

T. C. DEXTER & V. GARNER.

PAPER FEEDING MACHINE.

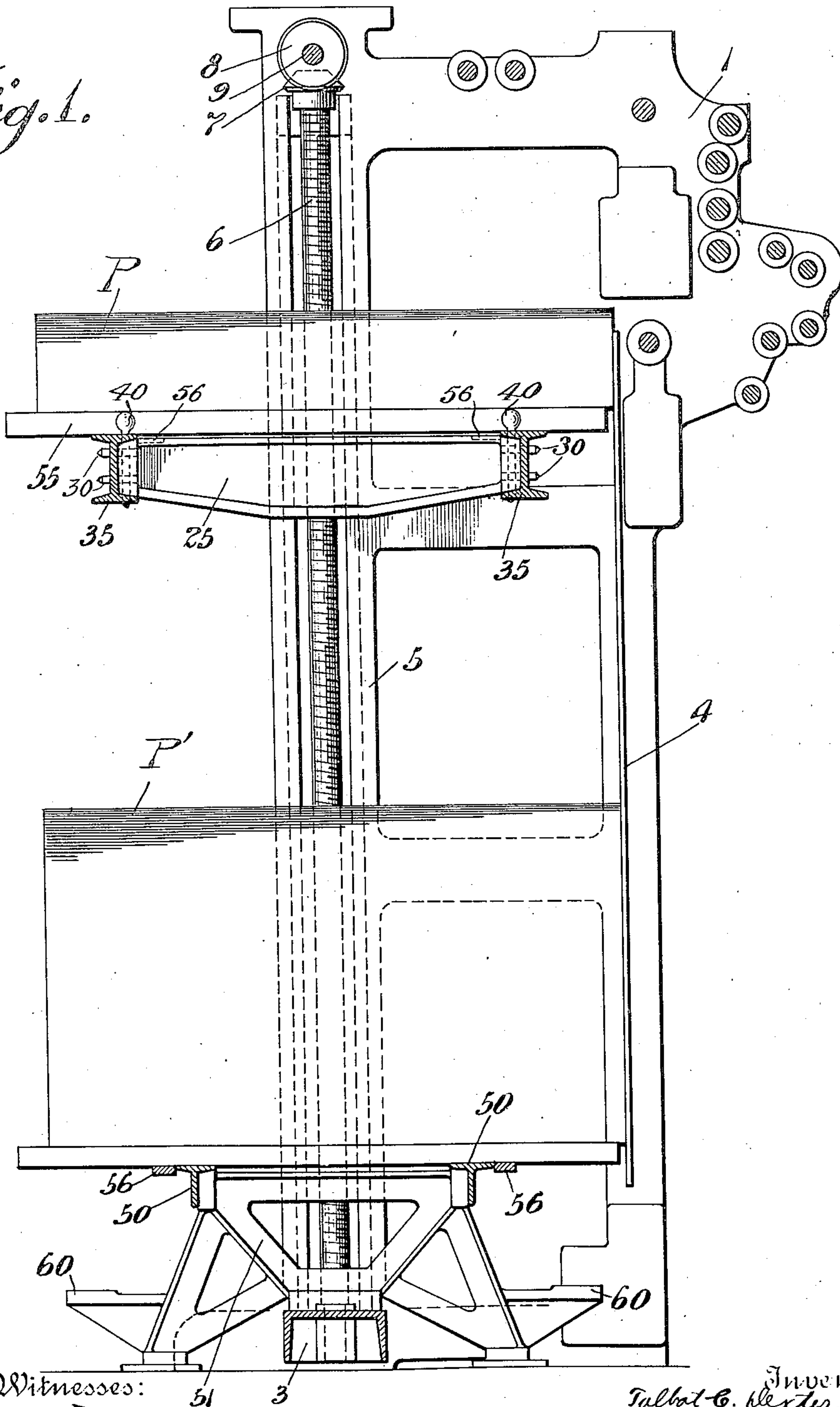
APPLICATION FILED AUG. 31, 1909.

Patented July 25, 1911.

3 SHEETS-SHEET 1.

998,961.

Fig. 1.



Witnesses:

Wm. Knight
Ray J. Ernst

Inventors
Talbot C. Dexter &
Vernon Garner
By *their Attorneys* *Knight Bros.*

T. C. DEXTER & V. GARNER.

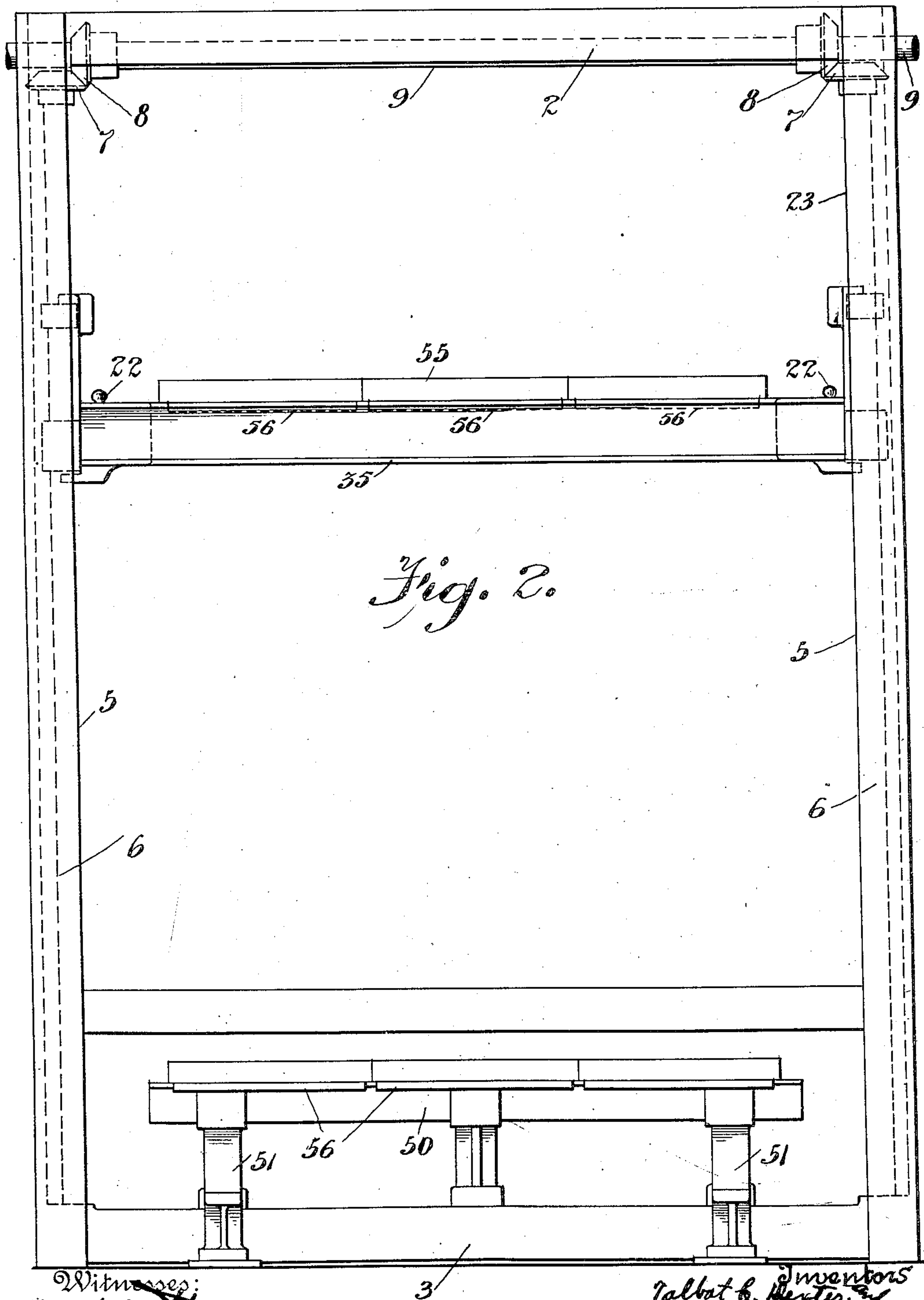
PAPER FEEDING MACHINE.

APPLICATION FILED AUG. 31, 1909.

Patented July 25, 1911.

998,961.

3 SHEETS—SHEET 2.



Witnesses:
H. H. Knight,
Ray J. Ernst.

Inventors
Talbot C. Dexter &
Vernon Garner
By *Arthur H. Brown*

T. C. DEXTER & V. GARNER.

PAPER FEEDING MACHINE.

APPLICATION FILED AUG. 31, 1909.

998,961.

Patented July 25, 1911.

3 SHEETS—SHEET 3.

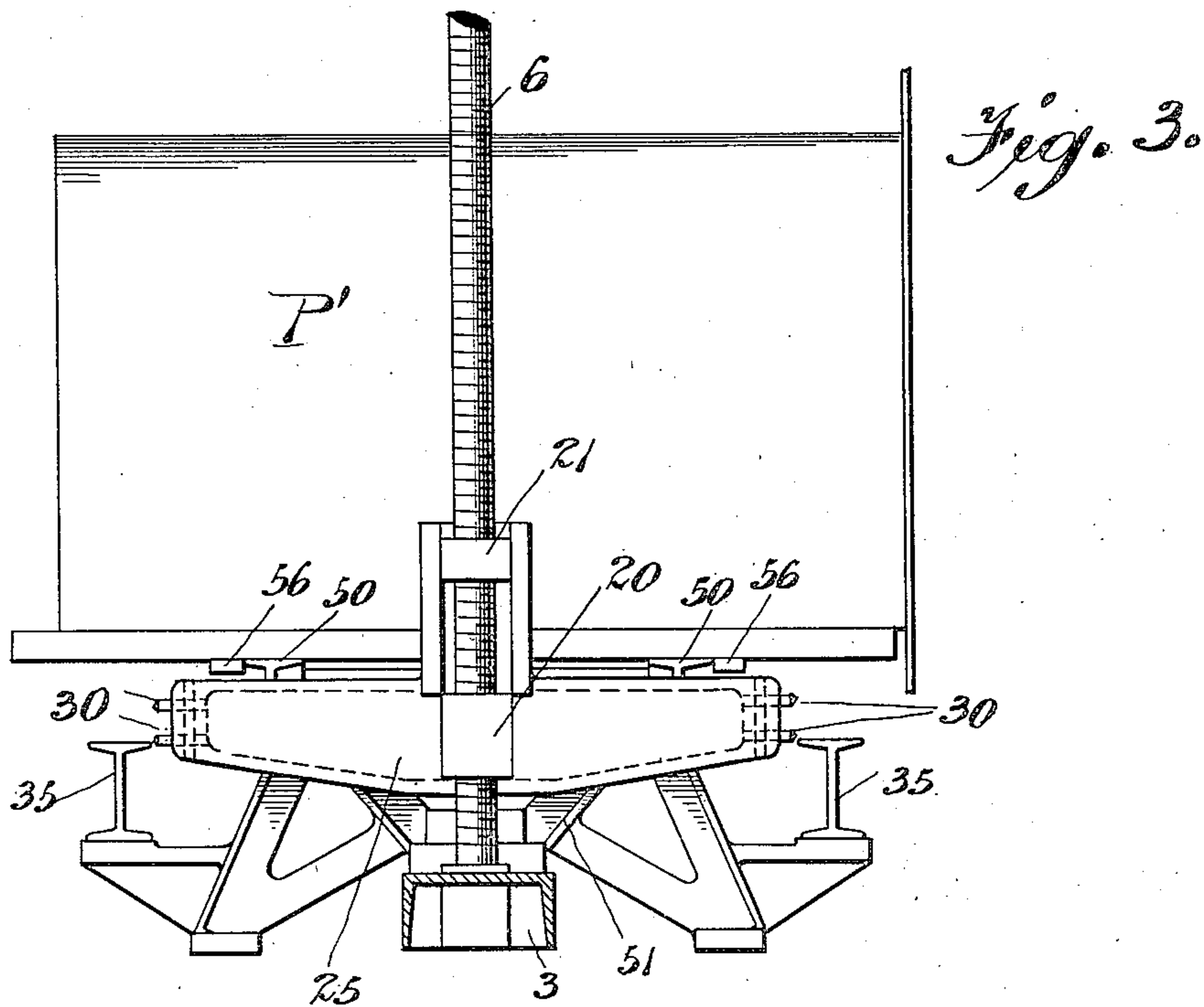
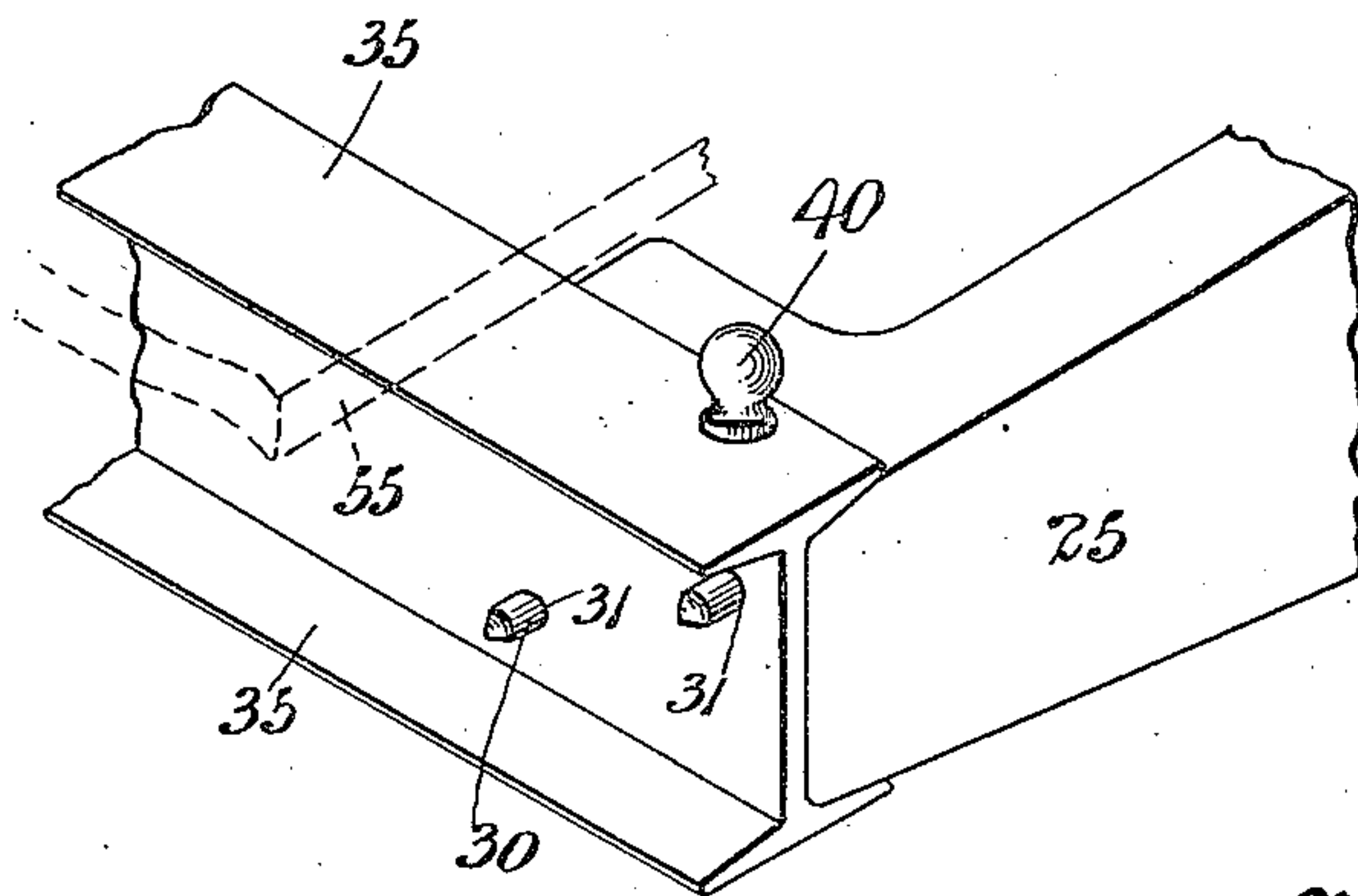


Fig. 4.



Witnesses:
H. H. Knight,
Ray J. Enet.

Talbot C. Dexter
Vernon Garner
Inventors,

By the Attorneys Knight Bros.

UNITED STATES PATENT OFFICE.

TALBOT C. DEXTER AND VERNON GARNER, OF PEARL RIVER, NEW YORK, ASSIGNORS,
BY DIRECT AND MESNE ASSIGNMENTS, TO DEXTER FOLDER COMPANY, OF PEARL
RIVER, NEW YORK, A CORPORATION OF NEW YORK.

PAPER-FEEDING MACHINE.

998,961.

Specification of Letters Patent.

Patented July 25, 1911.

Application filed August 31, 1909. Serial No. 515,518.

To all whom it may concern:

Be it known that we, TALBOT C. DEXTER and VERNON GARNER, both citizens of the United States, and residents of Pearl River, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Paper-Feeding Machines, of which the following is a specification.

10 The present invention relates to improvements in the paper feeding machine covered by application of Talbot C. Dexter and William M. McCain filed April 30th, 1909, Serial No. 493,164.

15 The machine of this application embodies a novel form of pile supporting and elevating mechanism in which two pile supporting frames or platforms are adapted to be successively engaged by the traveling nuts or brackets operating upon the ordinary elevating screws, with the view of avoiding as much as possible the loss of time now commonly consumed in loading a pile of sheets upon the paper supporting and elevating platform. In operating the machine of said application, the feeder is operating upon one pile of sheets supported upon one of the platforms that is automatically elevated by the screws, while at the same time, 30 the operator is preparing a second pile of sheets upon the second platform which is supported at the base of the machine during the feeding operation. When the pile is exhausted from the upper platform, said platform is uncoupled from the elevating mechanism and removed from the machine, while the elevating brackets are lowered to a position to be coupled with the lower platform supporting a second pile of sheets, 40 which is then automatically elevated to feeding position and the feeding operation continued.

45 The object of the present invention is to simplify and improve the structure of the machine covered by said pending application, and to this end the present invention includes a novel form of pile elevating platform, in which side girders or brackets are rigidly mounted upon the elevating screw nuts so as to always move vertically with said nuts under the action of the elevating screws, and two detachable end girders have means for coupling them to the

girders or brackets carried by the nuts. The means for coupling the removable end 55 girders to the elevating girders or brackets consists preferably of pins or lugs projecting outwardly from the ends of the bracket girders into openings formed through the removable end girders, and coupling pins 60 passing through registering openings formed in said parts.

By forming the table elevating frame of the girder brackets permanently fixed to the elevating screw nuts and the separately removable end girders as explained, it will be clear that the operation of removing the detachable parts of the elevating frame or platform is much more easily accomplished 65 than in the machine of the above named application, the removable girders being separately removable so that an operator can readily handle the machine without assistance.

In order that our invention may be fully 75 understood, we will first describe the same with reference to the accompanying drawings and afterward point out the novelty more particularly in the annexed claims.

In said drawings: Figure 1 is a vertical 80 longitudinal sectional elevation of a paper feeding machine embodying our improvements, the sheet feeding devices being omitted. Fig. 2 is a rear elevation of the same. Fig. 3 is a detail view similar to Fig. 1 85 showing the pile elevating frame or platform in lowered position with the end girders detached and resting upon the stationary frames or brackets at the base of the machine. Fig. 4 is a detail perspective 90 view of parts of the elevating frame, illustrating particularly the coupling devices.

Paper feeding machines of the type to which our improvements apply are usually constructed with heavy frames such as 95 illustrated in the accompanying drawings, in which the main frame consists of the upright side frames 1, transverse top frame 2, and the transverse bottom frame 3. These main frame parts are properly secured together and braced by the usual tie bolts in the manner well understood. At the front of the machine frame a series of vertical bars or slats 4 is provided to guide the front edge of the pile of sheets. 105

Each of the vertical side frames 1 has a

main channeled upright standard 5 in which are located the vertical elevating screws 6 suitably journaled in bearing brackets (not shown) at their upper and lower ends and carrying at their upper ends bevel gears 7 meshing with similar bevel gears 8 keyed to the opposite ends of a horizontal coupling shaft 9 which is suitably journaled within the top cross bar 2 of the machine. This cross shaft 9 which couples the two elevating screws 6 is usually provided with both hand and power mechanism for operating the elevating screws. This operating mechanism is very common and well known in the art and for this reason we have not thought it necessary to illustrate it, it being sufficient for the understanding of the present invention to bear in mind that the elevating screws are reversible so as to elevate or lower the pile supporting platform. In the application of an electric motor or other power for operating the elevating screws, it is common practice to provide automatic devices for arresting the operation of the screws at the limits of the upper and lower positions of the pile supporting platform so as to avoid injuring the mechanism, it being very desirable to employ power for operating said screws in the interest of accuracy in the elevating operation and saving time in the lowering operation.

A main screw nut 20 and an auxiliary screw nut 21 are threaded upon each of the elevating screws 6, said nuts being suitably mounted in and connected by a vertically sliding bracket 22 which operates in the channeled guideway or track 23 of a standard 5. Rigidly mounted upon each of the vertically traveling brackets 22 is a trussed bracket girder 25 extending longitudinally of the machine. These bracket girders 25 may be mounted upon the traveling brackets 22 in any suitable manner such as by bolts, it being necessary that the girders be rigid with the traveling brackets. These girder brackets 25 project inwardly from the side frames of the feeder a very short distance so as to be able to move freely up and down in the frame without engaging the end boards of the pile supporting platform hereinafter referred to.

The bracket girders 25 are formed at their opposite ends with outwardly projecting dowel pins 30 which pass through transverse openings 31 formed adjacent to the ends of the removable end girders 35. These girders 35 are preferably formed of trussed steel beams and as shown in the drawings are I-beams. The ends of the bracket girders 25 are shaped to fit snugly against the channeled sides of the removable end girders 35 and the overlapping walls of said engaging parts have registering openings formed through them for the reception of the removable coupling pins 40, by which the re-

movable girders 35 are detachably secured to the ends of the bracket girders 25 as shown clearly in the drawings.

Mounted at the base of the machine frame upon the transverse channeled bar 3 is a stationary bracket frame comprising the transverse bars 50 mounted upon the angular bracket supports 51. These bars 50 are adapted to support a series of removable platform boards 55, each one of which is provided upon its under face with two strips 56 which are adapted to engage the supporting bars 50 to assist in positioning the pile boards preparatory to piling sheets thereon. Beneath the board supporting bars 50 are formed the outwardly projecting brackets 60 upon which the removable girders 35 may be conveniently placed during the operation of lowering the bracket girders into position to elevate a new pile of sheets.

In Fig. 1 of the drawings the machine is shown in position for normal operation, a partially exhausted pile P upon the platform boards 55 which rests upon the end girders 35 coupled to the bracket girders 25 being in position for the operation of the feeding devices. While sheets are being fed from the upper pile P, the operator prepares a second pile at P¹, the second set of platform boards 55 having been arranged in proper position upon the supports 50 and the pile of sheets built up thereon. When the upper pile P is exhausted, the feeding operation is arrested momentarily and the pile elevating screws reversed to lower the pile supporting girders 25 and 35 and platform boards 55 until the girders 35 rest upon the top of the lower pile P¹. The coupling pins 40 are then removed and the end girders 35 drawn outwardly to disengage them from the dowel pins 30. The end girders 35 supporting upper boards 55 can rest temporarily upon the top of the pile P¹ and be removed at the convenience of the operator, who immediately continues the downward or reverse movement of the bracket girders 25 until they reach the position shown in Fig. 3 beneath the second set of platform boards 55. While the bracket girders 25 are moving downwardly, the operator removes the upper platform boards 55 and the end girders 35 from the top of the pile P¹ and places girders 35 upon the bracket supports 60 in convenient position to be again coupled to the ends of the bracket girders 25. The elevating frame having reached proper position beneath the platform boards supporting the second pile of sheets, the operator again couples up the end girders 35 with the bracket girders 25 and starts the elevating screws 6, which carry the elevating frame up into engagement with the platform boards 55 and raises the second pile into position for a continuation of the feeding operation.

What we claim is:

1. In a paper feeding machine, the combination of a feeder frame, reversible pile elevating mechanism, including traveling bracket girders extending parallel with the length of said feeder frame and adapted to move upwardly and downwardly past the ends of the pile of sheets, end girders adapted to be detachably coupled to said bracket girders and engage beneath a pile supporting platform for elevating it, a support at the base of the feeder frame, and a removable pile supporting platform, having upon its under surface positioning strips for engagement with said support.

2. In a paper feeding machine, the combination of a feeder frame, reversible pile elevating mechanism, including a pair of vertically movable bracket girders, a pair of end girders adapted to be detachably cou-

pled to said bracket girders, dowel pins projecting from one pair of girders and openings formed in the other pair of girders adapted to receive said dowel pins, and coupling pins adapted to secure the end girders in position upon said bracket girders.

3. In a paper feeding machine, the combination of a frame, reversible pile elevating mechanism, including the vertically movable bracket girders formed at their ends with dowel pins, end girders formed with openings adapted to fit over said dowel pins, and coupling pins engaging registering openings in said bracket girders and end girders.

TALBOT C. DEXTER.
VERNON GARNER.

Witnesses:

O. C. HAMMOND,
IRVIN H. DEXTER.