

Sept. 27, 1949.

G. HAEBERLIN
FABRIC FOLDING MACHINE

2,482,764

Filed Dec. 10, 1946

3 Sheets-Sheet 1

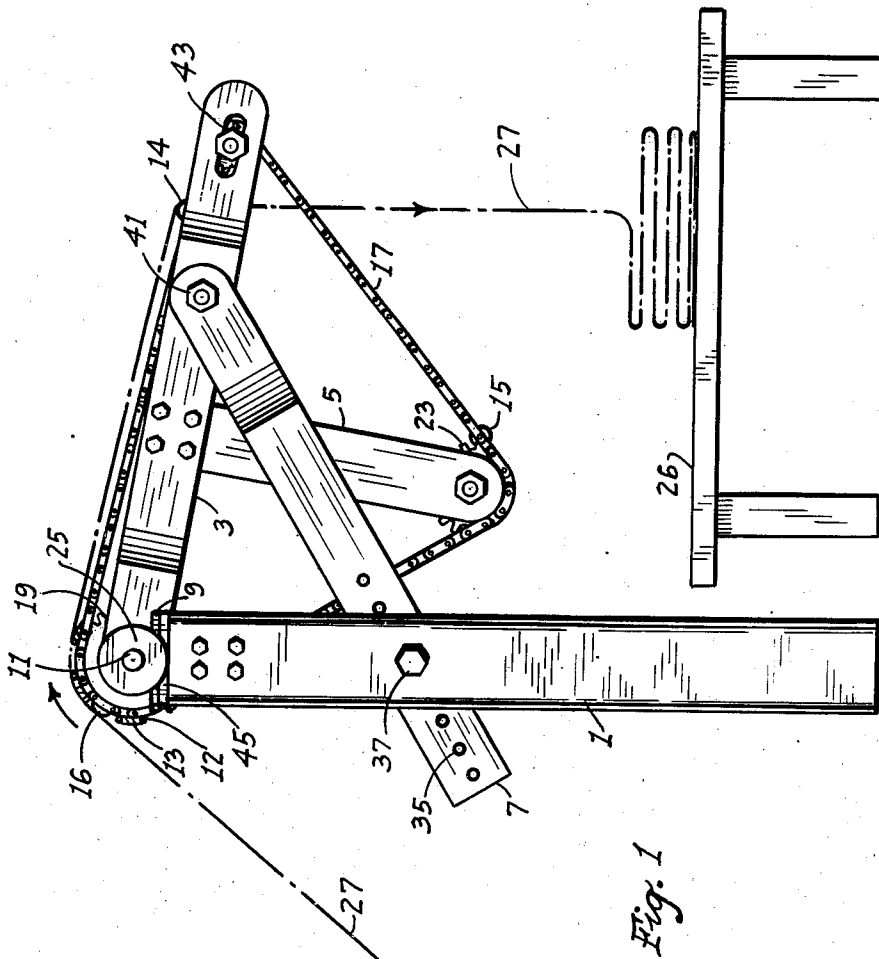


Fig. 1

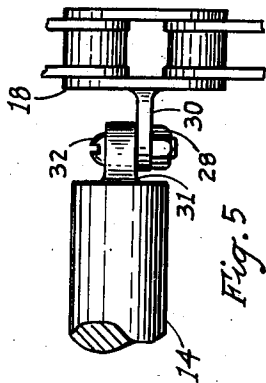


Fig. 5

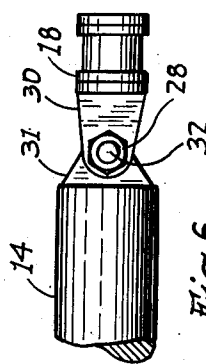


Fig. 6

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3 Sheets-Sheet 2

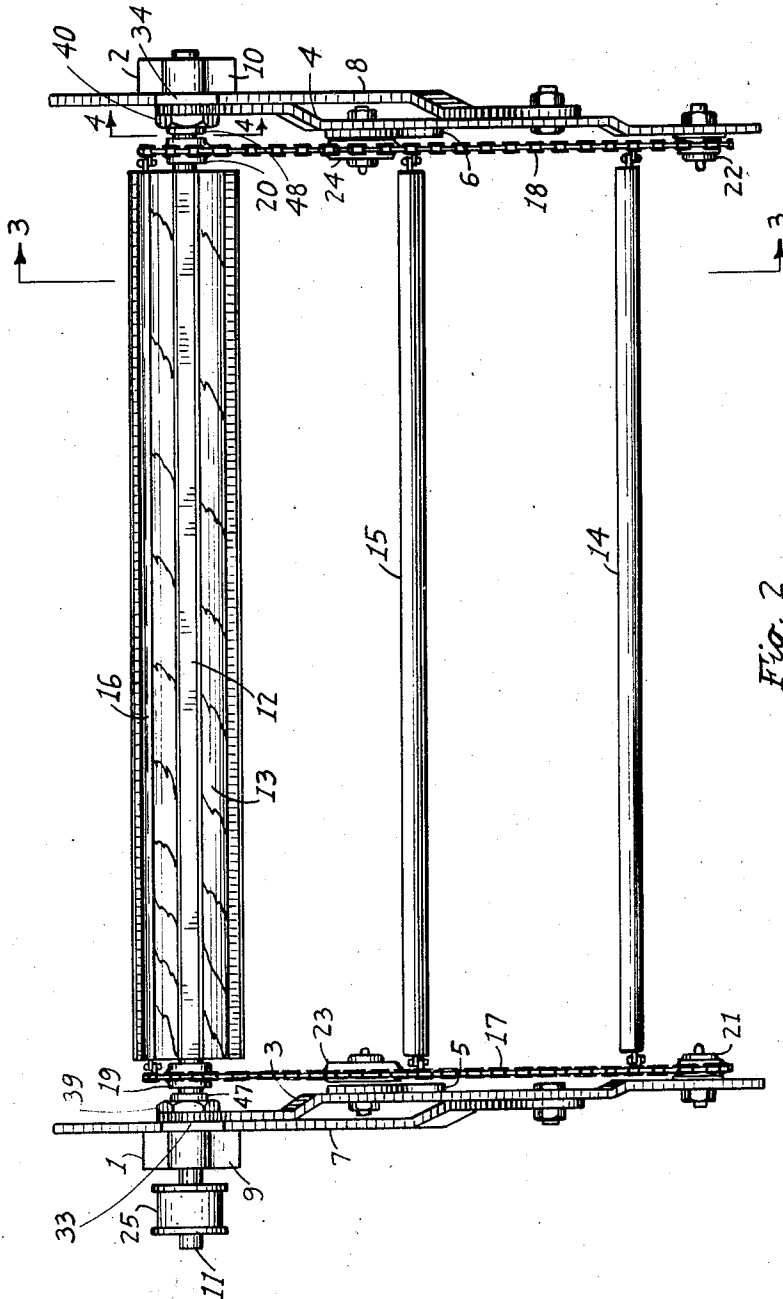


Fig. 2

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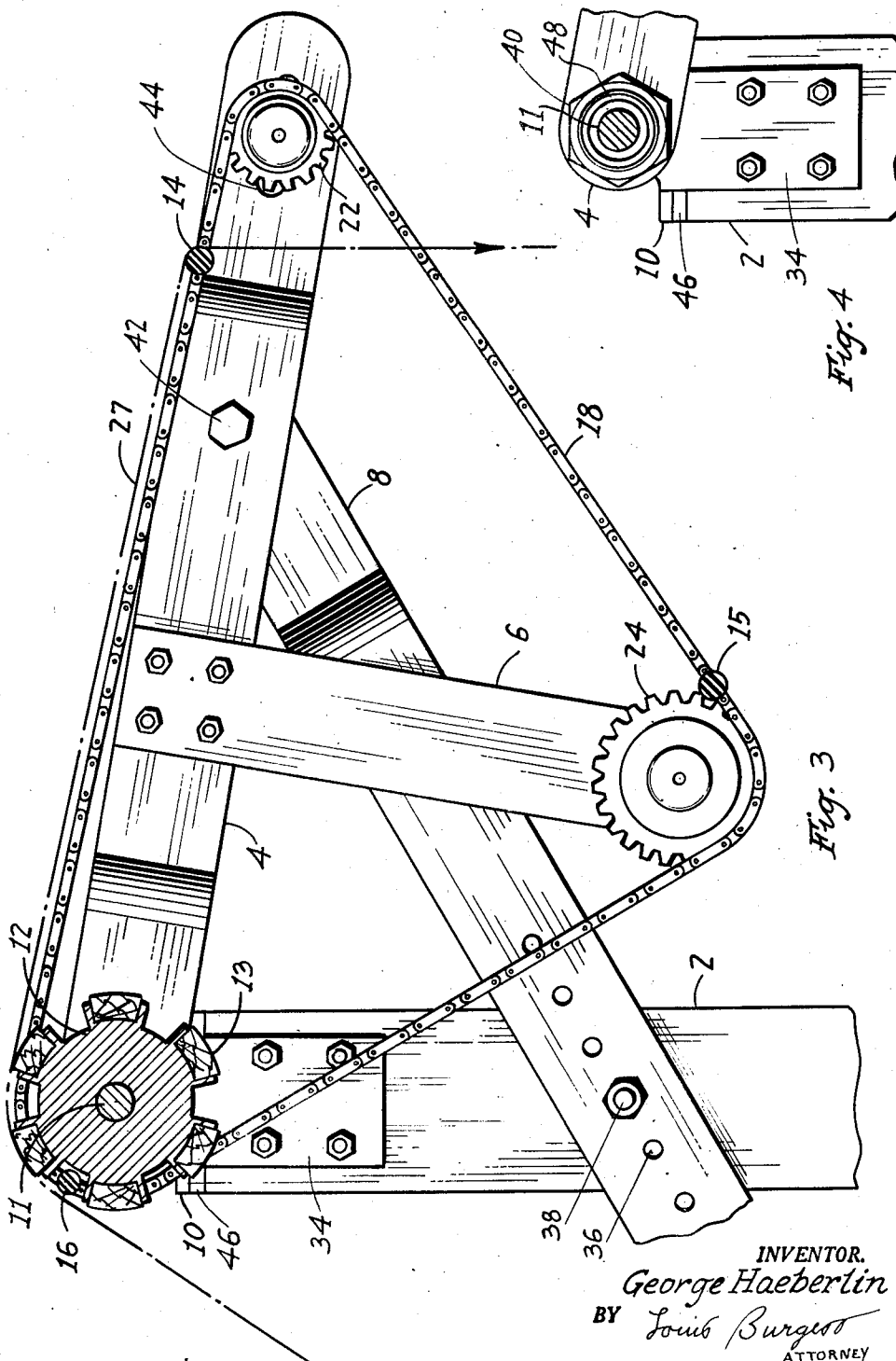
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,482,764

FABRIC FOLDING MACHINE

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Application December 10, 1946, Serial No. 715,295

5 Claims. (Cl. 270-79)

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The present invention relates to an improve-
ment in fabric folding machines and has as its
object a zigzag folding of fabric by means of one
or more rods moving through a closed path. Fur-
ther objects of the invention will appear from
the following description read in conjunction with
the drawing.

One embodiment of the invention is shown, by
way of example, in the drawing in which:

Fig. 1 is a side elevation of the folding machine
of my invention;

Fig. 2 is a plan view thereof;

Fig. 3 is a sectional view along plane 3—3 of
Fig. 2;

Fig. 4 is a sectional view along plane 4—4 of
Fig. 2;

Fig. 5 is a plan view of a detail of construction;
and

Fig. 6 is a side view of the detail shown in Fig.
5.

Referring to Figures 1 and 2, standards 1, 2,
arms 3, 4 pivotally connected on top of the latter,
and sprocket supports 5, 6 projecting from and
rigidly connected at right angles to said arms 3,
4, together with adjustable braces 7, 8, constitute
the framework of my machine. Bearing plates
45, 46 which support bearings 9, 10 for the rotat-
able support of shaft 11 and horizontal feeder roll
12 carried thereby, are mounted on top of chan-
nel-frame standards 1, 2. To the inner side of
standards 1, 2, there are bolted bearing plates
33, 34, the journal surfaces of which are formed
by sleeves 47, 48 (Fig. 2), through which shaft 11
extends. Nuts 39 and 40 secure to said sleeves
arms 3 and 4 which are rotatably carried thereon.
Braces 7, 8 (Figs. 1 and 3) serve for supporting
arms 3 and 4, one end of said braces being con-
nected by a bolt such as 41 or 42 to one of said
arms, the other end being provided with several
orifices 35, 36 through any pair of which braces
7, 8 may be adjustably fastened to standards 1, 2
by bolts 37, 38. Sprocket supports 5, 6 (Figs. 1
and 3) are bolted at their upper ends to arms 4, 5
and carry at their lower ends idler sprockets 23,
24. Shaft 11 carries, adjacent feeder roll 12,
driving sprocket wheels 19, 20 (Figs. 1 and 2) rig-
idly connected to said shaft.

Horizontal feeder roll 12 is provided with a
number of laths or slats 13, of a material suitable
for frictional engagement with the fabric to be
folded, for instance, wood. The outer surfaces
of these slats all lie on the same circumference
and the slats are so dimensioned as to permit
rods 14, 15 and 16 to be completely nested be-
tween same. These rods are moved parallel to

themselves in a closed path by means of an end-
less flexible drive, for instance, chains 17 and 18.
The rods are connected in parallel at one end to
chain 17 and at the other end to parallel chain 18,
dividing said chains into sections of equal length.
This connection may be effected, as shown in the
drawing (Figs. 5 and 6), for instance, by bolting a
flat extension 31 of the rod (14) to a fillet 30
welded to the chain line (18), by means of bolt 32
and nut 28. Endless chain 17 is carried by driv-
ing sprocket 19 and idler sprockets 21 and 23
(Fig. 1) and endless chain 18 by driving sprocket
20 and idler sprockets 22 and 24 (Fig. 2). Slots
43, 44 provided in the outer ends of arms 3, 4 and
through which idler sprockets 21, 22 are attached
to said arms, make possible the adjustment of the
tension of chains 17, 18.

Shaft 11 is rotated by any known driving means,
for instance, pulley 25 borne by an extension of
shaft 11 (Figs. 1 and 2). Table 26 may be placed
below idler sprockets 21, 22 and 23, 24 to receive
the folded fabric.

The method of operation of the folding ma-
chine of my invention is as follows:

Fabric 27 to be folded is drawn over feeder roll
12 and over whichever one of rods 14, 15 and 16 is
in the upper leg of chains 17 and 18 and allowed
to drop onto folding table 26 (Fig. 1). Shaft 11
and therewith driving sprockets 19, 20 and feeder
roll 12 are caused to rotate in the direction indi-
cated by the arrow in Fig. 1, thus starting chains
17, 18 and rods 14, 15, 16 on their endless course.
From this point on the folding machine operates
automatically, fabric being fed on to rods 14, 15
and 16 by feeder roll 12 and being deposited by
said rods onto stacking table 26 in the form of
alternate zigzag folds.

In order to assure the optimum frictional en-
gagement of the fabric 27 to be folded with feeder
roll 12, the effective engagement surface of the
roll may be varied by means of braces 7, 8, the
maximum engagement being obtained when arms
3, 4 define the smallest possible angle with stand-
ards 1, 2.

The above description is by way of illustration
and not of limitation and it is therefore my in-
tention that the invention be limited only by the
following claims or their equivalents wherein I
have endeavored to claim broadly all inherent
novelty.

I claim:

1. A textile web folding machine for contin-
uously folding a web of textile material in zigzag
folds comprising at least two horizontally dis-
posed fabric web carrier rods, means defining an

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endless path of travel for said rods and having a fabric web release end defining an unobstructed path of travel for said rods and any therefrom depending fabric web in a to and fro direction substantially parallel to said rods, drive means operatively connected to said rods to move the same along said path, and means for continuously passing a web of textile material onto said path for rod engagement with the under-side of said web.

2. A textile web folding machine in accordance with claim 1 in which a multiple number of substantially horizontally disposed fabric web carrier rods in excess of two is provided, in which said means defining an endless path of travel for said rods are composed of two opposing endless guide means for said rods and of substantially congruous configuration relative to each other, and in which said drive means are operatively connected to said rods to move the same along said guide means.

3. A textile web folding machine in accordance with claim 2 in which additional means are provided to adjust the vertical inclination of said path of travel to thereby vary its horizontal extent.

4. A textile web folding machine in accordance

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with claim 3 in which said means for continuously passing a web of textile material onto said path include a substantially horizontal feeder roll positioned to feed such textile web onto said rods.

5. A textile web folding machine in accordance with claim 4 wherein the periphery of said feeder roll substantially coincides in part with said closed path and defines longitudinal recesses in which said rods are nested while in engagement with said feeder roll and in which said vertical inclination of said path is adjusted by rotation of said path about said feeder roll.

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