No. 745,086. PATENTED NOV. 24, 1903.

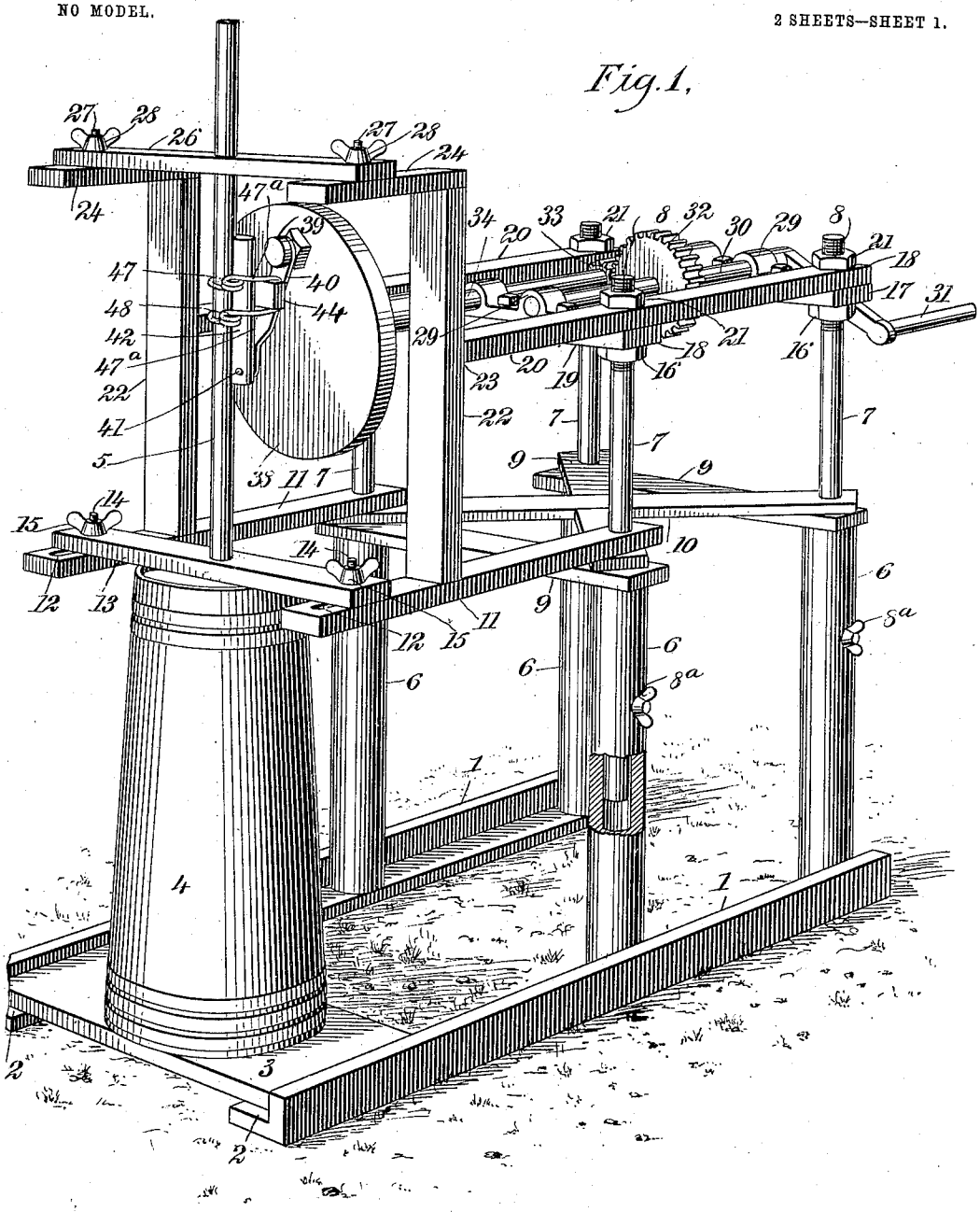
G. A. WALKER.

MACHINE FOR CONVERTING MOTION.

APPLICATION FILED MAR. 21, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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E. E. Ellis

INVENTOR

George A. Walker

BY Munn & Co.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2,

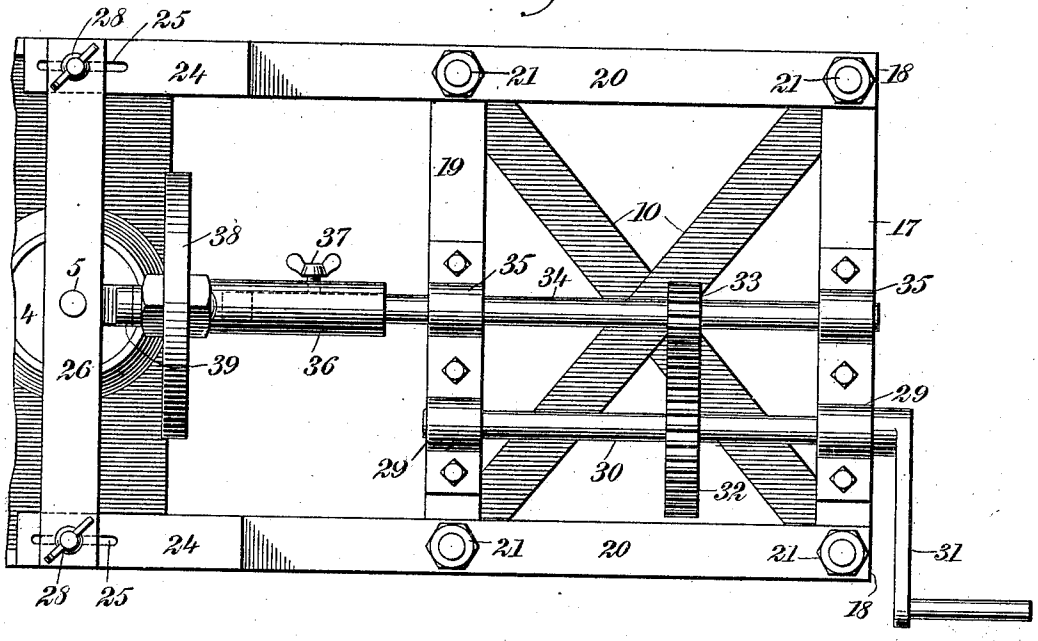


Fig. 3,

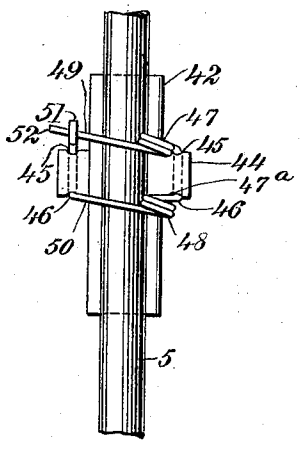
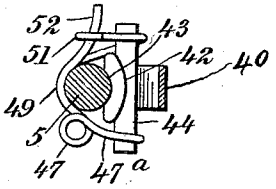


Fig. 4.



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No. 745,086. Patented November 24, 1903.

UNITED STATES PATENT OFFICE.

GEORGE A. WALKER, OF HARRISON, OKLAHOMA TERRITORY.

MACHINE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 745,086, dated November 24, 1903.

Application filed March 21, 1903. Serial No. 148,872. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. WALKER, a citizen of the United States, and a resident of Harrison, in the county of Kiowa and Territory of Oklahoma, have invented a new and Improved Machine for Converting Motion, of which the following is a full, clear, and exact description.

This invention relates to devices or mechanism for converting rotary motion into reciprocatory motion; and it consists, substantially, in the means hereinafter particularly described and claimed.

Though applicable to different uses or purposes in the various arts, my improvements have reference more especially to devices or mechanism for imparting reciprocatory motion to the rods or dashers of churns and like structures; and the principal object of my invention is to provide devices or mechanism of this character which are simple both in construction and organization of the parts or elements thereof, besides being thoroughly effective and reliable in use or operation.

A further object is to provide means whereby the operative elements or parts of the device or mechanism may be adjusted to different vertical heights to meet various requirements of use, and also to provide means for effecting operative connection between the elements or parts to be reciprocated and the driving member therefor.

A still further object of the invention is to provide means whereby the reciprocated element or part may be adjusted to vary the effective length of stroke thereof, and also whereby ready connection and disconnection of said element or part may be effected without the disorganization of any of the remaining parts of the mechanism.

The above and additional objects are attained by means substantially such as are illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a machine constructed and organized in accordance with my invention and from which the operation of the machine will be clearly understood. Fig. 2 is a top plan view of the machine. Fig. 3 is a view in detail representing the means employed for effecting adjustable connection of the reciprocated element or part with the yoke having movable connection with the crank or eccentric (not shown) of the machine; and Fig. 4 is a transverse sectional view taken through the reciprocated member and showing in plan view the spring-clamp by means of which the reciprocated member is adjustably secured to the yoke.

Before proceeding with a more detailed description it may be stated that my improved machine is constructed of a suitable base and framework, such framework being preferably mounted at an elevation on suitable supports therefor and being adjustable as to height, and supported by this framework are the operative elements or parts of the machine, said parts being adapted to be driven either by hand or from any suitable source of motive power, the main elements or parts of the machine being readily detachable or removable either in part or in entirety, and the principal elements are also preferably adjustable, so as to meet the different requirements of use to which the machine may be applied.

Specific reference being had to the several parts by the designating characters marked thereon, 1 1 represent parallel members, which are preferably rabbeted longitudinally at 2 2, by which to form a guideway for a platform 3, fitting between the vertical sides of said members, and the structure thus set forth may be said to constitute the base of my improved machine, the said platform 3 forming a convenient support for the body 4 of a churn having the usual rod 5 working through the top thereof. Mounted upon the horizontal portions of said base members 1 1 are suitable hollow posts or pillars 6, which are of equal height and working vertically in each of which is a rod 7, the upper end of which is screw-threaded at 8, said rods each being maintained in vertical adjustments thereof by means of a set-screw 8^a working in the side of its respective supporting-post. One of said rods passes through an opening therefor in an end of each of the transverse portions 9 9 of the framework of the machine and also through an opening therefor in the end of a member of a cross-brace 10, connecting said rods, as shown. The opposite innermost ones of the rods referred to likewise pass through openings near the inner ends of longitudinal parallel members 11 of the sup-

porting-frame, (see Fig. 1,) the outer or forward ends of these members each being slotted at 12 and united transversely by a cross-piece 13, having openings near the ends thereof for the passage of screws 14, which also pass upwardly through said slots 12, the threaded ends thereof being provided with butterfly-nuts 15, it being apparent that in virtue of this construction the said cross-piece 13 may be adjusted to any position within the limits afforded by the length of the slots, it being also mentioned at this point that the platform 3 may be moved to any desired position longitudinally in the guide therefor formed by the members 1 1 of the base. The upper screw-threaded portions of the rods 7 are each provided with a nut 16, and fitting over said screw-threaded portions of the outermost ones of the said rods 7 are the ends of a cross-brace 17, while similarly passing over the screw-threaded portions of the innermost ones of said rods are the outer ends 18 of a similar cross-brace 19 of the framework. Likewise fitting upon the screw-threaded portions of the said rods 7 at the sides of the machine and resting upon the upper surfaces of the ends of said cross-braces 17 and 19 are upper parallel longitudinal members 20, all of these latterly-described elements or parts being firmly secured in place upon the rods by nuts 21 or other tightening means therefor. Resting upon each of the lower parallel longitudinal members 11 is an upright 22, located a suitable distance from the forward or outer slotted end of said member, the said uprights being rigidly secured in any suitable manner at 23 to the inner free ends of the upper longitudinal parallel members 20, and at the upper ends of the uprights are secured the inner ends of right-angled extensions 24 thereof, each formed with a longitudinal slot 25, it being apparent that said uprights are raised and lowered with remaining elements of the vertically-movable frame referred to. Connecting the free ends of the said extensions 24 is an upper cross-piece 26, having openings at the ends through which pass the screws 27, entering the said slots 25 from beneath, the threaded portions of said screws each being provided with an adjusting-nut 28, also preferably of the butterfly type. It will be observed that the lower and upper cross-pieces 13 and 26 referred to are provided with coinciding openings through which passes the rod 5 of the churn or other contrivance, the rod being in this way guided in its vertical reciprocating movements.

The cross-braces 17 and 19 are provided with bearings 29, having a shaft 30, which may be driven in any suitable manner, but herein represented as provided with an operating handle or crank 31, and mounted upon or carried by said shaft is a gear-wheel 32, which meshes with a smaller gear-wheel or pinion 33, similarly mounted upon or carried by another parallel shaft 34, mounted in bearings 35 on the said cross-braces, this latter shaft being of greater length than the first-named shaft and provided at the inner extremity thereof with a sleeve 36, which is adjusted on this shaft, and the same being secured at different adjustments by means of a set-screw 37. (See Fig. 2.) The said sleeve 36 has centrally secured to the outer end thereof in any suitable way an eccentric or crank-disk 38, having secured to its outer face a wrist-pin 39, to which is movably connected one end of a link 40, the other end of which is in similar connection at 41 with the lower end of a brace or yoke 42, which, as shown in Fig. 4, is concaved at 43, so as to snugly fit the side of the churn-rod 5 or other rod. Formed with or attached to the said brace or yoke 42 is a transverse bar 44, which is notched at 45 and 46 in the upper and lower edges thereof near each end, and forming adjustable connection between the yoke and the rod is a spring-clamp specially devised by me, comprising a single piece of wire bent to form the coils 47 and 48, the portions 47^a of the wire extending inwardly from the rod 5 and passing around one end of the said cross-bar 44 and fitting the notches therein, (see Figs. 3 and 4,) while the terminals 49 and 50 of the coils pass around the rod 5 at the outer side thereof, as indicated in Fig. 3, the said terminal 50 then passing inwardly, substantially parallel with the said inwardly-extending portions 47^a of the wire, thence brought around the other end of the cross-bar 44 and fitting in the notches at that end of said bar, these said lower terminals being formed one with a crook 51, which is engaged by the free end 52 of the other coil. It will be seen that in this way a ready means of attachment is had for the churn or other rod with the connections from the eccentric or crank disk, and it will also be seen that by loosening or detaching said spring-clamp the said rod 5 may be adjusted to any position vertically, the same being held in such position by again applying and securing the clamp in the manner already stated.

From the foregoing it will be seen that the supporting-framework of my improved machine is adjustable vertically, and it will also be seen that the same is composed of few parts which are firmly united or secured together. Adjusting devices are also provided for different ones of the movable parts or elements of the machine, as herein specifically pointed out, and it is thought that the operation of the machine will be fully understood.

I desire to add that while I have herein represented a certain preferred form or embodiment of my invention, I am not limited to the precise details thereof in practice, since immaterial changes therein may be resorted to coming within the scope of my invention.

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

1. In a machine for converting rotary mo-

tion into reciprocatory motion, a rotatable crank-disk having a link movably connected thereto, a yoke in movable connection with the link, and adapted for the partial reception of a device to be reciprocated, a cross-bar attached to the yoke, and having oppositely-disposed notches in the longer edges thereof, and a clamp for securing such device in place relatively to the disk, said clamp being formed with spring-coils having terminal portions constructed for separable engagement with each other, and said portions passing through said notches and extending substantially longitudinally of said cross-bar.

2. In a machine for converting rotary motion into reciprocatory motion, a main supporting-frame, a frame vertically adjustable thereon, a shaft rotatably mounted in bearings on said latter frame, and provided with a crank-disk having a movable link, a yoke in movable connection with the link, and having therein a groove for partially receiving a device to be reciprocated, a cross-bar attached to the yoke, and having oppositely-disposed notches in the longer edges thereof, and a spring-clamp formed with terminal portions constructed for separable engagement with each other, said portions entering said notches and extending alongside of said cross-bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE A. WALKER.

Witnesses:

OSCAR H. MINTON,

E. L. BASKETT.