

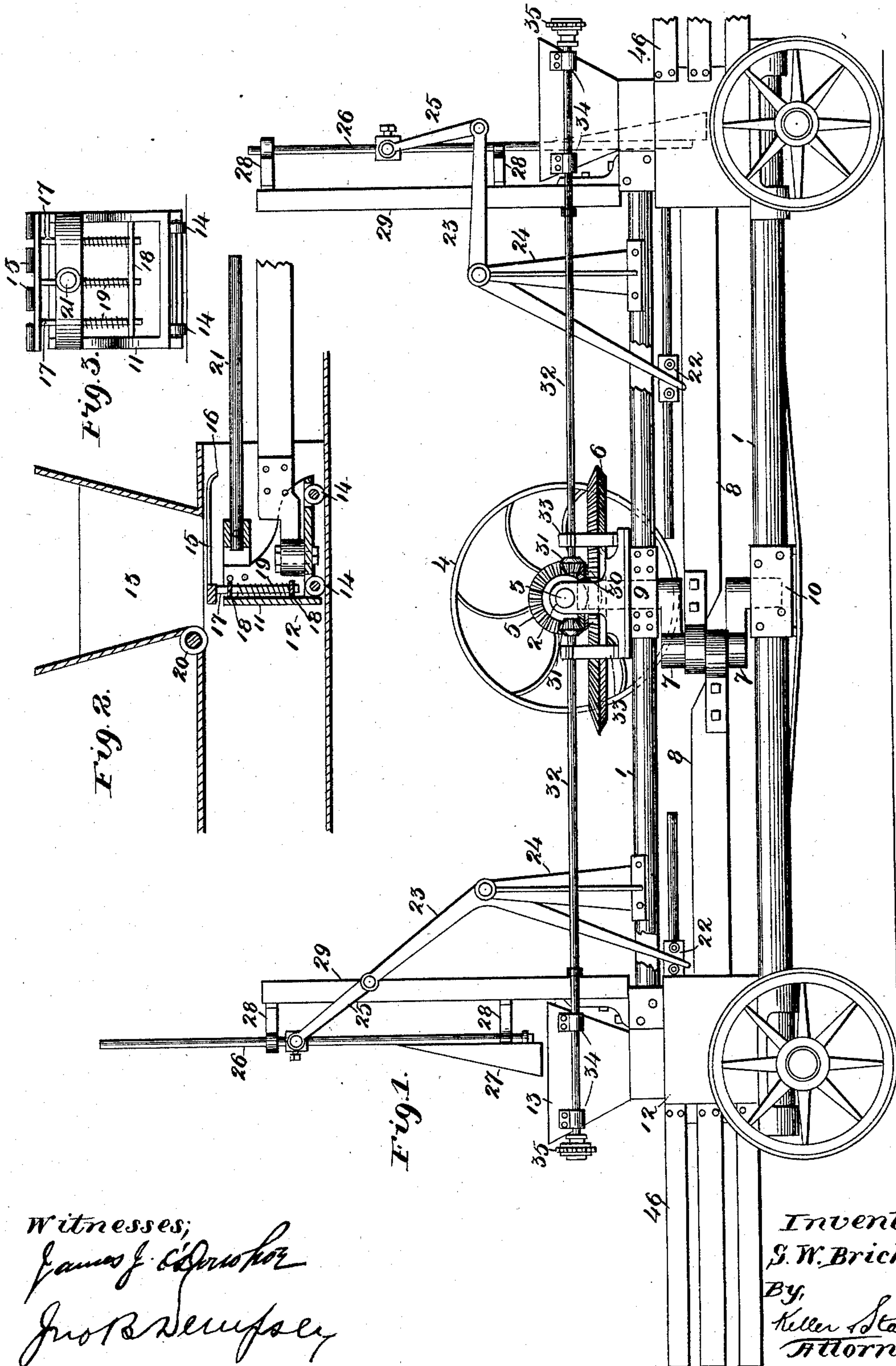
(No Model.)

2 Sheets—Sheet 1.

S. W. BRICKER.
HAY PRESS.

No. 522,960.

Patented July 17, 1894.



Witnesses;
James J. Edmundo
John R. Humphrey

Inventor:
S. W. Bricker.
By,
Keller Stark
Attorneys.

(No Model.)

2 Sheets—Sheet 2.

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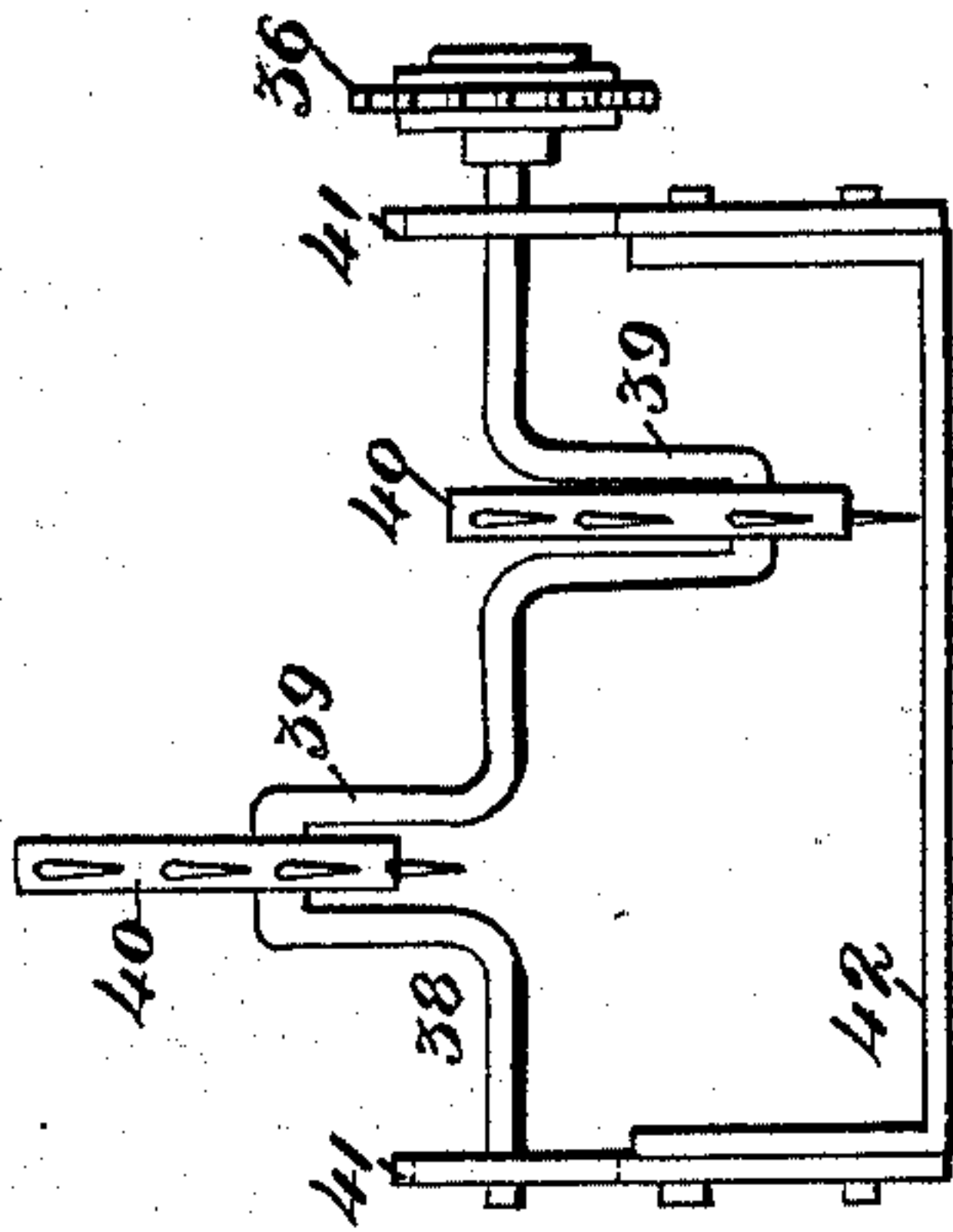


Fig. 7.

Fig. 5.

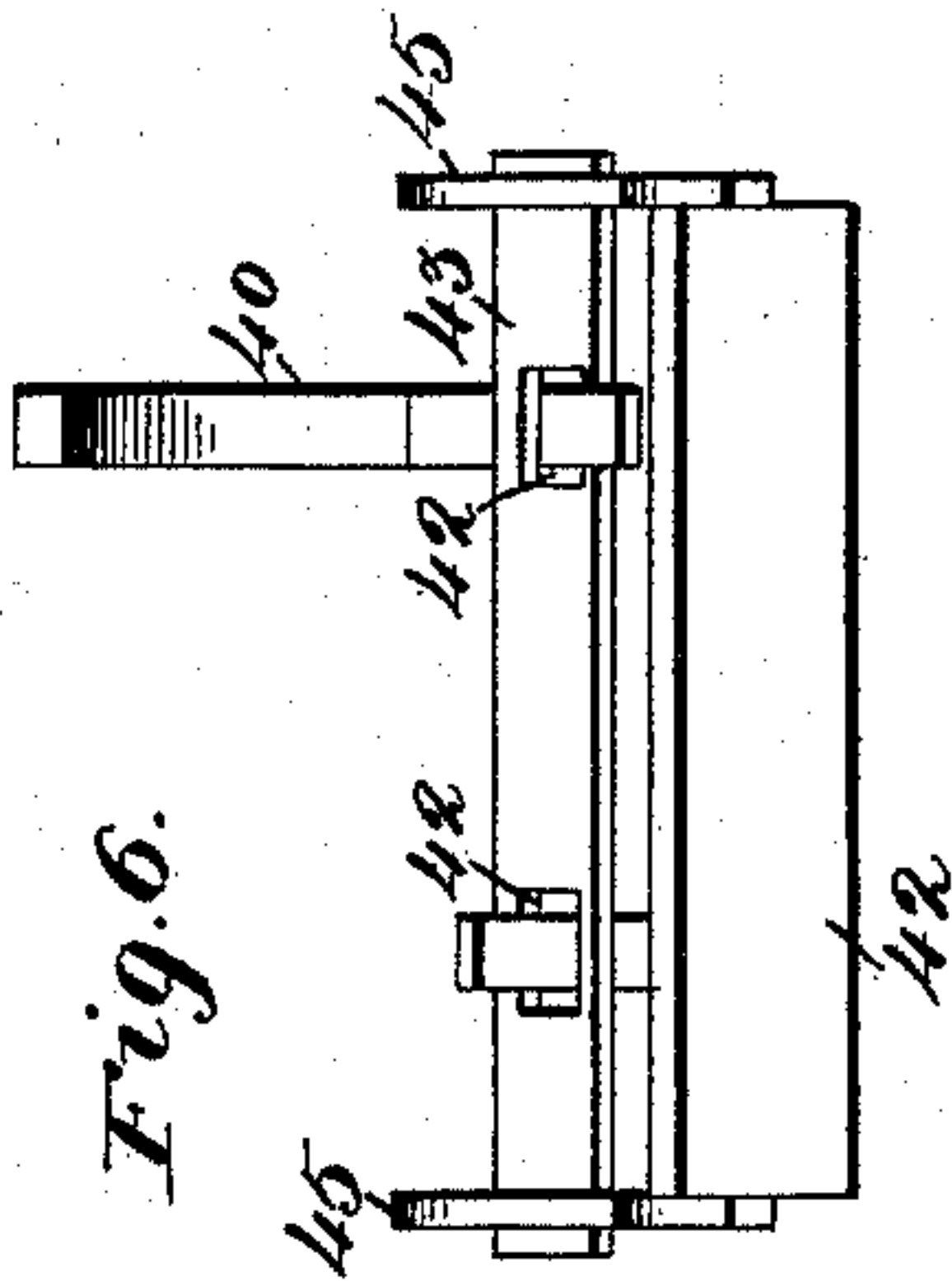
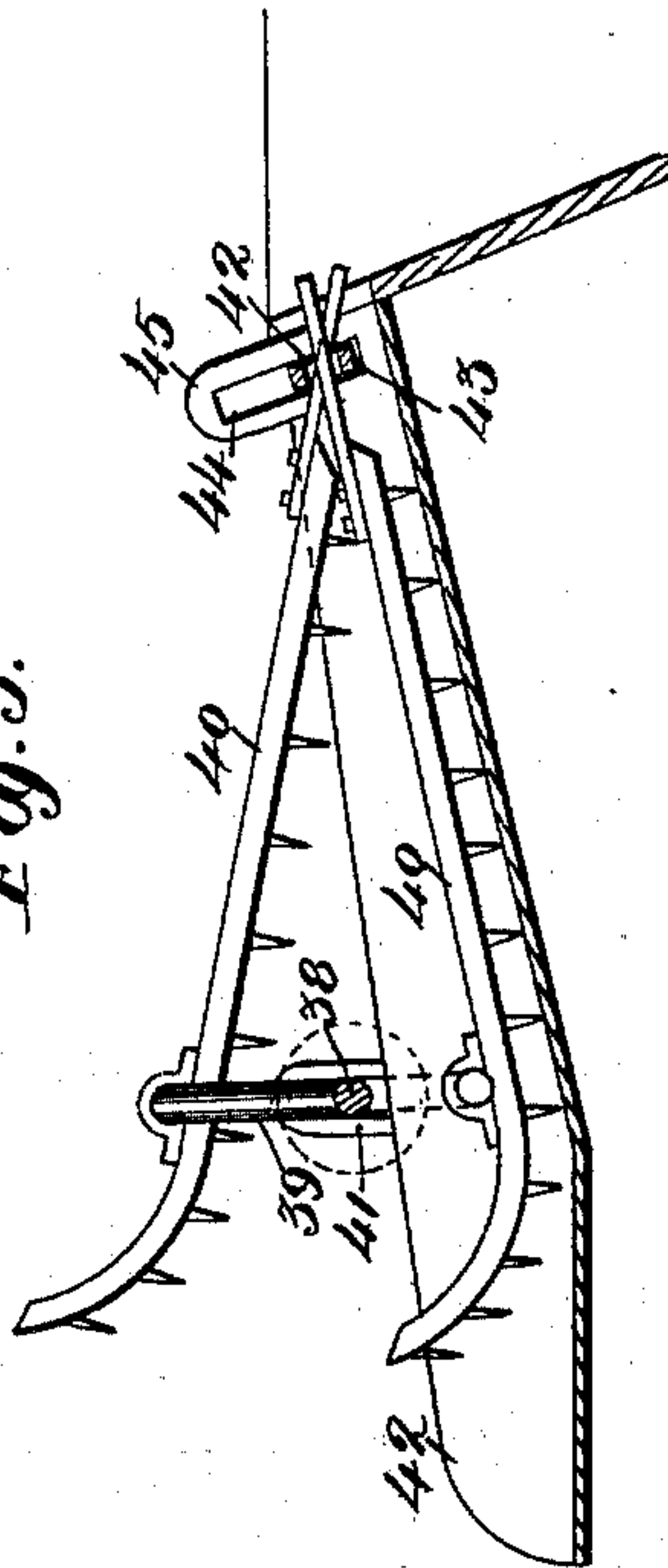


Fig. 6.

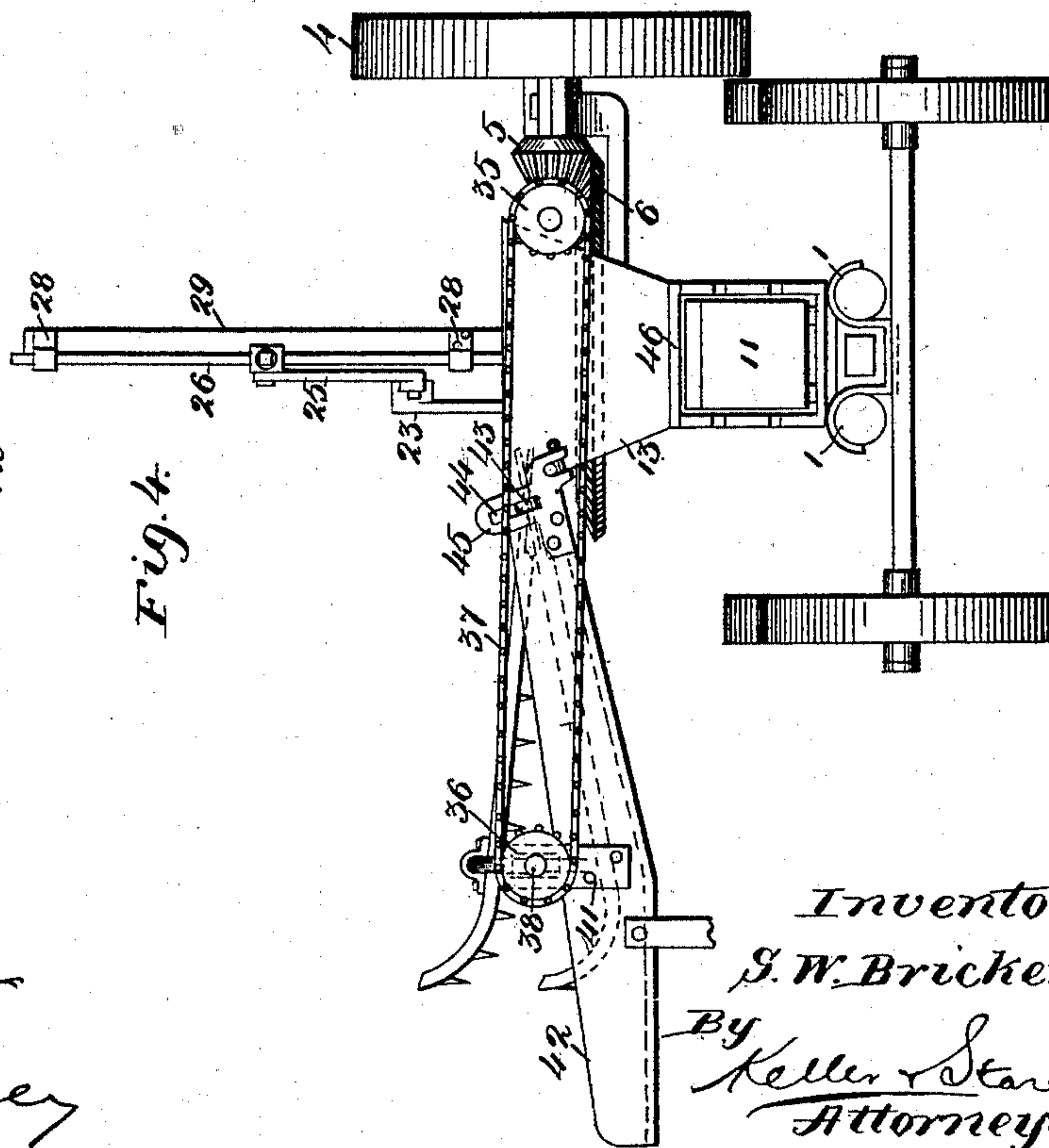


Fig. 4.

Witnesses;
James J. O'Connor
Geo B. Humphrey

Inventor.
S. W. Bricker.
By *Keller & Storer*
Attorneys.

UNITED STATES PATENT OFFICE.

SKILES W. BRICKER, OF HARRISONVILLE, MISSOURI.

HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 522,960, dated July 17, 1894.

Application filed March 7, 1894. Serial No. 502,612. (No model.)

To all whom it may concern:

Be it known that I, SKILES W. BRICKER, of Harrisonville, county of Cass, State of Missouri, have invented certain new and useful
5 Improvements in Hay-Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements
10 in hay presses and consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation
15 of my complete invention. Fig. 2 is a side vertical section through the medium portion of the hopper showing the medium position of the plunger. Fig. 3 is an inner detail view of the end of plunger. Fig. 4 is an end view
20 of the machine. Fig. 5 is a middle longitudinal section of the trough. Fig. 6 is a rear view of the trough; and Fig. 7 is a view of the front end of the trough.

The object of my invention is to construct
25 a hay press which will be simple, effective, durable, combining a maximum amount of efficiency with the fewest number of parts and one which will be thoroughly automatic. In detail it may be described as follows:

30 The machine is composed of a suitable frame 1 over the central or medium portion of which are mounted bearings 2 for the main driving shaft 3 of the driving belt wheel 4. To the shaft 3 is secured also a bevel pinion
35 5 which meshes with a large horizontally disposed bevel gear wheel 6 the crank shaft 7 of which has pivotally secured to its crank portion the adjacently disposed pair of reciprocating plunger rods 8, 8, suitable bearings
40 9 and 10 being provided for the respective ends of the crank shaft.

It is to be observed that the present machine is one of double capacity, each plunger rod being provided at its free end with a plunger 11 operating within the chamber 12 at the
45 bottom of the hopper 13. The plunger rods 8 are pivotally secured to their respective plungers as best seen in Fig. 2, the friction of the plungers being reduced by mounting the same upon rollers 14, and their passage into
50 the chamber and below the hopper further facilitated by mounting at the top of each

plunger a metallic yielding diaphragm 15 with its free edge 16 curved downwardly, and at the rear being secured to a series of vertically operating rods 17 mounted within the
55 plunger. The rods are confined between suitable lugs or guides 18 between which and encircling each rod and having one end secured to the rod is a spring 19. At the farther end of
60 the hopper too is an anti-friction roller 20. It will thus be apparent that as the plunger moves back and forth its reciprocation is facilitated by the reduction of friction incident to the construction just described, the spring
65 19 being yielding as well as the diaphragm 15, will permit the plunger to pass back and forth readily, and the rollers 20 will further serve to reduce the friction of the parts.

Secured to the plunger 11 above the plunger rod and parallel to the movement of the
70 plunger is a bar 21 on which are mounted contiguous roller bearings 22 between which is free to pass and oscillate one end of the bell crank lever 23 pivoted to the standard 24
75 secured to the top of the frame 1. To the opposite end of the bell crank lever is pivotally secured a connecting link 25 to the free end of which is adjustably fastened the sliding rod 26 of the feeder head 27, the rod reciprocating between suitable guides or lugs
80 28 projecting from the upright 29. It will be apparent that as the plunger reciprocates it will oscillate the lever 23 which in turn will operate the feeder 27.

Secured to the upper end of the crank shaft 7 and superposed over the bevel gear wheel 6 is a bevel gear wheel 30 which meshes with the bevel gear wheels 31 at the adjacent
90 ends of the shafts 32 rotating within upright bearings 33, and bearings 34 secured to the side of the hopper 13. The outer end of the shaft 32 carries a sprocket wheel 35 operating a second sprocket wheel 36 through the medium of the sprocket chain 37. The wheel 36 is
95 secured to the end of the crank shaft 38 whose crank arms 39 pivotally carry the pickers 40. The shaft 38 is mounted in bearings 41 secured to the trough 42. The rear ends of the pickers 40 freely pass and operate within
100 openings 42 of the transverse guide bar 43 movable in the slots 44 of the side plates 45 secured respectively to the trough and hopper in any convenient mechanical manner. With

the rotation of the sprocket wheels the pickers alternately feed the hay placed into the trough toward the hopper, the free ends of the pickers working loosely in the guide bar
5 43. As the hay is fed into the hopper, the same is forced down by the feeder head 27 as before explained; and when the chamber 12 at the bottom of the hopper is reached, the reciprocating plunger finally compresses the
10 hay forcing it into the extension 46 at the end of the chamber 12.

The present device has a double capacity, and the arrangement of the several parts is such that a maximum amount of material may
15 be treated. It is simple in arrangement and not liable to get out of order. It is to be understood that I do not limit myself to the precise details, all and any equivalents falling within the scope of my invention.

20 Having described my invention, what I claim is—

1. A hay press comprising two suitable hoppers, chambers located below the same and in communication therewith, extensions for said
25 chambers, two reciprocating plungers operating within said chambers, a crank shaft for operating the plungers simultaneously, suitable gearing co-operating with said crank shaft, a bar secured to each plunger, roller
30 bearings mounted on said bar, a bell crank lever one arm of which is interposed between said bearings and adapted to move between the same, a pivotal link at the opposite end of the bell crank lever, and a suitable feeder
35 head secured to said link, substantially as set forth.

2. In a hay press, a main driving shaft, a bevel gear secured thereto, a vertically dis-

posed crank shaft, a large bevel gear wheel at the upper end thereof and co-operating
40 with the gear wheel on the driving shaft, a smaller gear wheel superposed over the large gear on the crank shaft, a pair of bevel gear wheels co-operating therewith, shafts extend-
45 ing from the latter in opposite directions, a sprocket wheel secured to the opposite end of each shaft, a sprocket chain passing over the same, a second sprocket wheel for said chain, and suitable pickers in connection with the
50 last sprocket wheels, substantially as set forth.

3. In a hay press, a plunger composed of a body portion, a series of rods at the rear thereof, a right-angular projecting diaphragm at the outer end of said rods, suitable lugs for
55 said rods, a coiled spring encircling each rod between said lugs and having one end secured to the rod, and a plunger rod secured to said plunger, substantially as set forth.

4. In a hay press, a suitable trough, a crank
60 shaft mounted over one end of the same, one or more crank arms on said shaft, a picker having its forward end movably secured to said crank arm, a suitable guide bar for the rear
55 or free end of said picker having openings for the free passage of the rear end of said picker, plates secured to the machine and having slots for the movement of the guide bar, and
70 means for operating the crank shaft, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

SKILES W. BRICKER.

Witnesses:

A. J. SHARP,

C. A. HARTLEY.