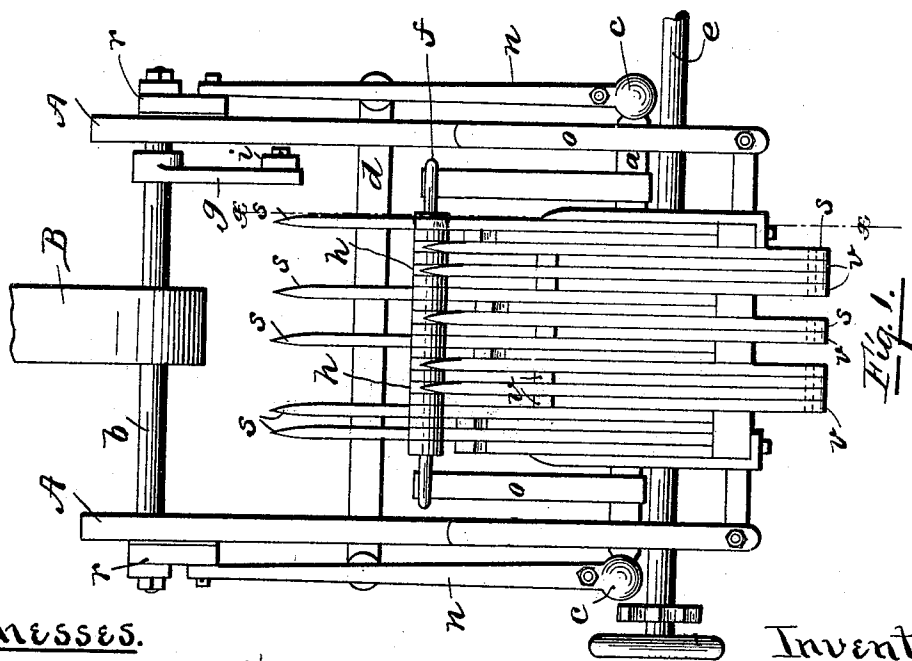
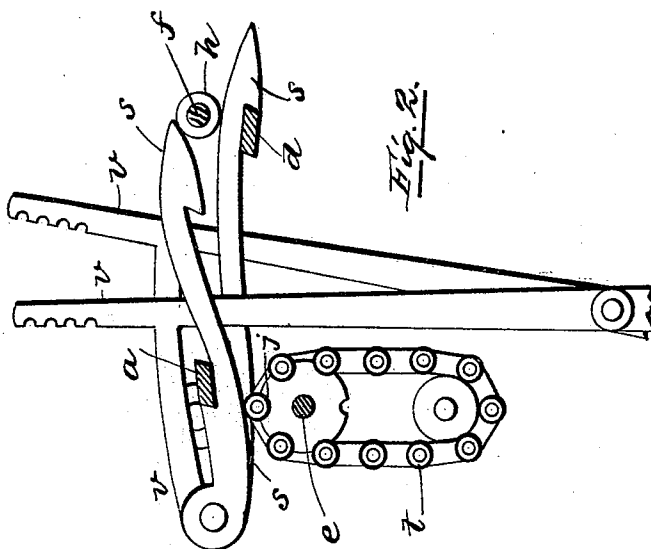
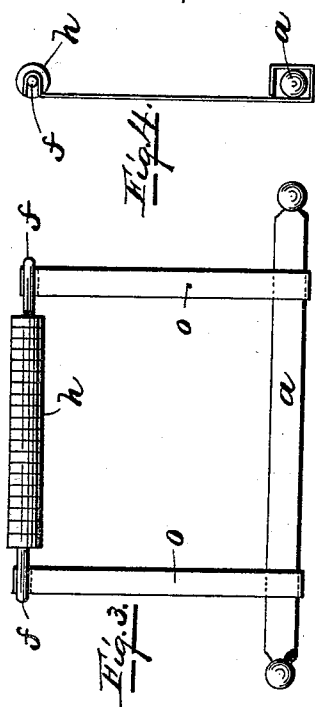


(No Model.)

J. MAGEE.
LOOM HARNESS MOTION.

No. 516,163.

Patented Mar. 6, 1894.



Witnesses.

Charles Hannigan.
E B Read

Inventor.

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Atty.

UNITED STATES PATENT OFFICE.

JAMES MAGEE, OF WESTERLY, RHODE ISLAND, ASSIGNOR OF ONE-HALF TO
HARRISON M. LITCHFIELD AND GEORGE F. LAMPHERE, OF SAME PLACE.

LOOM HARNESS-MOTION.

SPECIFICATION forming part of Letters Patent No. 516,163, dated March 6, 1894

Application filed September 21, 1893. Serial No. 486,080. (No model.)

To all whom it may concern:

Be it known that I, JAMES MAGEE, of West-
erly, in the county of Washington and State
of Rhode Island, have invented certain new
and useful Improvements in Loom Harness-
Motions; and I do hereby declare that the fol-
lowing is a full, clear, and exact description
thereof, reference being had to the accompa-
nying drawings, and to the letters of reference
marked thereon, which form a part of this
specification.

This invention relates to the harness mo-
tion of that class of looms using several har-
nesses, operated by a chain and jack motion,
and is intended to prevent the slipping back
of a jack, so as to let a harness down after it
has been raised, and before it is time for it to
be drawn down.

It is fully illustrated in the accompanying
drawings.

Figure 1, is a top view of a "head" or har-
ness motion, showing the position of the jacks,
fingers and operating knives, with the guard
rod. Fig. 2, is a vertical section taken on line
x, x, in Fig. 1, looking to the left, and show-
ing two jacks with their fingers, the guard,
two knives and pattern chain, only. Fig. 3,
is a top view of one of the knives, with the
guard attached to it. Fig. 4, is an end view
of the knife and guard.

In looms of this kind, after the harness has
been and is yet raised, and the pattern chain
is moved to take the roll from under the
raised finger by reason of the lost motion be-
tween the knife and the catch on the finger,
the finger is liable to drop and thereby lower
the harness prematurely.

In Fig. 1, *A, A*, are the two side frames of
the head that inclose the harness motion, and
which are made fast to the end frame of the
loom (not shown).

B, is the end of the loom arch, and *v, v*, are
the jacks that are connected at their tops, by
cords, to the tops of the harnesses, (not shown)
to raise them, and at their lower ends, to the
bottom of the harnesses, to draw them down.

s, s, are the fingers connected at their piv-
oted ends, to the jacks *v, v*, and having notches
forming catches, made on their upper sides,
near their pivoted ends, to catch the knife *a*,
when the fingers are raised by a roll *j*, on the

chain *t*, and another notch or catch, is made
on their under sides, near their free ends, to
catch on the knife *d*, when that knife moves
inward, to draw the harnesses down. The
knives *a, d*, receive a reciprocating motion
toward and from the loom, from the arms *r, r*,
on the shaft *b*, which has a rocking motion
given to it by a crank fast on the main shaft
of the loom, connected with the arm *g*, fast on
the shaft *b*. As we have only the knife *a*, that
raises the harnesses, to consider, the connect-
ing bars of that knife, only, are shown. The
bars *n, n*, are connected to the ends of the
knife *a*, by ball and socket joints *c, c*. The
inner ends of the same bars, are attached to
the arms *r, r*, by means of studs.

The knives *a, d*, are moved by a crank, and
are continuously in motion, and as soon as the
knife *a*, has raised a harness, by pushing on
the catch of one of the fingers *s*, the knife be-
gins to return, and leaves the catch for a lit-
tle distance, as a certain amount of lost mo-
tion has to be left between the two. This
leaves the finger free to drop, as the chain
roll has left it, and there is nothing to hold
the harness connected to that jack, up. This
allows the "slip" as it is called, or fall of the
harness, too soon. To prevent this untimely
drop of the finger, two arms *o, o*, are made fast
on the knife *a*, just outside of the jacks and
fingers, one on each side, in such manner as
to prevent their turning on the knife, and al-
lowing the rod *f*, to drop at any time, and the
inner ends of the arms *o*, are shaped to form
bearings for a small rod *f*, on which as many
friction rolls *h*, are placed, as there are jacks
and fingers. The length of these arms *o*, is
made just so as to bring the rolls *h*, a little
way under the inner ends of the fingers *s*, that
are up when the knife *a*, is against the catch
on the top of the finger. (See Fig. 2.) This
prevents the finger from dropping so as to
allow the catch on it to pass under the knife
and let the jack *v*, fall back, and the harness
attached to it, drop, before the knife has
moved the proper distance for the finger to
drop and the harness to be drawn down.
When the knife has moved the proper dis-
tance for the harness to drop the rod *f*, will
have been carried out from under the free
ends of the raised fingers, by the motion back

of the knife, which will allow the fingers to drop in time to be controlled by the pattern chain, as the time necessary for them to be held up, is very short.

5 The rod *f*, with its friction rolls, is easily lifted out of its bearings in the arms, whenever it is necessary to adjust the harnesses. A simple rod, round or triangular in shape, would answer the purpose; but it would wear
10 away the thin edges of the fingers, which the use of the friction rolls will prevent.

Having thus described my improvements, I claim as my invention—

In a loom harness motion, the combination of the jacks, the hooked fingers pivoted there- 15 to, the lifter and depressor knives, the pattern chain, the guard rod connected to said lifter knife and adapted to ride over the ends of the fingers engaged by the depressor knife, and under the ends of the fingers engaged by 20 the lifter knife, substantially as described.

JAMES MAGEE.

Witnesses:

BENJ. ARNOLD,
E. B. READ.