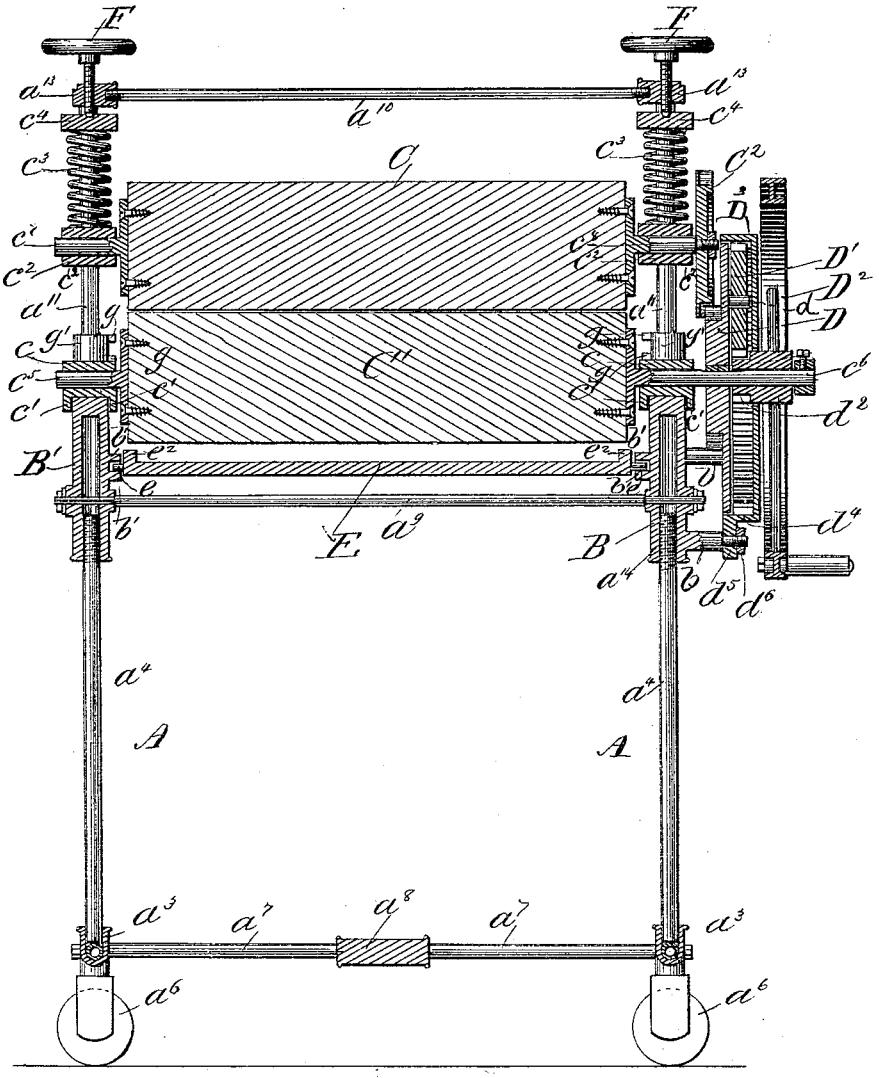
(No Model.) 3 Sheets—Sheet 1.

T. COLLIER.

COMBINED MANGLE AND WRINGER.

No. 346,427. Patented July 27, 1886.

Fig. 1.



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(No Model.)

3 Sheets—Sheet 2.

T. COLLIER.

COMBINED MANGLE AND WRINGER.

No. 346,427. Patented July 27, 1886.

Fig. 2.

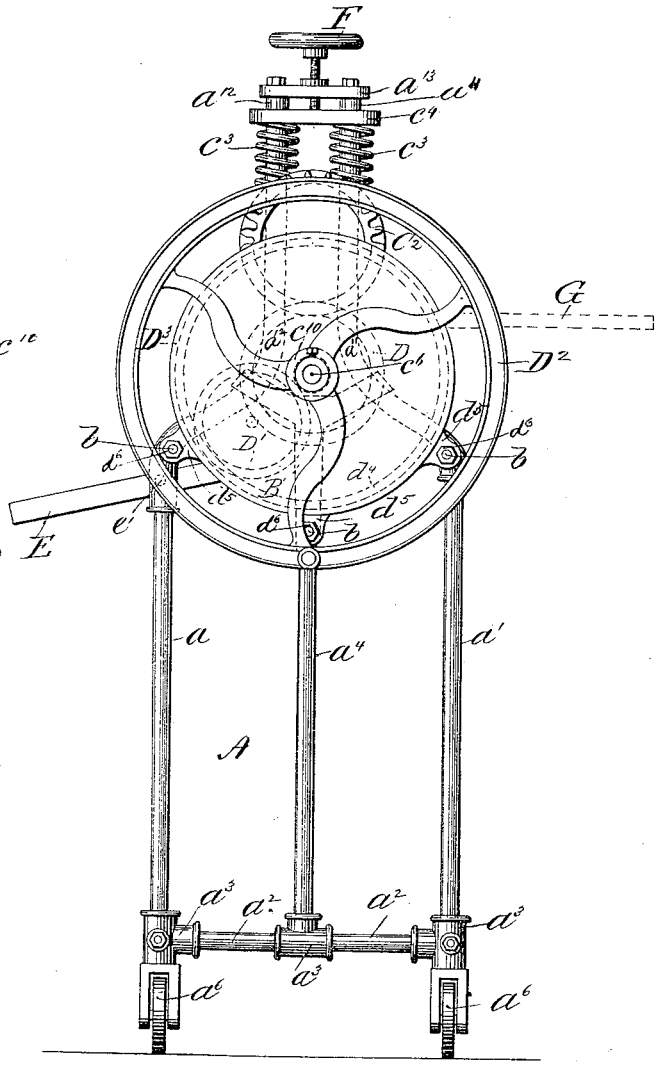
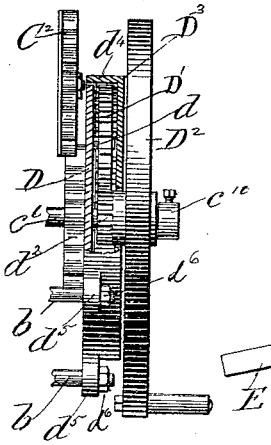


Fig. 3.



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(No Model.) 3 Sheets—Sheet 3.

T. COLLIER.

COMBINED MANGLE AND WRINGER.

No. 346,427. Patented July 27, 1886.

Fig. 4.

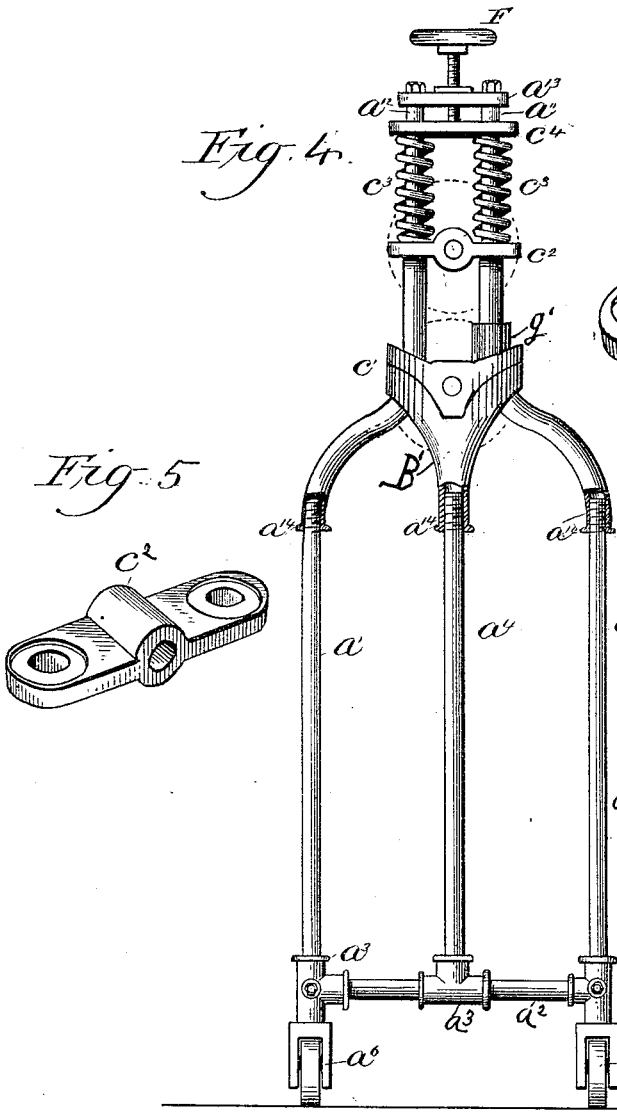


Fig. 6.

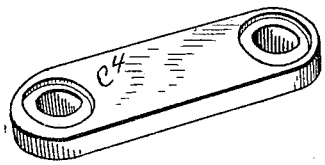
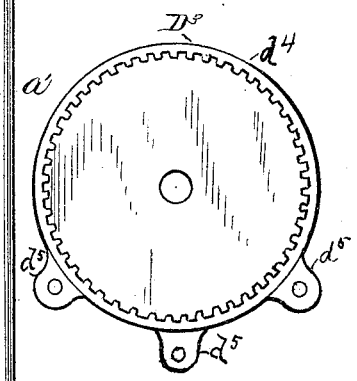


Fig. 5.

Fig. 7.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS COLLIER, OF RACINE, WISCONSIN, ASSIGNOR TO PHŒBE COLLIER, OF SAME PLACE.

COMBINED MANGLE AND WRINGER.

SPECIFICATION forming part of Letters Patent No. 346,427, dated July 27, 1886.

Application filed July 31, 1884. Serial No. 139,283. (No model.)

To all whom it may concern:

Be it known that I, THOMAS COLLIER, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Combined Mangles and Wringers; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to combined mangles and wringers, and will be fully described hereinafter and claimed.

In the drawings, Figure 1 is a vertical longitudinal section through the center of my device. Fig. 2 is an end elevation of the same, and Fig. 3 is a broken side view of the driving mechanism. Fig. 4 represents an elevation of the end opposite to that shown in Fig. 2, the yoke being broken partly away. Fig. 5 represents a detail view from above of one of the bearing-saddles of the upper roll. Fig. 6 represents a similar view from below of one of the upper saddles which bear on the spring, and Fig. 7 represents an interior plan view of the internally-toothed plate without the studs and gears.

A A indicate the frame of my machine. This is constructed of gas-pipe and consists of the sections $a\,a\,a'\,a'$, united at their lower ends by means of the cross-pipes a^2 a^2 and T-joints a^3 a^3 to the central sections, a^4, and are fitted with suitable rollers, a^6 a^6, horizontal braces a^7 a^7, connected to the said lower ends and united at the center through the joint-plate a^8. This plate serves, with the rods a^9 and a^{10}, to give to the whole frame the required rigidity with the least possible use of metal, thereby materially reducing the weight of the machine. The outer pipe-sections, a a', are jointed in their upper ends to curved sections a^{11} a^{12}, which, after being passed through the perforated ends of the yokes B B', are curved upward and project above the roller C. The upper ends of these sections are connected on each end of the machine by the bridge-piece a^{13}, which is perforated to fit over said upper ends. The rod a^{10} has both of its ends threaded to screw in a threaded perforation made on the inner edge of each of said bridge-pieces. The upper ends of the sections a^4 a^4 of the frame A are threaded, and are held in the threaded perforations made in the central parts of the yokes B B', as shown at a^{14} a^{14}. The roller C' is journaled in the bearing saddles or blocks c c, which fit into the central depressions of the yokes, as shown in Fig. 4. The under sides of these saddles or blocks are flanged on each side at c' c', these flanges embracing the tops of the yokes. The upper roller, C, is journaled in the middle of the saddles c^2 c^2, which extend horizontally over the pipe-sections a^{11} a^{12}, and are perforated to receive the same. The upper edges of these saddles c^2 are hollowed in a suitable manner, as shown in Fig. 5, to receive the lower ends of the coiled springs c^3 c^3, which are fitted over the said pipe-sections. The upper ends of these springs are received in the suitably-hollowed (see Fig. 6) lower faces of the saddles c^4 c^4, which are slipped over the said sections a^{11} a^{12}. These springs are adjusted to the proper tension by means of the hand-screws F working in the central threaded perforations made for that purpose in the bridge-pieces a^{13} a^{13}, fastened, as stated above, in the upper ends of the frame A. The journals c^5 c^6, as well as the journals c^7 c^8 of the rollers C C', respectively, project from the center of suitable plates fastened to the ends of said rollers. The journal c^6 of roller C' is extended outward to carry, fastened onto it, a gear-wheel, D, the long cogs of which are adapted to mesh with the like cogs of the pinion C^2, suitably fastened onto the end of the journal c^8 of the roller C. The outer face of the wheel D, which is extended outward beyond the cogs of the pinion formed on its inner face, carries the bearing-stud d, on which rotates the pinion D', and this pinion meshes with the driving-pinion d^2, formed on the inner end of the hub of the hand-wheel D^2, revolving freely on the journal c^6 of the roller C', whereon said wheel is kept in position by means of a collar, c^{10}, fastened by a set-screw on the end of said journal. The pinion D' meshes also with the cogged inner face of the flange d^1, as shown in Fig. 7, formed on the outer rim of the circular guard or frame D^3. This frame, which is centrally perforated to receive the hub of the hand-wheel D^2, revolving freely therein, is provided in its lower part with lugs d^5 d^5, projecting

from the flanged rim d^4, and these lugs are perforated to receive the shouldered ends of the studs b b, formed in corresponding points on the outer face of the yoke B and main frame, whereon the said frame D^3 is secured in place by means of the fastening-nuts d^6 d^6.

On the inner faces of the yokes B and B′, and just above the upper end of the central section, a^4, of the frame A, are formed the bearings b', which receive the trunnions e e, provided in the ends of the mangle-table E. This table, which is represented in a slightly-inclined position, Fig. 2, for use as a wringing-table, is provided with trunnions e, which are received in bearings b', as before stated. An additional table, G, (shown in dotted lines, Fig. 2,) may be fitted between guides g g, formed on the inner faces of sleeves g', which respectively surround sections a^{11} of the frame A. The hand-wheel D^2 being rotated, the pinion d^2 of its hub will revolve the pinion D′. As the cogs of this latter mesh with those formed on the flange d^1 of the circular frame or guard D^3 it is forced to travel around said flange and carries with it the gear-wheel D, with which it is connected. This last being keyed onto the journal c^6, the lower roller, C′, is turned with it, while the pinion C^2, fastened onto the end of the upper roller, C, is revolved in the other direction, as usual. The tension of the spring being adjusted as desired, the machine is ready for use.

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

1. The upright upper sections, a^{11}, of the mangling-frame, in combination with the sleeves g', fitted thereon, and provided with guides g, and the removable supplemental table G, supported by said guides, substantially as set forth.

2. The rolls, frame, saddle-pieces, and springs c^3, in combination with pinion c^2, carried by the upper roll, a pinion meshing therewith and carried by a wheel or disk on the shaft of the lower roll, another pinion, D′, arranged eccentrically on the outer face of said disk, a fixed circular rack meshing with said gear D′, and a pinion on the hub of the power-wheel, which also meshes with said pinion D′, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Racine, in the county of Racine and State of Wisconsin, in the presence of two witnesses.

THOMAS COLLIER.

Witnesses:
H. W. BESWICK,
E. B. FISH.