

No. 879,443.

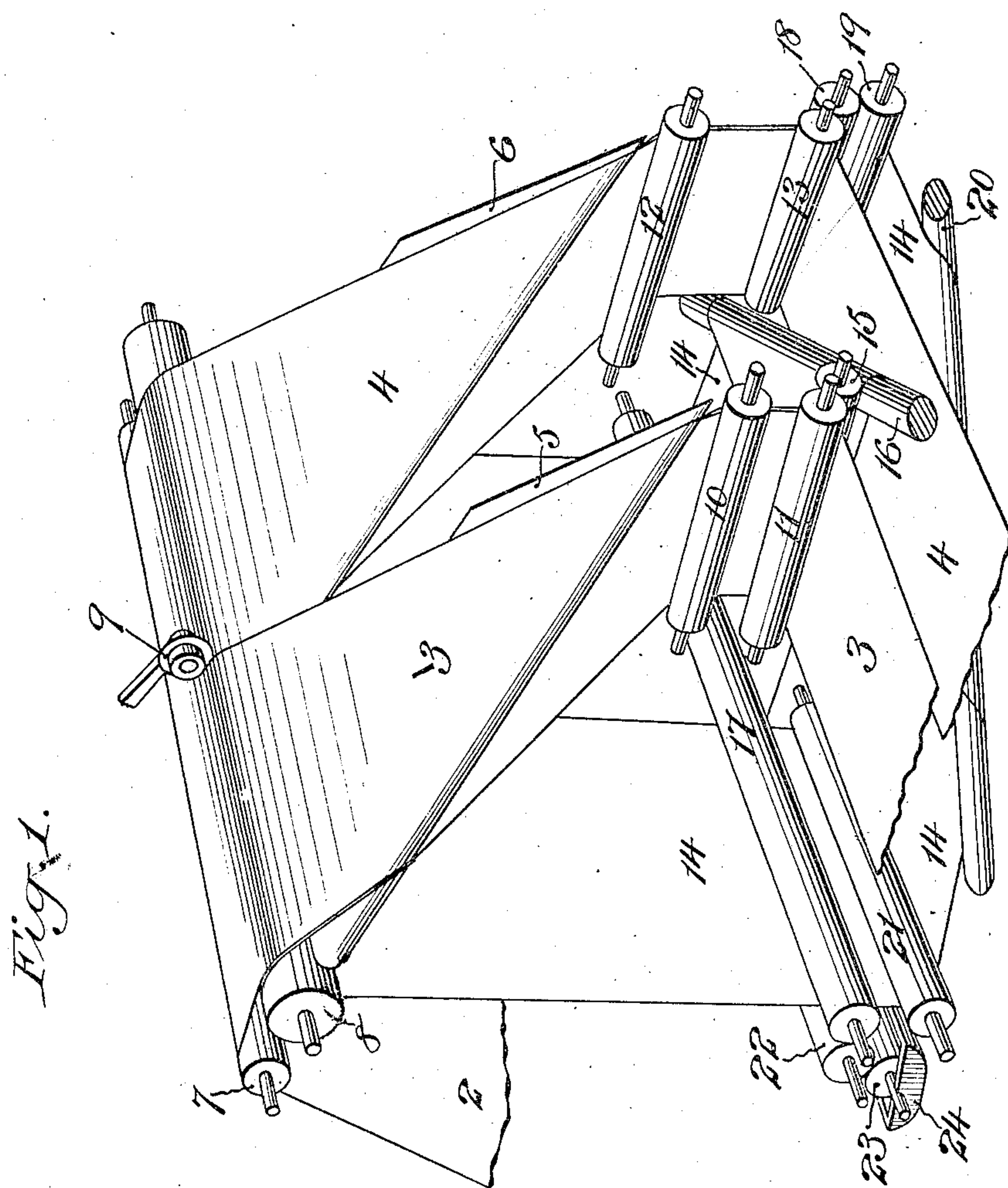
PATENTED FEB. 18, 1908.

E. H. COTTRELL.

ANTISMUTTING DEVICE FOR PRINTING MACHINERY.

APPLICATION FILED JULY 18, 1907.

4 SHEETS—SHEET 1.



Witnesses:
F. George Barry
Henry Shering.

Inventor:
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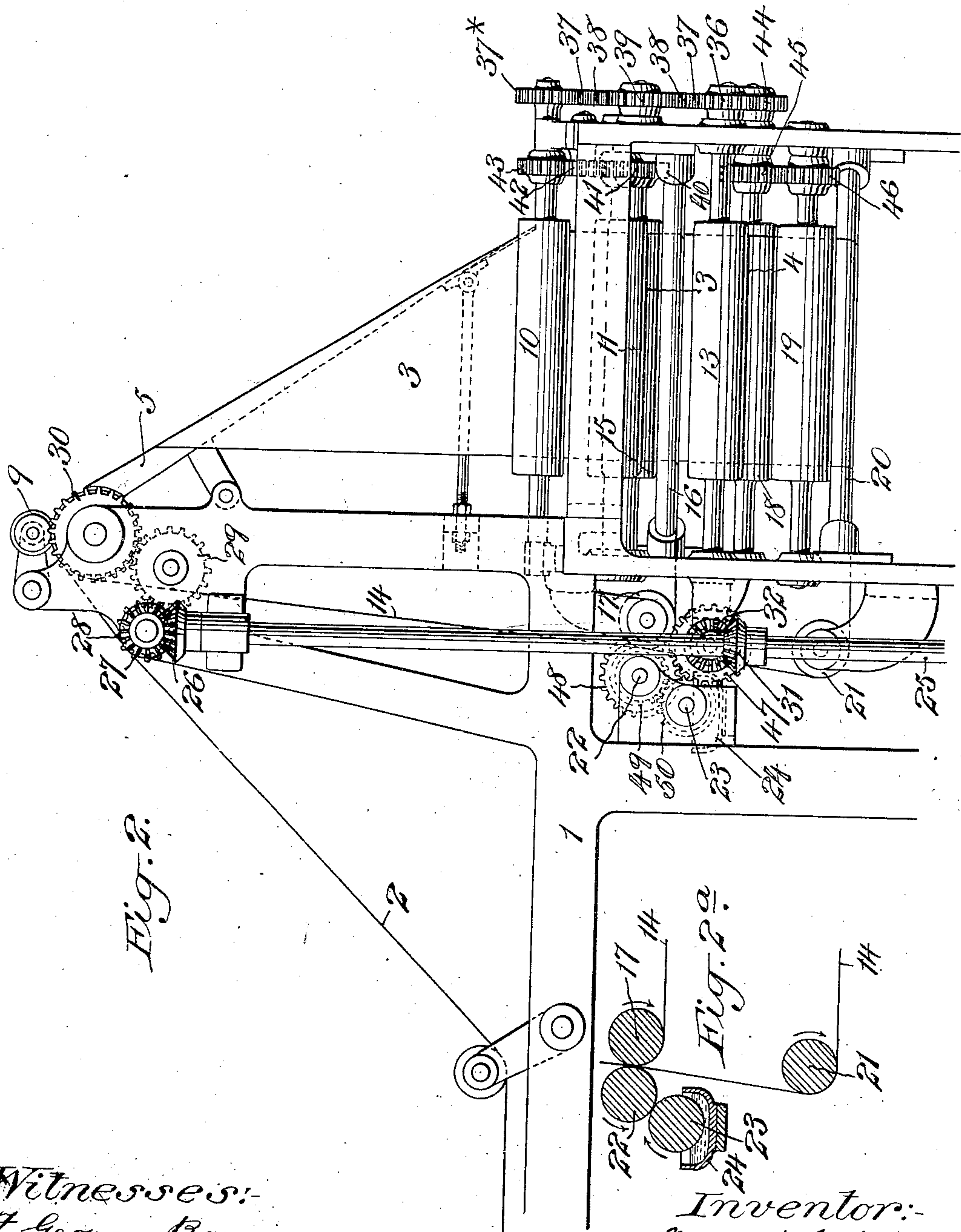
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4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

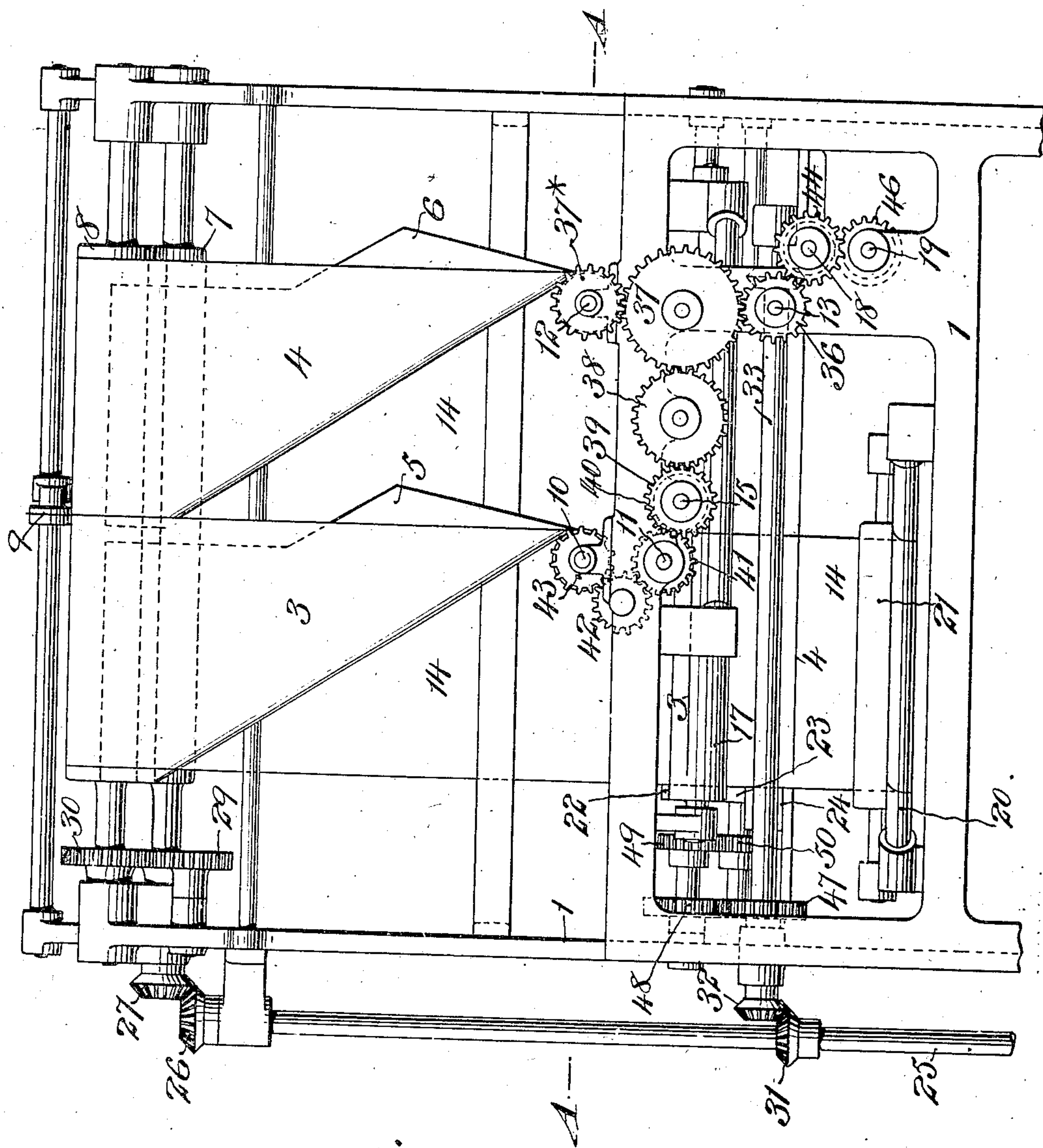


Fig. 3.

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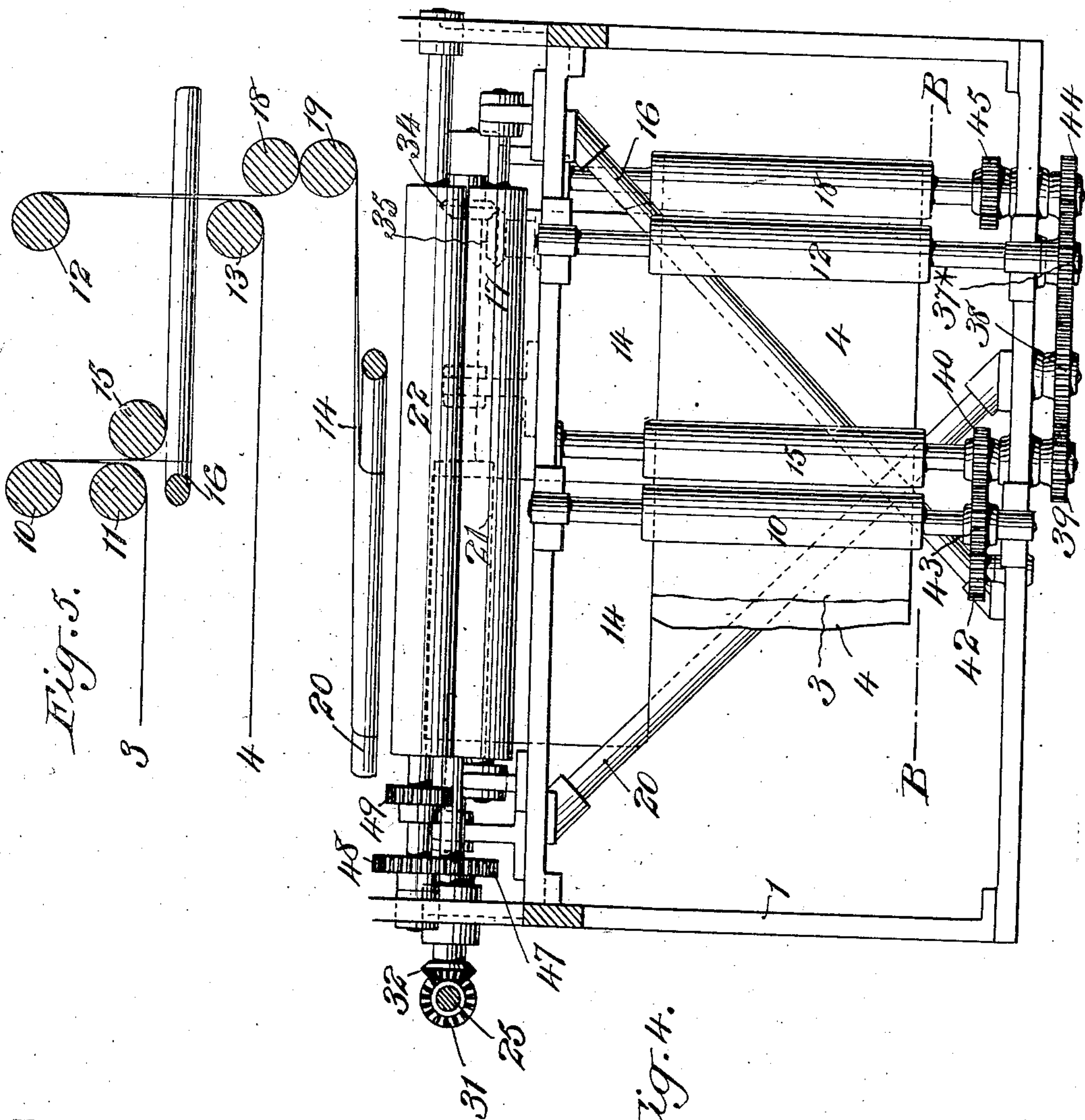
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4 SHEETS—SHEET 4.



Witnesses:
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Fig. 4.

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UNITED STATES PATENT OFFICE.

EDGAR H. COTTRELL, OF STONINGTON, CONNECTICUT, ASSIGNOR TO C. B. COTTRELL & SONS COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

ANTISMUTTING DEVICE FOR PRINTING MACHINERY.

No. 879,443.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed July 18, 1907. Serial No. 384,367.

To all whom it may concern:

Be it known that I, EDGAR H. COTTRELL, a citizen of the United States, and resident of Stonington, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Antismutting Devices for Printing Machinery, of which the following is a specification.

The object of this present invention is to provide novel mechanism for preventing smutting of printed webs while passing around formers, a single endless smut web being arranged so that one face of the same will be brought into contact with the printed web passing over one former and the opposite face of the endless smut web will be brought into contact with the printed web passing over the other former.

A further object is to provide a single device for preventing the accumulation of ink on both faces of the endless smut web.

In the accompanying drawings, Figure 1 represents in perspective so much of a cutting and folding machine as will give a clear understanding of the construction, form and arrangement of the several parts of my improvement. Fig. 2 is a view in side elevation of a portion of a cutting and folding machine with my improvement applied thereto, Fig. 2^a is a detail section showing more clearly the cleaning device for the endless smut web, Fig. 3 is a view in end elevation, Fig. 4 is a partial horizontal section taken in the plane of the line A—A of Fig. 3, the fountain and fountain roll being removed, and Fig. 5 is a detail section taken in the plane of the line B—B of Fig. 4.

The framing of the cutting and folding machine is denoted by 1. The printed web as it is led into the machine is denoted by 2 and the two webs cut therefrom are denoted by 3 and 4. The formers 5 and 6 around which the printed webs 3 and 4 are caused to pass, are supported by the framing 1 in the usual manner. Rolls 7 and 8 are mounted in the framing 1, over which rolls the printed web 2 is passed. A slit 9 of any well known or approved form is used in conjunction with the roll 8 for slitting the printed web 2 as it passes from the roll 8 to form the two printed webs 3 and 4 which are passed over the formers 5 and 6. This slit 9 is shown as being supported from the framing 1. The printed web 3, after leaving the former 5, passes around two longitudinally disposed

horizontal upper and lower rolls 10 and 11 mounted in the framing 1. The printed web 3 is then led from the roll 11 in a direction at right angles to the direction of its movement as it passes on to the former 5.

The printed web 4 after it passes from the former 6, passes around two longitudinally disposed horizontal upper and lower rolls 12 and 13. After passing around the roll 13, the printed web is led from the machine in a direction at right angles to the direction in which it passes on to the former 6, the transverse portion of this printed web 4 being located directly beneath the transverse portion of the printed web 3.

The endless smut web is denoted by 14. The path of this endless smut web 14 through the machine is as follows. It is led over the roll 8 and from thence over the former 5 between it and the printed web 3. From thence it is led around a longitudinally disposed roll 15 mounted in the framing adjacent to the roll 11. From the roll 15 the smut web 14 is passed around a turning bar 16 arranged at an angle of forty five degrees to the roll 15 so that the web 14 may be led rearwardly around a transverse guide roll 17 mounted in the framing 1. From thence, the web 14 is led upwardly and again over the roll 8 and over the former 6 between it and the printed web 4, the opposite face being presented to the printed web 4 and the face which was presented to the printed web 3. After leaving the former 6, the smut web 14 passes between longitudinally disposed horizontal upper and lower rolls 18 and 19 mounted in the framing 1 adjacent to the roll 13. After passing around the roll 19, the endless smut web 14 is passed around a turning bar 20 arranged at an angle of forty five degrees to the roll 19 so as to direct the web 14 rearwardly. From this turning bar 20 the smut web leads to and around a transverse guide roll 21 mounted in the framing 1. From this guide roll 21 the web 14 leads upwardly between the transverse guide roll 17 to a wiping roll 22. A fountain roll 23 is located in position to clean the wiping roll 22, which fountain roll is partially immersed in a bath of benzin or other cleaning material located in a fountain 24.

The guide rolls 17 and the wiping roll 22 with its fountain roll 23 are of sufficient length to operate upon both portions of the endless smut web as they are led upwardly to

the roll 8. It will be seen that the opposite faces of the endless smut web are therefore cleaned during each complete passage of the web through the machine.

5 The mechanism which I have shown for passing the endless smut web over both of the formers between them and the printed webs at the same speed as the printed webs and also for operating the endless smut web cleaning device is constructed, arranged and operated as follows. An upright shaft 25 is
10 driven at the desired speed from the press. This shaft has a bevel gear driving connection 26, 27 with the roll 7, over which the printed web 2 passes before it is sub-divided.
15 This roll 7 has a spur gear driving connection 28, 29, 30 with the roll 8 around which the endless smut web 14 passes on its way to the formers.

20 The upright shaft 25 also has a bevel gear driving connection 31, 32 with a cross shaft 33 which in turn has a bevel gear driving connection 34, 35 with the shaft of the lower printed web roll 13. The roll 13 has a spur
25 gear driving connection 36, 37, 37 with the upper printed web roll 12. This roll 13 also has a spur gear driving connection 36, 37, 38, 39 with the endless smut web guide roll 15. This roll 15 has a spur gear driving connection
30 40, 41 with the lower printed web guide roll 11, which roll 11 in turn has a spur gear driving connection 41, 42, 43 with the upper printed web guide roll 10.

The lower printed web roll 13 has a spur
35 gear driving connection 36, 44 with the smut web guide roll 18 which in turn has a spur gear driving connection 45, 46 with the smut web guide roll 19.

The cross shaft 33 is provided with a spur
40 gear driving connection 47, 48 with the wiping roll 22. This wiping roll 22 has a spur gear driving connection 49, 50 with the fountain roll 23.

What I claim is:

45 1. In a cutting and folding machine, a plurality of formers, means for passing printed webs over the formers, an endless smut web and means for passing it successively between the formers and printed webs at the
50 same speed as the printed web.

2. In a cutting and folding machine, a plurality of formers, means for passing printed webs over the formers, an endless smut web

and means for passing the smut web between one former and its printed web with
55 one face against the printed web and between a succeeding former and its printed web with the other face against the printed web.

3. In a cutting and folding machine, a plurality of formers, means for passing printed
60 webs over the formers, an endless smut web, means for passing it successively between the formers and printed webs and a cleaning device engaging the endless smut web for removing
65 superfluous ink therefrom.

4. In a cutting and folding machine, a plurality of formers, means for passing printed
70 webs over the formers, an endless smut web, means for passing it successively between the formers and printed webs, and a single cleaning device for removing superfluous ink from both faces of the smut web.

5. In a cutting and folding machine, a plurality of formers, means for passing printed
75 webs over the formers, an endless smut web, means for passing the smut web between one former and its printed web with one face against the printed web and between a succeeding former and its printed web with the
80 other face against the printed web and means for cleaning the faces of the smut web prior to engaging their respective printed webs.

6. In a cutting and folding machine, a plurality of formers, means for passing printed
85 webs over the formers, turning bars and guide rolls, an endless smut web and means for passing it around the turning bars and guide rolls and successively between the formers and printed webs.
90

7. In a cutting and folding machine, a plurality of formers, means for passing printed
95 webs over the formers, and thence laterally from the machine in two different planes, turning bars and guide rolls, an endless smut web and means for passing it around the turning bars and guide rolls and successively between the formers and printed webs.

In testimony, that I claim the foregoing as my invention, I have signed my name in
100 presence of two witnesses, this 9th day of July, 1907.

EDGAR H. COTTRELL.

Witnesses:

F. GEORGE BARRY,
HENRY THIEME.