

When it is desired to move the machine to another location, adjacent another bin, the foot lever is detached, the nuts 35 turned so that the wings are in vertical positions, and the frame then lifted off the bolts, which latter with the nuts may be left in place for the reception of the frame when it is again to be used in the same location.

The casting and gearing may be otherwise supported, but I prefer that they should be removably secured to a standard or post.

It will be observed that the spindle, sleeve and gears by their own weight, or under the action of gravity, hold the top bevel wheel 17 in frictional contact with driving bevel wheel, 10. Should the material being cut offer great resistance to the knife, the weight of the parts may be increased or other means used to press the bevel wheel 17 into closer frictional contact with the main driving bevel wheel. The machine may, of course be slightly inclined to the plane of the horizon and the action of gravity still be sufficient to cause the top bevel wheel to engage the main bevel wheel.

From the foregoing description taken in connection with the drawing it becomes obvious that I have produced a machine for the purpose specified, and for analogous uses, which fulfils all the conditions set forth as the purpose of my invention.

What I claim is:

1. The combination in a shredding machine having a frame provided with bearings for receiving a spindle, and bearings for a main shaft, of a main shaft with a main bevel wheel; means in connection with the shaft for imparting continuous rotary motion to the same; a spindle carrying two bevel wheels journaled in the bearings said spindle having a shank carrying a knife; means for shifting the bevel wheels alternately out of and into engagement with the main bevel wheel; and means for supporting the frame so the top bevel wheel on the spindle will under the action of gravity frictionally engage the main bevel wheel.

2. The combination in a shredding machine provided with a frame having bearings for a main shaft, of a main shaft carrying a bevel wheel; means in connection with the shaft for imparting continuous rotary motion to the same; bearings in connection with the frame and a spindle journaled in the bearings said spindle having a shank carrying a knife; a sleeve with two bevel wheels located upon and fixed to the spindle; means for sup-

porting the frame so one bevel wheel on the spindle will under the action of gravity frictionally engage the main bevel wheel; and means for raising the spindle, sleeve and gear wheels to throw the top wheel out of gear and the lower wheel into gear.

3. The combination in a shredding machine having suitable gearing and a rotary spindle carrying a knife, of a movable guard; and means for supporting the guard so it will be held by gravity in a position surrounding the knife, and so it can be raised above the knife.

4. The combination with a shredding machine having suitable gearing and a vertically disposed rotary spindle carrying a knife, of a guard; and means for supporting said guard so it can be moved from a position surrounding the knife to a position above the knife, and so that when in its raised position and upon being released it will fall by gravity to its original position.

5. The combination with a shredding machine having suitable gearing and a rotary spindle carrying a knife, of a guard supported by a vertically movable rod or bar, and means for preventing the rotary motion of said rod or bar.

6. The combination in a shredding machine provided with a frame having bearings for a main shaft and for a spindle, of a main shaft carrying a bevel wheel and a vertically disposed spindle supported in the bearings; two bevel wheels fixed on the spindle and adapted alternately to engage the main bevel wheel; a knife carried by the spindle; and means for shifting the spindle, bevel wheels and knife bodily to throw the lower bevel wheel into gear and the top bevel wheel out of gear.

7. The combination in a shredding machine, of a casting provided with bearings for a main shaft and bearings for a spindle; a main shaft; a spindle at right angles to the main shaft; a main bevel wheel on the main shaft; two bevel wheels on the spindle; a knife carried by the spindle; a movable guard in connection with the knife; lever mechanism for shifting the bevel wheels alternately into and out of gear with the main bevel wheel; and means for supporting the casting so one of the bevel wheels under the action of gravity will engage the main bevel wheel.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY D. WILSON.

Witnesses:

MARY FLEMING,

JENNIE SHARPSTEEN.