

(No Model.)

2 Sheets—Sheet 1.

T. A. COOK.
CROZING MACHINE.

No. 480,711.

Patented Aug. 16, 1892.

Fig. 2.

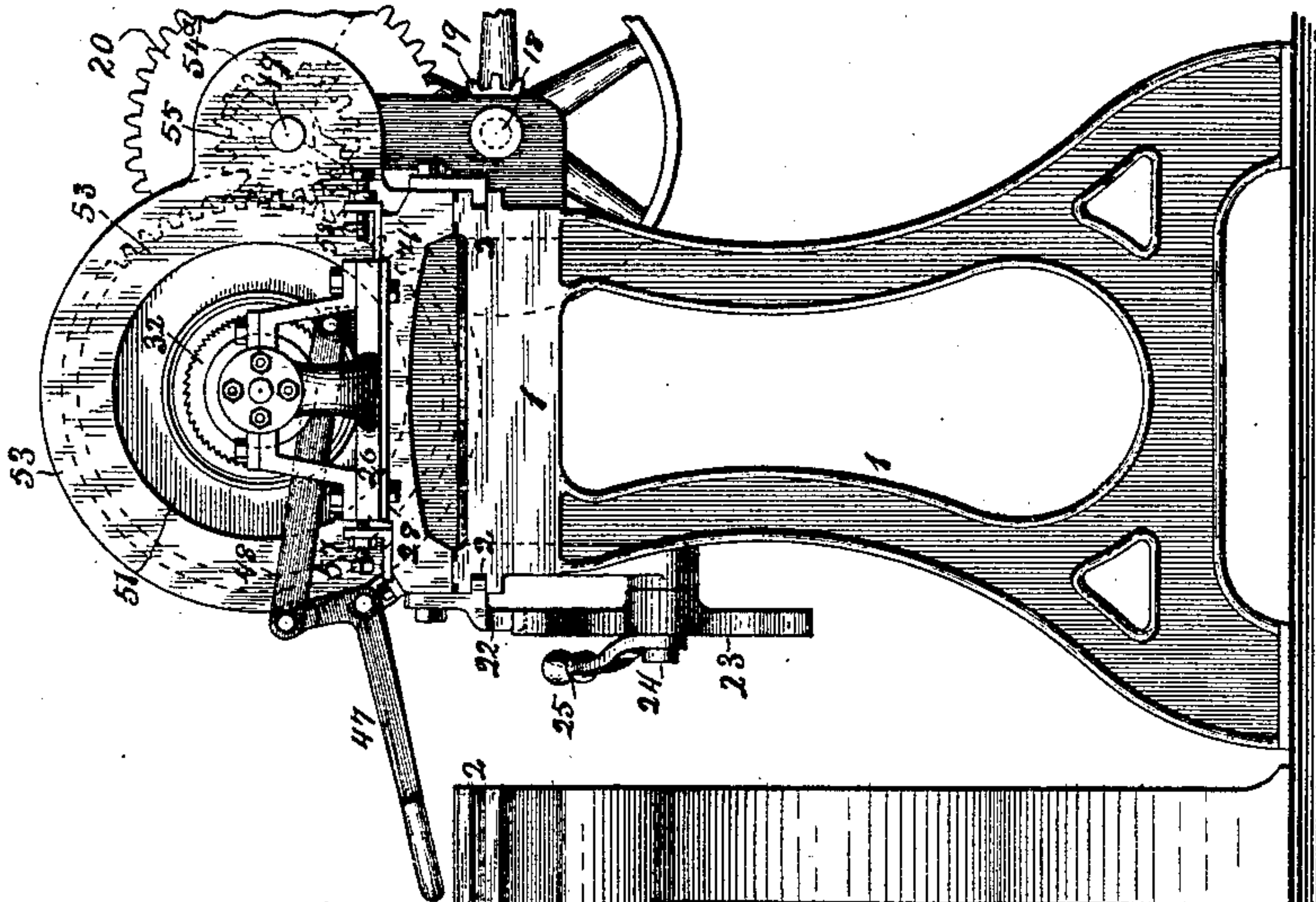
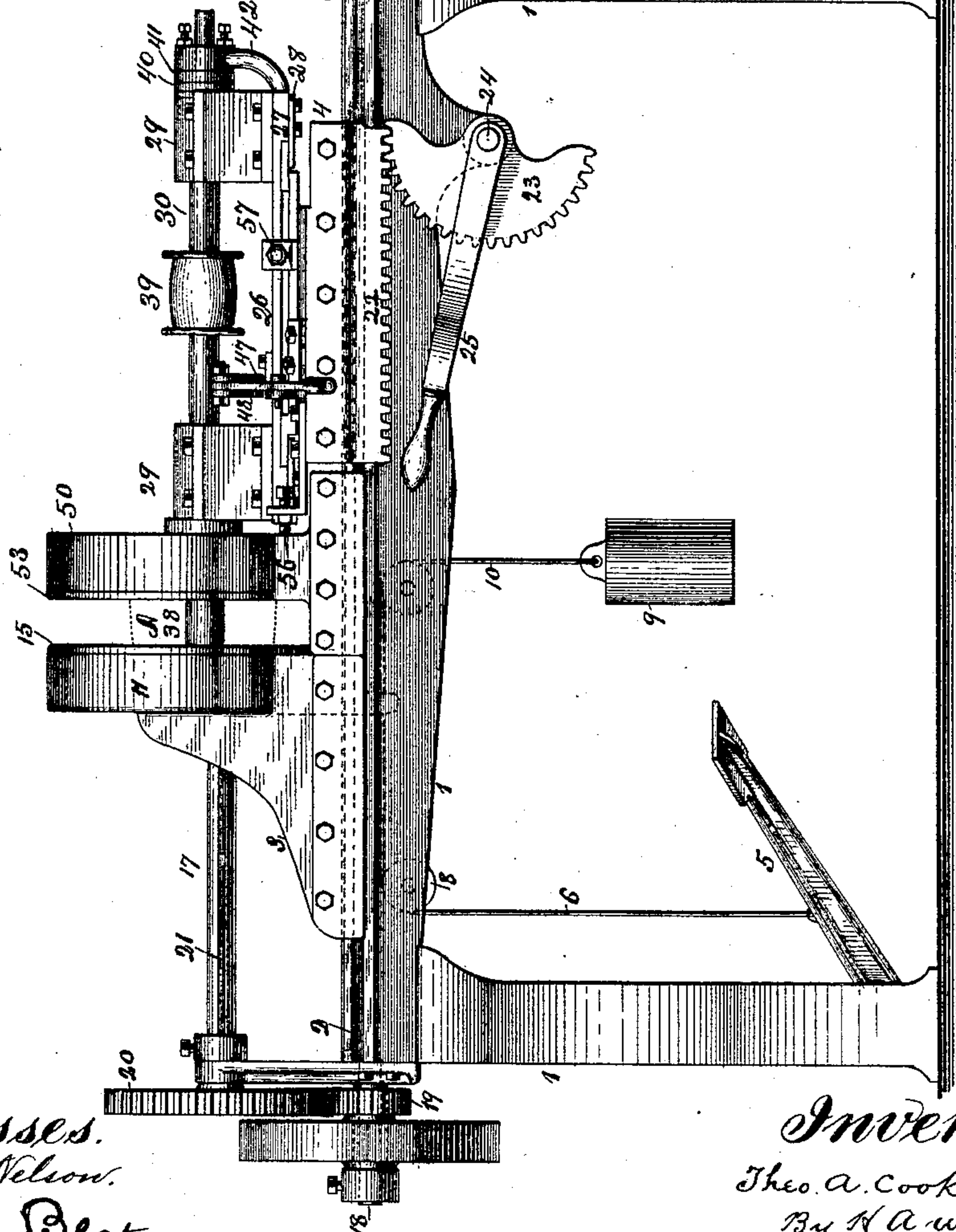


Fig. 1.



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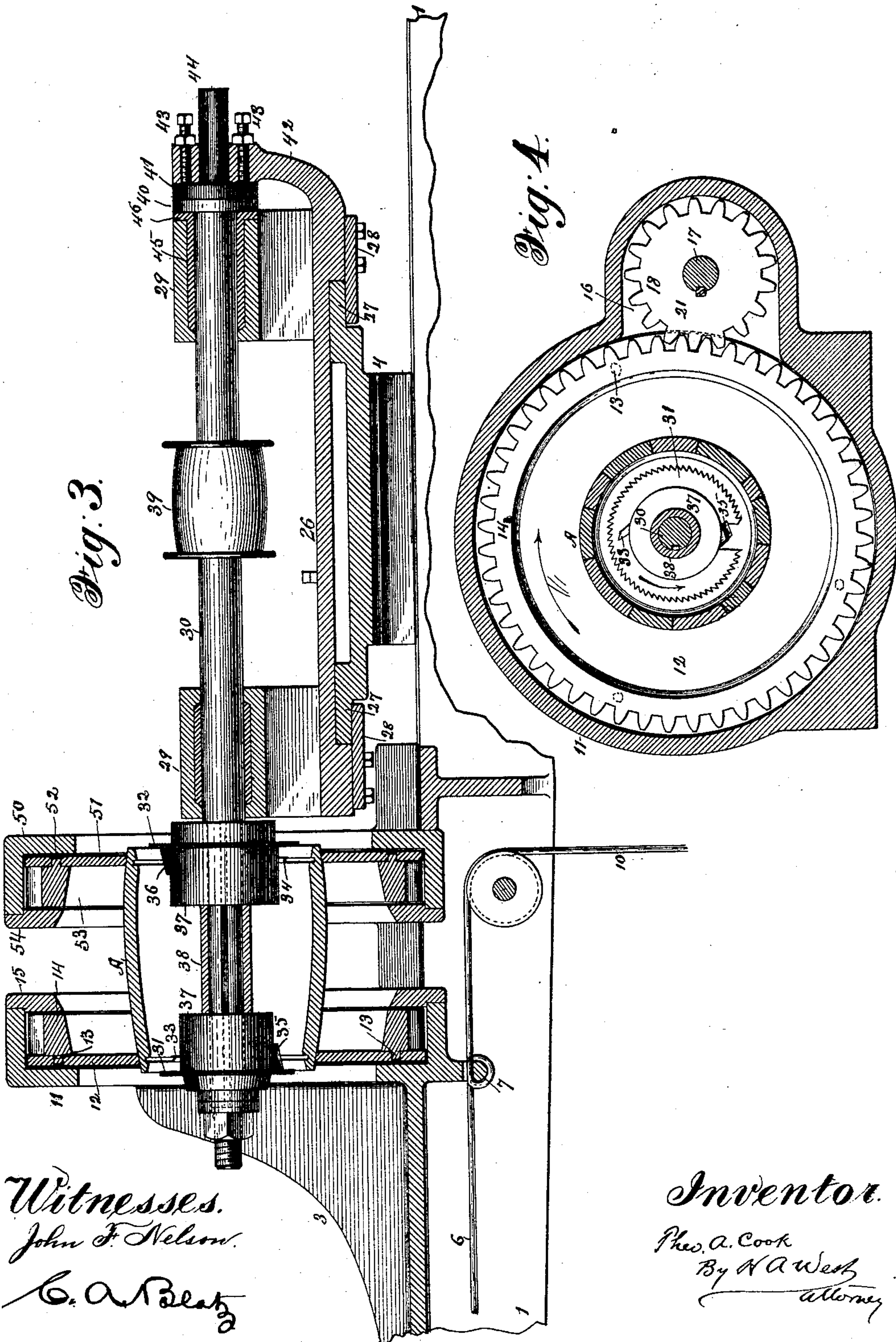
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UNITED STATES PATENT OFFICE.

THEODORE A. COOK, OF CALLICOON DEPOT, ASSIGNOR TO JAMES MATHISON
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CROZING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 480,711, dated August 16, 1892.

Application filed May 1, 1891. Serial No. 391,258. (No model.)

To all whom it may concern:

Be it known that I, THEODORE A. COOK, a citizen of the United States, and a resident of Callicoon Depot, in the county of Sullivan and State of New York, have invented a new and useful Improvement in Crozing-Machines, of which the following is a full, clear, and exact description sufficient to enable others skilled in the art to make and use the same.

My invention relates to a machine for crozing, chamfering, and trimming the ends of barrels, half-barrels, kegs, and other cooperage; and it consists, mainly, of a machine for this purpose having such construction that both ends of the barrel or keg may be crozed, chamfered, and trimmed by a single operation from a single spindle.

The invention also consists of the general construction of the machine and of the various combinations of parts comprising the same, all as hereinafter described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which like figures of reference represent corresponding parts in all the figures.

Figure 1 is a side elevation of my new and improved crozing-machine, showing the parts in position for crozing, chamfering, and trimming a keg, shown in dotted line in the machine. Fig. 2 is an end elevation of the machine. Fig. 3 is an enlarged and detailed sectional elevation of the same, showing the keg in full section; and Fig. 4 is a detailed sectional view taken through casing 11.

The machine comprises, essentially, a main frame 1, formed at each side with way 2 2 for the two opposite traveling tables 3 4. The table 3 may be moved back from the position shown in Figs. 1 and 3 by the attendant by means of a treadle 5 and cord, chain, or rope 6, which is connected to the treadle and to the lug 7 on the bottom of the table and passes over the pulley 8, and this table is moved forward to its normal position by means of the weight 9 and cord or rope 10, which passes over a pulley, as shown, and on this table is formed or mounted an annular casing 11, in which is held the annular holding-ring 12, which first receives the barrel or keg A to be crozed, chamfered, and trimmed. To the face of this

annular holding-ring 12 is held by dowels 13 or otherwise an annular removable gear 14. The said annular holding-ring and annular gear are held in casing 11 by an annular plate 15, which may be removed, so that the said annular ring and gear may be removed from the said annular casing. There will be several interchangeable holding-rings 12 of different inner measurement, so that the machine may be adapted for treating kegs or barrels of different sizes. The said annular casing 11 is enlarged at one side to form a chamber 16, through which passes the shaft 17, on which is placed the pinion 18, which meshes with the large annular gear 14, as shown in Fig. 4. Motion is imparted to the said shaft 17 from the power-shaft 18 by pinion 19 and gear-wheel 20. The shaft is formed with a spline 21, and when the table 3 is reciprocated on the main frame by the treadle 5 and the weight the pinion 18 slides upon the said shaft 17, so that it is always in gear with the large gear-wheel 14. The table 4 is reciprocated on the main frame, preferably by a rack 22, attached to said table, a toothed sector 23, journaled on the gudgeon 24 on the main frame, and the lever 25, and on this table is mounted a transversely-movable saddle 26, held to flanges 27 27 by plates 28 28, as shown clearly in Fig. 3. In suitable journals 29 29 on said saddle 26 is journaled the spindle 30, which carries at its front end two circular saws 31 32, two crozing-tools 33 34, and two chamfering-cutters 35 36. These cutting-tools are held in suitable head-blocks 37 37, which are adjustable on the spindle by means of a screw and nut and washers on the end of the spindle and a removable spacing-sleeve 38, placed on the spindle between the head-blocks, a sleeve of greater or less length being used for the various adjustments. By adjusting the outer head and its cutters along the spindle the machine may be fitted for barrels and kegs of different lengths. The spindle is provided with a pulley 39 for revolving the spindle and its cutting-tools at a high rate of speed. The rear end of the said spindle 30 is formed with a flat collar 40, against the outer surface of which is applied the adjusting-head or follower 41 for taking up the wear and causing the spindle to always run true. This adjusting-

head is by preference of Babbitt metal and held in the arm 42 and is pressed in contact with the collar 41 by means of set-screws 43. It is formed with a rear projection 44, fitted
 5 to slide in a bearing in the said arm 42, as shown clearly in Fig. 3. The rear bearing 29 is lined with Babbitt metal 45, which is formed with a flat collar 46, so that the collar 40 on the spindle runs between two Babbitt-metal
 10 facings, which reduces the friction to the minimum and at the same time enables the spindle to be kept true by adjusting the rear plate 41. The saddle 26 is adjusted laterally by the attendant by means of the bell-crank lever 47 and link 48, which connects the short
 15 arm of the said lever with the saddle, as shown clearly in Fig. 2.

On the main frame, facing the annular casing 11, is mounted another annular casing 50.
 20 In this is held an annular holding-ring 51 to hold the front end of the keg or barrel, and to the front of the said ring is attached by dowels 52 or otherwise a removable annular gear-wheel 53, in all respects like the annular gear-wheel 14, and the said annular gear-wheel 53 and annular holding-plate 51 are held within the casing 50 by the removable ring 54, and there will be several interchangeable rings 51 for holding barrels or kegs of
 25 different diameters. The casing 50 is enlarged at one side, as shown at 54^a, Fig. 2, and in this enlargement on shaft 17 is secured a pinion 55, (shown in dotted lines, Fig. 2,) which when the shaft 17 is revolved revolves the annular gear-wheel 53 and the annular holding-ring
 30 51 in unison with the rotary movement of the annular ring 12 and gear 14, which hold the rear end of the keg or barrel. The movement forward of the table 4 is limited by the stop-screws 56 and the lateral movement of the
 35 saddle 26 is prescribed by the opposite stop-screws 57 58.

In operation the attendant reverses the lever 25, carrying the table 4 back to the limit
 45 of its movement, then depresses the treadle, which carries the table 3 back, and then places the barrel or keg in the holding-ring 12. The treadle is then released, whereupon the weight

9 will draw the table 3 suddenly forward, thrusting the opposite end of the barrel or
 50 keg in the holding-ring 51. The saddle 26 is then moved back, which carries the saws, croze-tools, and chamfer-cutters into the barrel or keg, as shown in Fig. 3. The lever 47 is then lifted, which shifts the saddle 26 and
 55 carries the saws, croze-tools, and chamfer-knives into contact with the barrel or keg, thus trimming, crozing, and chamfering both ends of the barrel or keg at one operation. The barrel or keg is rotated in the opposite
 60 direction to that of the cutting-tools.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a crozing-machine, the combination, 65 with the main frame provided with a way at its upper surface, of the laterally and longitudinally reciprocable tables, a spindle held in bearings supported by the laterally-reciprocable table and projecting at one end be-
 70 yond its bearings at the center of the machine, two circular saws and two sets of cutters secured on said projecting end of the spindle, an annular rotary holder for one end of the barrel, held at the center of the machine
 75 in front of the laterally and longitudinally reciprocable tables, and another annular and rotary holder for the opposite end of the barrel, fitted to slide on the way of main frame, substantially as and for the purposes set
 80 forth.

2. The spindle mounted on a longitudinally and laterally reciprocable table and projected at one end beyond its bearing and provided at said projecting end with two saws and cut-
 85 ters, in combination with a rotating holding-ring for one end of the barrel, held in a casing fixed in the frame in line with the spindle, and another rotating holding-ring for the barrel, held in a casing mounted upon a recipro-
 90 cable table in line with the spindle, substantially as described.

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Witnesses:

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