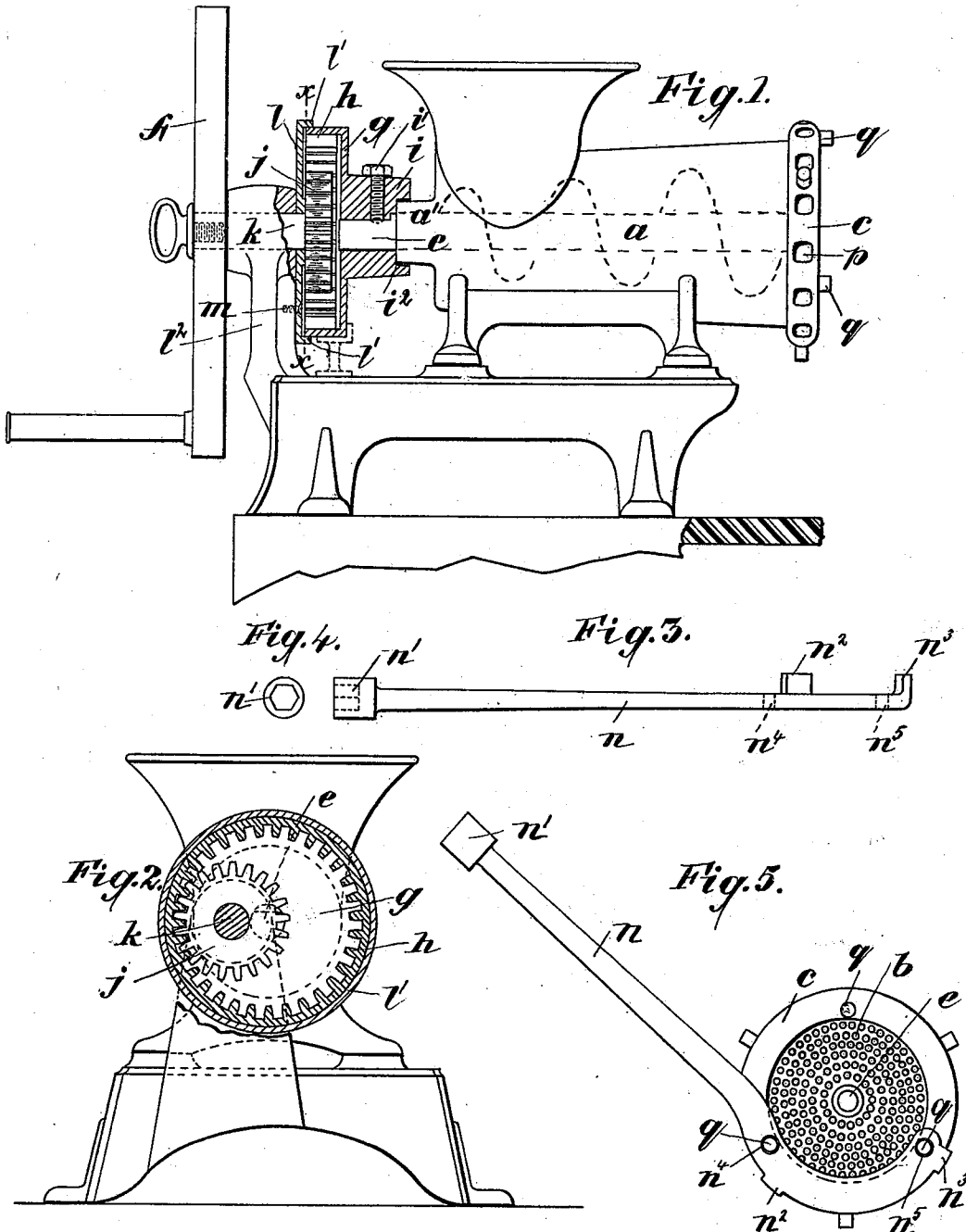


(No Model.)

A. WOOD & T. DAVIES.
CHOPPING OR MINCING MACHINE.

No. 511,485.

Patented Dec. 26, 1893.



Witnesses:

E. R. Bolton

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UNITED STATES PATENT OFFICE.

ALEXANDER WOOD AND THOMAS DAVIES, OF GLASGOW, SCOTLAND.

CHOPPING OR MINCING MACHINE.

SPECIFICATION forming part of Letters Patent No. 511,485, dated December 26, 1893.

Application filed May 25, 1893. Serial No. 475,466. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER WOOD, of 10 Stockwell Street, and THOMAS DAVIES, of 6 Clydeford Drive, Tollcross, Glasgow, Scotland, weighing-machine makers, have invented certain new and useful Improvements in Chopping or Mincing Machines, of which the following is a specification.

This invention relates to chopping or mincing-machines and it has for its object to improve their construction. And in order that our said invention may be properly understood, we have hereunto appended, an explanatory sheet of drawings, whereon—

Figure 1 is a side view, partly in section, of the chopper. Fig. 2 is a cross section on the line $x-x$ Fig. 1. Fig. 3. is a side view of a lever key for taking off the ring c . Fig. 4. is an end view of the lever key Fig. 3. Fig. 5 shows the lever key as it is applied when the ring c is being screwed off.

The chopper consists of the usual body a , with internal screw, cutter, and perforated plate b . c is the usual ring for holding the plate b in place. e is the spindle of the screw. f is the driving wheel with handle.

In our invention we fit on the end of the spindle e , a circular case g , having teeth h on its internal surface and provided with a thickened hub or boss i . The spindle e passes through a central hole in the boss and the latter is secured to it by a pinching screw i' . The spindle is squared on its upper side and the hole in the boss is made to conform therewith, so that, when the boss is turned, the spindle turns with it. j is a pinion wheel which is fitted on the short shaft k carrying the driving or fly wheel f . This shaft k is out of line with and is not connected to the spindle e . The pinion j gears, as shown at Fig. 2, with the teeth h of the disk wheel g . l is a circular cover which is held in place, by a pin m screwed into the bracket l^2 . This cover has a flange l' on it which supports the disk wheel g , and, in conjunction with the boss i , retains it in place whenever the spindle and worm are withdrawn for cleaning purposes.

It will be noted that the boss or hub i is rabbeted or cut out at i^2 so as to fit loosely on the projecting end a' of the body a .

The lever key n , Figs. 3 and 4, is used for taking off the ring c . As shown this lever key

has, at one end, a hollow key n' which can be fitted on the head of the pinching screw i' , for the purpose of screwing it up or unscrewing it. The opposite end of the key is curved and has two lugs n^2 , n^3 , and two holes n^4 n^5 . The lugs hold the key in place on the ring c and the pins q pass through the holes. By using this key the ring c can be easily screwed on or off.

Our improved gearing insures a steady drive and a uniform pressure on the meat, &c., when being forced through the machine. The dangers arising from exposed tooth wheels and chains, as used in the present machines, are, with our chopper, entirely avoided as all the gearing is incased.

Our machine possesses a great advantage in that the feeding screw or worm can be withdrawn and replaced again in position in a few seconds without moving the gearing or driving wheel. The taking down and shifting of the gearing are at present a source of considerable trouble to unskilled parties using chopping machines as they do not often know how to fit the parts together again. It will be seen that although the spindle e is withdrawn from the boss i the gearing is always supported and will not be displaced as the cut out part i^2 of the boss i rests on the projection a' of the body a , while the flange l' of the cover e supports the wheel g at the opposite side. The gearing may be supported by a bracket as shown in dotted lines Fig. 1.

The machine can be fitted with fast and loose pulleys for power.

Having now fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In combination the body casing having a boss a' the shaft extending through the casing and out beyond the boss, the internal gear having a hub secured to the projecting end of the shaft said hub being recessed to receive the boss a' , the driving shaft k having a pinion fitting within the internal gear and the cover l having a flange engaging and supporting the internal gear, substantially as described.

2. In combination, the casing, the screw shaft extending through the same, the internal gear detachably connected to the projecting end of the shaft, the bearings for said

gear on each side thereof for holding the same
in proper position while the screw shaft to
which it is connected is detached and re-
moved and the driving shaft having a pinion
5 fitting within the internal gear, the bearing
on one side consisting of a stationary plate *l*
having a flange engaging the edge of the in-
ternal gear said plate serving also as a cover
for the gear substantially as described.
10 3. In combination, the casing having the
removable ring *c* with projections *q*— ex-
tending from its face and the lever key *n*

having openings to receive the projections
and lugs *n*² *n*³ projecting laterally to fit around
the edge of the ring, substantially as de- 15
scribed.

In witness whereof we have hereunto set
our hands, at Glasgow, Scotland, this 11th day
of May, 1893, in presence of two witnesses.

ALEX. WOOD.
THOS. DAVIES.

Witnesses:

H. D. FITZPATRICK,
W. J. DOW.